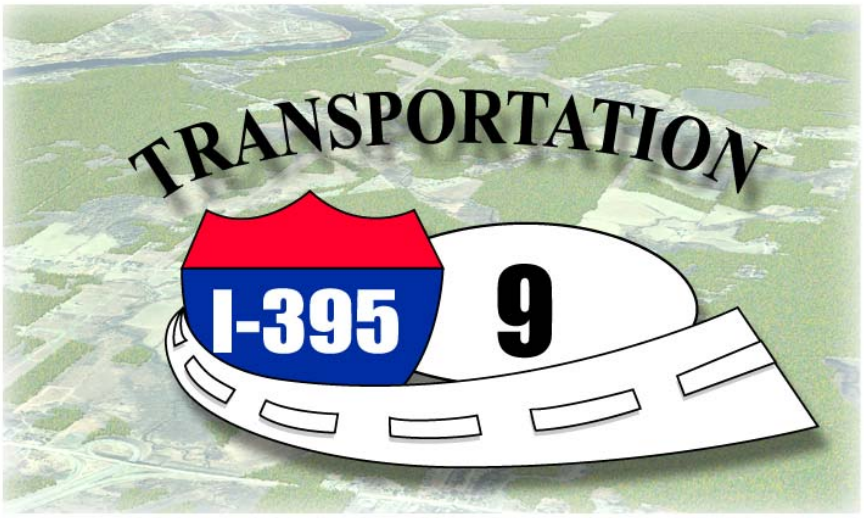

I-395/Route 9 Transportation Study

Penobscot County, Maine

PIN 008483.20/NH-8483(20)E

Transportation Improvement Strategies and Alternatives Analysis Technical Memorandum and U.S. Army Corps of Engineers Highway Methodology Phase I Submission

October 2003

U.S. Department of Transportation
Federal Highway Administration

Maine Department of Transportation

RESULTS

INTRODUCTION

From May 2001 to May 2003, the No-build alternative and 70 build alternatives were developed in response to the purpose and needs for the Interstate 395-Route 9 transportation study (see the matrix and flow chart, "Summary of Preliminary Impacts and Feasibility of the Range of Reasonable Alternatives Considered"). These alternatives were subsequently evaluated against: their ability to further the study purpose; ability to satisfy the study needs; potential impacts to natural resources and people; and a series of engineering variables, including design criteria. The evaluation of alternatives was performed in coordination with federal and state agencies, and a public advisory committee. The alternatives development and screening process led to the retention of the No-build Alternative and Alternative 3EIK-2 for further detailed studies.

Listed below are the build alternatives dismissed from consideration and an explanation of how they compare with Alternative 3EIK-2.

Notes:

- Alternatives were developed, and impacts quantified for a four-lane highway with two travel lanes in each direction, a divided median, and an approximate right-of-way of 200 feet. This highway was designed in accordance with MDOT's design criteria for limited access freeways. MDOT proposes that two lanes be constructed. When traffic volumes increase, warranting additional roadway capacity, the remaining two lanes would be constructed.
- Unless noted, most alternative that were not considered practicable failed to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46.
- If an alternative failed to meet one or more of the study needs, it also failed to meet the corresponding part of the study purpose.
- For simplicity, only bridge lengths were compared. Two bridges, one in each direction, would be required at each crossing. Each bridge would be 38 feet wide, with two 12 foot lanes, a six foot inside shoulder, and an eight foot outside shoulder.
- Areas identified by the U.S. Fish and Wildlife Service's National Wetlands Inventory, and the Natural Resource Conservation Service as hydric soils were considered to be wetlands.
- Unless noted, proximity impacts indicate properties that are within 500 feet from the limit of disturbance on either side of a proposed alternative.
- Impacts were generally calculated for the area of disturbance (i.e., the limits of cutting and filling) necessary to construct the alternative.
- The reasons for dismissing alternatives are presented in no particular order of importance.

The Family of Ones

Upgrade Alternatives (1, Revised 1, 1-1, 1-2, 1-3, 1-4)

These alternatives would not be practicable because they fail to meet the system linkage need, and fail to adequately address the traffic congestion needs in the study area. Safety hazards were a concern with several of these alternatives.

Additionally, these alternatives would result in:

- 15-21 residential and 1-3 commercial displacements (in comparison to 2 residential and 0 commercial displacements for Alternative 3EIK-2).

Partial Upgrade (1-4B, 1-4B-1, 1-4B-2, 1-4B-3, 1-4B-4)

These alternatives would not be practicable because they would fail to meet the system linkage need and fail to adequately address the traffic congestion need because traffic on Route 1A would remain the same.

These alternatives would result in:

- 8-17 residential and 3 commercial displacements (in comparison to 2 residential and 0 commercial displacements for Alternative 3EIK-2).
- Substantial impact to operations at the Camp Roosevelt Boy Scout camp.

The Family of Twos

Alternative 2A

This alternative would not be practicable because it would fail to meet the system linkage need.

Additionally, this alternative would:

- Displace 8 residences (in comparison to 2 residential displacements for Alternative 3EIK-2).
- Have greater impacts on active farmlands (25.6 acres v. 6.2 acres) than Alternative 3EIK-2.
- Have greater impacts on notable wildlife habitat (4.4 acres v. 0.7 acre) than Alternative 3EIK-2.

Alternative 2B

This alternative would not be practicable because it would fail to meet the system linkage need, and would fail to adequately address the traffic congestion needs in the study area.

Alternative 2B would use approximately 5 miles of Route 9. Traffic congestion and conflicting vehicle movements on this section of Route 9 would substantially increase the potential for new safety concerns and hazards.

Additionally, this alternative would result in:

- substantially greater proximity impacts (residences within 500 feet of the proposed roadway) in comparison to Alternative 3EIK-2 (200 residences v. 12 residences).

Alternative 2B-1

This alternative would be practicable.

This alternative was dismissed because it would result in:

- 2 water crossings potentially with anadromous fish versus 0 for Alternative 3EIK-2.
- Impacts to 10.7 acres of floodplains versus 9.6 acres for Alternative 3EIK-2.
- Impacts to 18.8 acres of active farmland and 37 acres of prime farmland soils versus 6.2 acres and 20.5 acres, respectively, for Alternative 3EIK-2.
- 9 residential displacements in comparison to 2 for Alternative 3EIK-2.
- Substantially greater proximity impacts than Alternative 3EIK-2 (61 residences v. 12 residences).
- Substantial public opposition toward Alternative 2B-1 due to the proximity impacts.

Alternative 2BEF

This alternative would be practicable.

This alternative was dismissed because it would result in:

- 11 water crossings versus 6 for Alternative 3EIK-2
- 2 water crossings potentially with anadromous fish versus 0 for Alternative 3EIK-2.
- Impacts to 20.1 acres of active farmland and 37.8 acres of prime farmland soils versus 6.2 acres and 20.5 acres, respectively, for Alternative 3EIK-2.
- 7 residential displacements in comparison to 2 for Alternative 3EIK-2.
- Substantially greater proximity impacts than Alternative 3EIK-2 (120 residences v. 12 residences).
- Greater impacts to wetlands (65.6 acres v. 43.2 acres) in comparison to Alternative 3EIK-2.

Alternative 2BE3K

This alternative would be practicable.

This alternative was dismissed because it would result in:

- 11 water crossings versus 6 for Alternative 3EIK-2.

- 8 residential displacements in comparison to 2 for Alternative 3EIK-2.
- Substantially greater proximity impacts than Alternative 3EIK-2 (73 residences v. 12 residences).
- Greater impacts to wetlands (53.9 acres v. 43.2 acres) in comparison to Alternative 3EIK-2.

Alternative 2C

This alternative would not be practicable.

Additionally, this alternative was dismissed because:

- Strong public opposition existed.
- It would result in impacts to 30.5 acres of active farmland in comparison to 6.2 acres for Alternative 3EIK-2.
- Indirect impacts on active farmland were projected to affect an additional 65 to 111 acres.

Alternative 2C-1

This alternative would be practicable, however, strong public opposition exists. Development of this alternative was determined to not be in the public interest.

This alternative was dismissed due to:

- Overwhelming public opposition.
- 1 water crossing potentially with anadromous fish versus none for Alternative 3EIK-2.
- 11.6 acres of floodplain impacts versus 9.6 acres for Alternative 3EIK-2.
- Impacts to 19.5 acres of active farmland and 47.6 acres of prime farmland soils versus 6.2 acres and 20.5 acres, respectively, for Alternative 3EIK-2.
- 8 residential displacements in comparison to 2 residential displacements for Alternative 3EIK-2.
- Substantially greater proximity impacts than Alternative 3EIK-2 (63 residences v. 12 residences), which result in resulted in substantial public opposition toward Alternative 2C-1.

Alternative 2C-2

This alternative would be practicable.

This alternative was dismissed because:

- Overwhelming public opposition exists.
- It would have one water crossing potentially with anadromous fish versus none for Alternative 3EIK-2.

- It would impact 14.3 acres of floodplain impacts versus 9.6 acres for Alternative 3EIK-2.
- 45.8 acres of impact to prime farmland soils versus 20.5 acres for Alternative 3EIK-2.
- 32.4 acres of direct impacts on active farmland in comparison to 6.2 acres for Alternative 3EIK-2.
- Indirect impacts of Alternative 2C-2 on active farmland were projected to affect an additional 65 to 111 acres of active farmland.

Alternative 2C-1/2B-1

This alternative would be practicable.

This alternative was dismissed due to:

- Nine total water crossings versus six for Alternative 3EIK-2.
- One water crossing potentially with anadromous fish versus none for Alternative 3EIK-2.
- Greater floodplain impacts (10.6 acres vs. 9.6 acres for 3EIK-2).
- Greater prime farmland soils impacts (43 acres vs. 20.5 acres for 3EIK-2).
- Greater active farmland impacts (16.7 acres v. 6.2 acres for 3EIK-2).
- Greater residential displacements (10 v. 2 for 3EIK-2).
- Substantially greater proximity impacts (54 residences v. 12 residences for 3EIK-2), which resulted in public opposition toward 2C-1/2B-1.

Alternative 2D

This alternative would be practicable.

This alternative was dismissed because:

- 11 total waters crossings, one potentially with anadromous fish versus 6 water crossings, none with anadromous fish for Alternative 3EIK-2.
- Greater impacts to floodplains (13.1 acres vs. 9.6 acres) than Alternative 3EIK-2.
- Greater impacts to prime farmland soils (35.6 acres vs. 20.5 acres) for Alternative 3EIK-2.
- Greater impacts to wetlands (65.7 acres v. 43.2 acres) than Alternative 3EIK-2.
- Greater impacts to active farmland (24.6 acres v. 6.2 acres) in comparison to Alternative 3EIK-2.
- Implementation of Alternative 2D would require the construction of 14 bridges in comparison to 6 bridges for Alternative 3EIK-2, a substantial projected cost difference.

The Family of Threes

Alternatives 3A (3AG, 3AH, 3AI, 3AIK, 3AJ, 3AJK)

Alternatives 3AI and 3AJ would not be practicable.

Alternatives 3AG, 3AH, 3AIK and 3AJK are practicable.

Alternatives 3AG and 3AH were dismissed from consideration due to:

- Greater wetland impacts of 76.2 acres and 95.8 acres, respectively, in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater number of water crossings (10 for 3AG and 11 for 3AH vs. 6 for 3EIK-2), and greater number of crossings potentially with anadromous fish (2 for both 3AG and 3AH vs. none for 3EIK-2).
- Greater impacts to floodplains (14.3 acres for 3AG and 14.0 acres for 3AH vs. 9.6 acres for 3EIK-2).

Alternatives 3AIK and 3AJK were dismissed from consideration due to:

- Greater displacements of 5 residences and 7 residences, respectively, in comparison to 2 residential displacements for Alternative 3EIK-2.
- Greater impacts to notable wildlife habitat of 2.9 acres and 4.9 acres, respectively, in comparison to 0.7 acre of notable wildlife habitat impact for Alternative 3EIK-2.
- Greater number of water crossings (7 for 3AIK and 3AJK vs. 6 for 3EIK-2), and greater number of crossings potentially with anadromous fish (2 for both 3AIK and 3AJK vs. none for 3EIK-2).
- Greater impacts to floodplains (10.3 acres for 3AIK and 11.0 acres for 3AIK vs. 9.6 acres for 3EIK-2).
- 3AIK AND 3AJK would each have 9 bridges with total lengths of 4,814 feet and 4,935 respectively versus 6 bridges for a total length of 1,948 feet for 3EIK-2.
- 3AIK would impact 50.3 acres of wetlands versus 43.2 acres for 3EIK-2.

Alternatives 3B (3BG, 3BH, 3BI, 3BIK, 3BJ, 3BJK)

Alternatives 3BI and 3BJ would not be practicable.

Alternatives 3BG, 3BH, 3BIK and 3BJK are practicable.

Alternatives 3BG, 3BH, 3BIK and 3BJK were dismissed from consideration due to:

- Greater wetland impacts of 68.8 to 121.0 acres in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater notable wildlife habitat impacts of 8.7 acres to 14.4 acres in comparison to 0.7 acre for Alternative 3EIK-2.

- 3BIK and 3BJK both have 8 water crossings compared to 6 for 3EIK-2. They both have one water crossing potentially with anadromous fish versus none for 3EIK-2.
- 3BIK and 3BJK would impact 11.9 and 12.5 acres of floodplain respectively compared to 9.6 acres for 3EIK-2.
- 3BIK and 3BJK would have 6 bridges with a total length of approximately 4,500-4,600 feet versus 6 bridges with a total length of 1,948 feet for 3EIK-2.
- 3BJK would impact 4 residences versus 2 for 3EIK-2.

Alternatives 3C (3CG, 3CH, 3CI, 3CIK, 3CJ, 3CJK)

Alternatives 3CI and 3CJ would not be practicable.

Alternatives 3CG, 3CH, 3CIK and 3CJK are practicable.

Alternatives 3CG and 3CH were dismissed from consideration due to:

- Greater wetland impacts of 77.4 acres and 97.1 acres, respectively, in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater residential displacements (9 and 6, respectively) and commercial displacements (2 each) in comparison to Alternative 3EIK-2 (2 residential displacements and 0 commercial displacements).
- Greater impacts to floodplains (12.4 and 12.1 acres, respectively) than 3EIK-2 (9.6 acres).
- Greater impacts to commercial land: 4.2 acres for both alternatives compared to 1 acre for 3EIK-2.
- 3CG and 3CH would each have 15 bridges with total lengths of 6,262 feet and 5,804 feet respectively compared to 6 bridges with a total length of 1,948 feet for 3EIK-2.

Alternatives 3CIK and 3CJK were dismissed from consideration due to:

- Greater notable wildlife impacts of 3.0 acres and 5.0 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.
- Greater residential displacements (6 and 8, respectively) and commercial displacements (2 each) in comparison to Alternative 3EIK-2 (2 residential displacements and 0 commercial displacements).
- Greater impacts to wetlands of 51.5 and 44.9 acres respectively versus 43.2 acres for 3EIK-2.
- Greater impacts to commercial land: 4.2 acres for both alternatives compared to 1 acre for 3EIK-2.

Alternatives 3D (3DG, 3DH, 3DI, 3DIK, 3DJ, 3DJK)

Alternatives 3DI and 3DJ would not be practicable.

Alternatives 3DG, 3DH, 3DIK and 3DJK are practicable.

Alternatives 3DG and 3DH were dismissed from consideration due to:

- Greater wetland impacts of 78.7 acres and 98.4 acres, respectively, in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater residential displacements (11 and 8, respectively) and commercial displacements (2 each) in comparison to Alternative 3EIK-2 (2 residential displacements and 0 commercial displacements).
- 3DG and 3DH would each have 12 bridges with total lengths of 5,763 feet and 5,305 feet respectively compared to 6 bridges with a total length of 1,948 feet for 3EIK-2.

Alternatives 3DIK and 3DJK were dismissed from consideration due to:

- Greater notable wildlife impacts of 12.9 acres and 14.9 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.
- Greater residential displacements (8 and 10, respectively) and commercial displacements (2 each) in comparison to Alternative 3EIK-2 (2 residential displacements and 0 commercial displacements).
- Greater impacts to wetlands of 52.8 acres and 46.2 acres, respectively compared to 43.2 acres for Alternative 3EIK-2.

Alternatives 3E (3EG, 3EH, 3EI, 3EIK, 3EJ, 3EJK)

Alternatives 3EI and 3EJ would not be practicable.

Alternatives 3EG, 3EH, 3EIK and 3EJK are practicable.

Alternatives 3EG and 3EH were dismissed from consideration due to:

- Greater wetland soils impacts of 72.7 acres and 92.3 acres, respectively, in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater notable wildlife impacts of 8.9 acres and 7.6 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.
- They would have 10 and 11 water crossing respectively compared with 6 for 3EIK-2.
- 3EG and 3EH would each have 15 bridges with total lengths of 6,630 feet and 6,171 feet respectively compared to 6 bridges with a total length of 1,948 feet for 3EIK-2.

Alternatives 3EIK and 3EJK were dismissed from consideration due to:

- Greater notable wildlife impacts of 3.2 acres and 5.2 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.

- Alternative 3EIK would result in greater proximity impacts of 22 residences in comparison to 12 residences for Alternative 3EIK-2.
- Alternative 3EIK would result in greater impacts to wetlands of 46.8 acres versus 43.2 acres for 3EIK-2.
- 3EIK and 3EJK would each have 10 bridges with total lengths of 3,948 feet and 4,070 feet respectively, compared to 6 bridges with a total length of 1,948 feet for 3EIK-2.
- 3EJK would displace 4 residences versus 2 for 3EIK-2.

Alternative 3F (3FG, 3FH, 3FI, 3FIK, 3FJ, 3FJK)

Alternatives 3FI and 3FJ would not be practicable.

Alternatives 3FG, 3FH, 3FIK and 3FJK are practicable.

- Alternatives 3FG and 3FH were dismissed from consideration due to:
- Greater wetland impacts of 69.6 acres and 89.3 acres, respectively, in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater notable wildlife impacts of 13.1 acres and 11.9 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.
- Greater residential displacements (8 and 5, respectively) in comparison to 2 residential displacements for Alternative 3EIK-2.
- Alternative 3FG would have 11, and 3FH would have 12 water crossings compared to 6 water crossings for 3EIK-2.
- 3FG and 3FH would each have 13 bridges with total lengths of 6,742 feet and 6,283 feet respectively, compared to 6 bridges with a total length of 1,948 feet for 3EIK-2.

Alternatives 3FIK and 3FJK were dismissed from consideration due to:

- Greater notable wildlife impacts of 7.5 acres and 9.4 acres, respectively, in comparison to 0.7 acre for Alternative 3EIK-2.
- Greater residential displacements (5 and 7, respectively) in comparison to 2 residential displacements for Alternative 3EIK-2.
- Greater impacts to undeveloped wildlife habitat (239 and 243 acres respectively) compared to 215 acres for 3EIK-2.
- Greater impacts to total land area (258 and 263 acres respectively) compared to 232 acres for 3EIK-2.

Alternative 3EIK-1

This alternative would be practicable.

Alternative 3EIK-1 was dismissed from consideration due to:

- Greater impacts to notable wildlife habitat of 13.9 acres in comparison to 0.7 acre for Alternative 3EIK-2.
- 1 commercial displacement (versus none for 3EIK-2) and greater residential proximity impacts in comparison to Alternative 3EIK-2 (22 residences v. 12 residences).
- It would impact 48.0 acres of wetlands versus 43.2 acres for 3EIK-2.
- It would impact 15.6 acres of floodplains versus 9.6 acres for 3EIK-2.

Alternative 3A-3EIK-1

This alternative would be practicable.

This alternative was dismissed from consideration due to:

- Greater residential displacements (8 v. 2) in comparison to Alternative 3EIK-2.
- Greater impacts to notable wildlife habitat (12.5 acres v. 0.7 acre) in comparison to Alternative 3EIK-2.
- Greater floodplain impacts (22.8 acres v. 9.6 acres) in comparison to Alternative 3EIK-2.
- Greater proximity impacts in comparison to Alternative 3EIK-2 (41 residences v. 12 residences).
- It would have 1 water crossing potentially with anadromous fish versus none for 3EIK-2.

Alternative 3E-2C

This alternative would not be practicable.

Additionally, this alternative was dismissed from consideration due to:

- Impacts of 124.7 acres of prime farmland soils versus 20.5 acres for 3EIK-2.

Alternative 3E-2C-2E

This alternative would be practicable.

This alternative was dismissed from consideration due to:

- Greater residential displacements (6 displacements v. 2 displacements) in comparison to Alternative 3EIK-2.
- It would impact 133.4 acres of prime farmland soils versus 20.5 acres for 3EIK-2.
- It would have 12 water crossings versus 6 for 3EIK-2.
- It would have a total bridge length of 4,440 feet versus 1,948 feet for 3EIK-2.

- Greater proximity impacts of 85 buildings within 500 feet (vs. 12 for 3EIK-2) and 177 buildings within 1,000 feet (vs. 68 for 3EIK-2).

The Family of Fours

Alternatives 4A, 4B, 4C, 4D

These alternatives would not be economically practicable due to extensive earthwork requirements associated with each of these alternatives in comparison to Alternative 3EIK-2.

These alternatives were dismissed from consideration due to:

- Greater residential displacements (5 to 17 displacements) in comparison to 2 residential displacements for Alternative 3EIK-2.
- Greater impacts to notable wildlife habitat (1.7 to 10.0 acres) in comparison to 0.7 acre for Alternative 3EIK-2.
- Comparable, or greater impact to wetlands (40.4-62.1 acres) versus 43.2 acres for 3EIK-2.
- Substantial impacts to operations at the Camp Roosevelt Boy Scout Camp.

The Family of Fives

Alternatives 5A2EF, 5A2E3K, 5B2EF, 5B2E3K

These alternatives would be practicable.

These alternative were dismissed from consideration due to:

- Greater wetland impacts (66.7 to 76.1 acres) in comparison to 43.2 acres for Alternative 3EIK-2.
- Greater residential displacements (5 to 12 displacements) compared to 2 residential displacements for Alternative 3EIK-2.
- Proximity impacts of these alternatives are substantially greater than those of Alternative 3EIK-2 (79-131 residences v. 12 residences).
- 5B2EF and 5B2E3K would have greater impacts to floodplains (11.6 and 11.5 acres respectively) compared with 9.6 for 3EIK-2.

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- Bangor Area Comprehensive Transportation System presentation.
- Holden Comprehensive Plan presentation.
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- Letter from Donald and Susan Pierce to MDOT dated February 1, 2002
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Appendix I: Interagency Meeting #4, March 12, 2002

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- Rationale for alternatives retained for further consideration, March 2002
- Comparison of alternatives retained for continued study and their ability to meet the study purpose and needs, March 2002
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Appendix R: Interagency Meeting #7, May 13, 2003

- Minutes

I. INTRODUCTION

This document provides background information and data supporting the alternatives analysis process and section in the Environmental Assessment. Other technical memoranda supporting the environmental assessment are:

- The Environmental Baseline Study
- The Noise Technical Memo
- The Comments and Coordination Technical Memo

The document also serves as a submission in accordance with Phase I of the U.S. Army Corps of Engineers New England Division Highway Methodology, which integrates the Corps permitting requirements under Section 404 of the federal Clean Water Act with the Maine Department of Transportation project development process based on compliance with the National Environmental Policy Act (NEPA).

A range of reasonable strategies and alternatives were developed to meet the study purpose and needs.

The purpose of this study is to: (1) construct a section of Maine's National Highway System from I-395 to Route 9, consistent with current American Association of State Highway and Transportation Officials (AASHTO) policy on design; (2) improve regional system linkage; (3) improve safety on Routes 46, 9, and 1A; and (4) improve the current and future flow of traffic and shipment of goods to the interstate system.

The needs for this study are due to poor roadway geometry in the study area coupled with an increase in commercial, local, and regional traffic that has resulted in, or further accentuated:

- Poor system linkage
- Safety Hazards
- Traffic congestion

In total, 71 alternatives or modifications of alternatives for satisfying the needs and furthering the purpose of the study were considered from May 2001 to May 2003 (see map pocket).

II. THE STRATEGIES AND ALTERNATIVES DEVELOPMENT AND SCREENING PROCESS

A. PARTICIPANTS

The strategies and alternatives development and screening process involves a number of participants with specific roles.

The Maine Department of Transportation (MDOT), together with the Federal Highway Administration (FHWA), is the decision-making participant in the NEPA process. It is the role of MDOT to identify, develop, analyze, and identify an alternative which best furthers the purpose and satisfies the needs of the study with the least adverse impact upon the natural, socioeconomic and cultural resources of the area, at an affordable cost. In developing and analyzing alternatives, MDOT consults with resource and regulatory agencies at the state and federal level, local citizens and municipal officials, and the general public.

In Maine, the federal and state regulatory and resource agencies are typically involved in the review of the strategies and alternatives development and screening process via monthly interagency meetings. The agencies that typically attend these meetings are:

- United States Army Corps of Engineers
- United States Fish and Wildlife Service
- United States Environmental Protection Agency
- National Marine Fisheries Service
- Federal Highway Administration
- Maine Department of Inland Fisheries and Wildlife
- Maine Atlantic Salmon Commission
- Maine Historic Preservation Commission
- Maine Department of Environmental Protection

The role of the regulatory and resource agencies is to advise MDOT by reviewing and commenting on the strategies and alternatives development process. The agencies assist MDOT by identifying potential resource impacts and issues of concern and suggesting methods to further avoid and minimize those impacts.

At the beginning of the study, a Public Advisory Committee (PAC), consisting of officials and representatives from Bangor, Holden, Brewer, Eddington, Clifton, Bucksport, Cherryfield, Hermon, Amherst, Calais, and private citizens was formed (Appendix A). The purpose of the PAC was for local officials and representatives to participate in the study by meeting periodically with the MDOT and provide insight and guidance about local issues and concerns. The PAC meetings were working sessions open to the public and included time for questions and answers from the public at the end of each meeting.

MDOT incorporated public input into the alternatives development process through public meetings and meetings with local municipalities and other interest groups during the alternatives development process. Prior to the development of alternatives, one public meeting was held. During the alternatives identification and development process, one public meeting was held.

B. Process

Strategies and alternatives were developed in accordance with the Maine Rule for the Sensible Transportation Policy Act (STPA) and NEPA.

The STPA applies to significant Maine highway projects. Significant highway projects are projects that increase capacity by constructing: one or more through travel lanes, a highway at a new location, or a bridge at a new location. The STPA recognizes that there are benefits and costs (financial, energy, and environmental) associated with transportation improvements and provides policies and management strategies for the analysis of these issues. This rule requires MDOT to consider available and future modes of transportation and to minimize the effects of transportation on public health, air quality, water quality, land use, and other natural resources.

NEPA, Public Law 91-190, was passed in 1969 and requires that proposed plans, functions, programs, policies or activities performed or funded by a federal agency affecting the environment be subject to a thorough review process that includes public participation. NEPA requires the FHWA and MDOT to consider the impacts of a project to the environment and disclose those impacts in a public decision-making document.

The first step in the alternatives development process was to establish the study purpose and needs. The principal objectives or mission of this study, as reflected in the purpose and needs statement, are to improve highway system linkage at a regional scale, improve traffic congestion, and to address local safety concerns.

Concurrent with the development of the purpose and needs statement, MDOT compiled an inventory of information on the natural, socioeconomic and cultural resources of the study area (Environmental Baseline Study, April 2001, revised January 2003). Using this information, MDOT and the PAC identified and developed a wide range of potential alternative corridors that appeared to address the purpose and needs of the study and avoided or minimized impacts to people and resources. MDOT used these corridors and concepts to develop an initial set of preliminary alternatives.

Alternatives were developed using MDOT's freeway design criteria. Alternatives were designed for construction of a four-lane highway with two travel lanes in each direction and a divided median within an approximate 200-foot-wide right-of-way. This study proposes that two lanes would be constructed. When traffic volumes increase and warrant additional capacity, the remaining two lanes would be developed and opened to traffic.

An analysis was performed on each of the preliminary alternatives to document the potential impacts which construction of those alternatives would generate. This analysis was conducted in accordance with the U.S. Army Corps of Engineers – New England Division's "The Highway Methodology Workbook" dated June 1993. Potential impacts were generally based on the cut and fill limits of a four-lane divided. This analysis quantified the following measures:

- Number and acres of National Wetland Inventory (NWI) wetland areas impacted
- Acres of hydric soils impacted
- Number of surface water crossings (streams, rivers, etc.)
- Number of surface water crossings potentially with anadromous fish
- Acres of undeveloped wildlife habitat impacted
- Acres of notable wildlife habitat impacted
- Acres of surface impacts on significant groundwater aquifers
- Acres of surface impacts on high yield aquifers
- Acres of 100-year floodplains impacted
- Number of community wells directly impacted
- Acres of active farmland impacted
- Acres of prime farmland soils impacted
- Acres of farmland soils of statewide importance impacted
- Acres of hazardous risk sites impacted
- Acres of commercial land impacted
- Acres of residential land impacted
- Acres of agricultural land impacted
- Acres of undeveloped land impacted
- Acres of other land impacted
- Acres of total land impacted
- Number of potential residential displacements
- Number of potential commercial displacements
- Number of potential and recorded archaeological areas
- Number of historic properties listed on the National Register of Historic Places

Using the results of this impact assessment, engineering feasibility, and traffic impacts, the alternatives were screened to assess the comparative merits of each alternative.

Following the preliminary screening process, a set of alternatives was suggested to be retained for continued refinement and screening. These alternatives were presented to the PAC, the public, and attendees of the interagency coordination meeting to solicit further input. Between PAC meetings, the study team completed preliminary highway design and compiled data on the potential impacts each preliminary

alternative would have on the natural environment, social environment, and land use. Preliminary alternatives that met the project purpose and need and met the engineering criteria, while potentially generating the fewest or least substantial environmental impacts, were retained for continued study. The No-build Alternative was carried through the screening process.

Prior to the eleventh PAC meeting on February 20, 2002, the system linkage need was examined in greater detail to further aid in reducing the number of preliminary alternatives. To meet the need of improved regional system linkage while minimizing impacts to people, it was determined that an alternative must provide a limited-access connection between I-395 and Route 9 east of Route 46. Alternatives that do not provide a limited access connection to Route 9 east of Route 46 would not be practicable because that would not provide a substantial improvement in regional mobility and connectivity and would negatively affect people living along Route 9 in the study area. Alternatives that would connect to Route 9 west of Route 46 would severely impact local communities along Route 9 between proposed alternative connection points and Route 46. Alternatives providing a direct connection between I-395 and Route 9 east of Route 46 will provide improved regional connections between the Canadian Maritime Provinces and the Bangor region and reduce traffic on other roadways. Such alternatives meet the intent of the East-West Highway Initiative.

This process of refinement, screening, and coordination was continued until a reasonable set of alternatives to be carried forward for detailed study was developed.

Notes:

- If an alternative failed to meet one or more of the study needs, it also failed to meet the corresponding part of the study purpose.
- For simplicity, only bridge lengths were compared. Two bridges, one in each direction, would be required at each crossing. Each bridge would be 38 feet wide, with two 12 foot lanes, a six foot inside shoulder, and an eight foot outside shoulder.
- Areas identified by the U.S. Fish and Wildlife Service's National Wetlands Inventory, and the Natural Resource Conservation Service as hydric soils were considered to be wetlands.
- Unless noted, proximity impacts indicate properties that are within 500 feet from the limit of disturbance on either side of a proposed alternative.
- The reasons for dismissing alternatives are presented in no particular order of importance.

C. CHRONOLOGY

Five PAC meetings were held between September 2000 and February 2001 to discuss the purpose and needs of the study and assemble features information for the study area.

At the sixth PAC meeting on May 2, 2001, the PAC members were divided into groups and asked to identify potential preliminary alternatives using satellite imagery and features mapping of the study area. Preliminary alternatives were developed based on their ability to meet the purpose and needs of the study and their ability to avoid or minimize impact to environmental and social features (Preliminary Features Mapping, February 2001).

The study team presented the results of the alternatives screening at eleven PAC meetings, one public meeting, and five interagency meetings (see the Alternatives Analysis Flow Chart):

- PAC Meeting #7, June 27, 2001 — The rationale for reducing the original 45 preliminary alternatives to eight was explained. Four additional preliminary alternatives were suggested at this meeting by members of the PAC, increasing the range of reasonable alternatives to 12 (Appendix B).
- PAC Meeting #8, July 18, 2001 — The range of twelve alternatives was reduced to ten. Alternative 1 was dismissed by MDOT because of safety concerns and Alternative 2D was dismissed because of impacts to waters of the U.S. (Appendix C).
- Public Meeting #2, September 19, 2001 — The purpose of the meeting was to update the public on the work that had been done by the study team and PAC since the public scoping meeting in April 2001. Specifically, the initial range of alternatives was presented. No suggestions were made to study additional alternatives (Appendix D).
- Interagency Meeting #3, October 9, 2001 — The study team presented the alternatives analysis to date and asked for concurrence. The agencies concurred with the range and development of alternatives considered and the preliminary screening of alternatives to date (Appendix E).
- PAC Meeting #9, October 23, 2001 — No alternatives were dismissed at this meeting. One new alternative (1-4B) was suggested during the meeting bringing the total number of alternatives to 11 (Appendix F).
- PAC Meeting #10, December 19,2001 — Alternative 1-4B and its impacts were reviewed. Two of the remaining eleven alternatives (3E-2C, 3C-2C-2E) were dismissed from further consideration because they were less effective at satisfying the purpose and need of the study than other alternatives and resulted in some of the greatest impacts to people (Appendix G).
- PAC Meeting #11, February 20, 2002 — The nine alternatives were reevaluated based on a more detailed examination of the study purpose and needs. Specifically, the eastern logical termini was refined. Alternatives that did not connect to Route 9 east of Route 46 were dismissed from further consideration. Seven alternatives were dismissed (Appendix H).

- Interagency Meeting #4, March 12, 2002 — The study team presented alternatives analysis information to date. The agencies concurred with the range of alternatives considered, but the agencies stated that Alternative 2B should be considered practicable. The agencies requested that additional impacts to people along Route 9 be quantified (Appendix I).
- PAC Meeting #12, May 22, 2002 — Nine new alternatives were suggested at this meeting (Appendix J). These alternatives were in response to a suggestion from the town of Holden to: (1) further study a modified upgrade alternative (Alternative 1-4B-1); (2) parallel Route 9 to the south (Alternatives 2BEF and 2BE3K); (3) move Alternative 3EIK farther east and south from the residential areas along Eastern Avenue (Alternatives 3EIK-1 and 3A-3EIK-1); (4) to parallel the existing electrical utilities corridors (Alternatives 5A2EF, 5A2E3K, 5B2EF, and 5B2E3K) (Appendix J).
- PAC Meeting #13, July 24, 2002 — Five alternatives were dismissed (Alternatives 2BEF, 5A2EF, 5A2E3K, 5B2EF, and 5B2E3K), and eight new alternatives were suggested at this meeting. These new alternatives consisted of Alternative 2B-1 and modifications –2, -3, and –4 to Alternatives 1 and 1-4B (Appendix K).
- PAC Meeting #14, September 18, 2002 — No alternatives were dismissed at this meeting nor were additional alternatives suggested (Appendix L).
- Interagency Meeting #5, October 8, 2002 — The study team presented a complete summary of the alternative analysis to date and the future direction of the study. The agencies concurred with the range of alternatives considered and the future direction of the study (Appendix M).
- PAC Meeting #15, November 20, 2002 — The range of reasonable alternatives was reduced from 16 to 5; the reasons for the dismissal of those alternatives was explained at the meeting. During the meeting, Alternatives 1-2, 1-3, 1-4B-2 and 1-4B-3 were dismissed and the town of Holden presented its "corporate boundary route." The product of that suggestion was the development of three Alternatives: 2C-1, 2C-2, and 2C-1/2B-1 (Appendix N).
- PAC Meeting #16, January 15, 2003 — The study team presented the reasons why an alternative could not be developed following the town of Holden's corporate boundary route. Following the suggestion to study the corporate boundary route, MDOT took a new look at this part of the study area and developed Alternatives 2C-1, 2C-2, and 2C-1/2B-1. Alternative 2C-2 was dismissed from further consideration because of impacts to farmlands and farming operations. Alternative 3A-3EIK-1

was dismissed because other alternatives exist that have less impact to waters of the U.S., notable wildlife habitat, and floodplains. Alternative 4B and its suggested improvements were reviewed (Appendix O).

- Interagency Meeting #6, March 12, 2003 — The agencies concurred with dismissing Alternative 2C-2 due to its greater impacts to farmlands than the other alternatives. (Appendix P).
- PAC Meeting #17, April 30, 2002 — The study team reviewed progress since the January 2003 PAC meeting. They presented, as revised or new alternatives, a modified 3A-3EIK-1 and 3EIK-2. Alternatives 2C-1 and 2C-1/2B-1 were carried over from the previous meeting. (In a separate meeting between the Corps of Engineers, EPA, and MDOT in March, the agencies recommended dismissing Alternative 2B-1 as recommended at the 16th PAC meeting.) The agencies concurred with dismissing Alternative 3A-3EIK-1 because it would have greater impacts to residences and the natural environment than other alternatives. Strong public opposition was demonstrated for Alternative 2C-1 and MDOT agreed that it should be dismissed from further study because it was not in the public interest. The PAC discussed dismissing Alternative 2C-1/2B-1 from further consideration. The range of alternatives recommended for detailed studies consisted of the No-build Alternative, Alternative 2C-1/2B-1 and Alternative 3EIK-2, although MDOT said that it would consider the PAC's suggestion to dismiss Alternative 2C-1/2B-1 (Appendix Q).
- Interagency Meeting #7, May 13, 2003 — The agencies concurred with dismissing the remaining build alternatives except Alternative 3EIK-2, pending review of this document (Appendix R).

III. Preliminary Alternatives Development and Screening

An initial set of 45 alternatives was developed from corridors suggested at the sixth PAC meeting. The study team assembled the corridors into alternatives, identified them by name, preliminarily screened the alternatives, and presented the results of that process to the PAC at the seventh PAC meeting on June 27, 2001. This section explains the development and screening of the initial 45 build alternatives. The No-build Alternative and transportation strategies were carried through preliminary development.

A. Preliminary Development

Development of preliminary alternatives was conducted during the PAC meeting #6, on May 2, 2001. PAC members were divided into groups and asked to identify potential preliminary alternatives using curve boards (i.e., templates meeting roadway design criteria), satellite imagery of the study area, and features mapping. Preliminary alternatives were developed based on their ability to meet the purpose and needs of the study and their ability to avoid and minimize impacts to environmental and social features.

Following this workshop, the study team compiled, refined and named the 45 alternatives resulting from the corridors suggested by the PAC. During this process, the study team, noticing that many of the preliminary alternatives crossed the center of the study area near the same point, created a match line for those alternatives. The match line split these preliminary alternatives at the point where they all met into eastern and western components. The match line is a node where the centers of the preliminary alternatives meet, approximately 0.9 mile north of Mann Hill Road.

B. Preliminary Screening

1. Alternatives Categorized into Families

The initial 45 alternatives fit into four broad 'families': upgrade, northern alternatives, central alternatives, and southern alternatives. One method to facilitate the preliminary screening was to find the best alternative from each family.

- The upgrade alternative involved improvements to existing roads. Upgrade alternatives were named starting with the number, "1."
- The northern alternatives began at the I-395/Route 1A interchange and generally proceed in a northerly direction to connect with Route 9. Northern alternatives were named starting with the number, "2."
- The central alternatives included alternatives that follow a more central course throughout the study area. For organization and clarity, the study team merged these "central" corridors at a single point, or 'match line.' The central alternatives branch to the east and west of this central point, creating the components discussed below. Central alternatives were named starting with the number "3."
- Southern alternatives were those towards the southern end of the study area. These alternatives crossed Kidder Brook, came close to the Penobscot-Hancock county line, and joined Route 9 at East Eddington. Southern alternatives were named starting with the number, "4."

Information on preliminary screening can be found in Appendix B.

2. Alternatives Screened by Family

a. Alternative 1 — Upgrade

Alternative 1 consists of upgrading sections of Route 1A and Route 46. Alternative 1 proposes widening of the existing roadway on Route 1A and Route 46 to a five lane cross-section, with two through-lanes in each direction and a center turn lane to accommodate left turns. Alternative 1 is 10.2 miles long.

This alternative was retained for continued study beyond the seventh PAC meeting.

b. Northern Alternatives

(1) Alternative 2A

Alternative 2A starts at I-395/Route 1A interchange and runs north, crossing Eastern Avenue, Day Road, Eaton Brook and Mann Hill Road approximately 0.6 mile west of Levenseller Road before connecting with Route 9 in Eddington approximately 0.4 mile east of the Route 9/Route 178 intersection. This alternative is 4.6 miles long.

This alternative was dismissed because it would not be practicable. It would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. Additionally, it would have substantially more residential impacts than Alternative 2B or Alternative 2C (eight displacements versus two and three displacements for Alternatives 2B and 2C respectively). Alternative 2A also had greater impacts on notable wildlife habitat (4.4 acres versus 0 acres for Alternatives 2B and 2C). This alternative would have the greatest impacts to people living along Route 9, as this alternative would connect to Route 9 furthest to the west. In addition, Alternative 2A would have generated greater agricultural impacts, including impacts on active farmland and prime farmland soils, in comparison to Alternative 2B.

(2) Alternative 2B

Alternative 2B begins at I-395/Route 1A interchange and runs north, crossing Eastern Avenue, Eaton Brook and continues approximately 0.3 mile west of the Mann Hill Road/Lambert Road intersection. From this point, Alternative 2B turns east after crossing a tributary to Eaton Brook and a power line corridor. It connects to Route 9 approximately 0.8 mile west of the Chemo Road/Route 9 intersection. Alternative 2B is 5.8 miles long.

This alternative was retained for continued study beyond the seventh PAC meeting.

(3) Alternative 2C

Alternative 2C is located to the south and east of Alternatives 2A and 2B and is 6.4 miles long. It begins at the I-395/Route 9 interchange, and runs north paralleling Eastern Avenue on the west. It turns east and crosses Eastern Avenue and Mann Hill Road at Clewleyville Corners. It continues east, crossing Levenseller Road and the outlet of Cummings Bog before connecting with Route 9 approximately 0.7 mile east of the intersection of Chemo Road and Route 9.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed because it would be physically more intrusive than Alternative 2A or Alternative 2B by generating greater impacts to residential areas, agricultural areas, active farmland, and prime farmland soils. This alternative would impact more total land and undeveloped land than the other two northern alternatives, requiring 132 acres of land. It would impact approximately 14.8 acres of the 100-year floodplain versus 10.6 and 10.5 acres for Alternatives 2A and 2B, respectively.

c. Central Alternatives

The components comprise two groups: (1) Components 3A, 3B, 3C, 3D, 3E and 3F that begin near the I-395/Route 1A interchange and end at the match line in the central portion of the study area, and (2) Components 3G, 3H, 3I, 3J and 3K that begin at the match line and connect with Route 9 near East Eddington. The screening process used the best components within each group. This resulted in the elimination of all alternatives using any component not retained for further screening. The components that were retained for consideration beyond the seventh PAC meeting combined to create Alternatives 3AI, 3AIK, 3EI and 3EIK.

(1) Component 3A

Component 3A begins at the I-395/Route 1A interchange and proceeds northeast crossing Eastern Avenue. Component 3A turns due east, culminating at the match line. Component 3A is 4.1 miles long.

This component was retained as part of Alternatives 3AI and 3AIK for continued study beyond the seventh PAC meeting.

(2) Component 3B

Component 3B begins at the I-395/Route 1A interchange and proceeds east along the southern edge of the Eaton Ridge development and crosses a large floodplain complex associated with Eaton Brook. From this point, Component 3B turns northeast and continues to the match line. Component 3B is 4.2 miles long.

This component was dismissed because it would have a greater impact to 100-year floodplains, NWI wetlands, and hydric soils than other Alternative 3 western components (Appendix B).

(3) Component 3C

Component 3C begins at the I-395/Route 9 interchange and proceeds east on Route 1A for a distance of approximately 1.2 miles. This component turns north from Route 1A west of the Route 1A/Copeland Hill Road intersection and crosses Felts Brook and Eaton Brook. It turns northeast, crossing additional wetland areas and meets the match line north of Mann Hill Road. Component 3C is 4.5 miles long.

Component 3C was dismissed because it would impact a greater area of commercial land than the other Alternative 3 components. Component 3C also had the second highest number of residential displacements in comparison to other Alternative 3 western components (Appendix B).

(4) Component 3D

Component 3D begins at the I-395/Route 1A interchange and proceeds east along Route 1A for a distance of 2.1 miles. It turns north near the Route 1A/Copeland Hill Road intersection, crosses a large floodplain area associated with a tributary to Felts Brook and continues northeast to the match line north of Mann Hill. Component 3D is 4.9 mile long.

Component 3D was dismissed because it would generate the most residential displacements of all the Alternative 3 components (Appendix B).

(5) Component 3E

Component 3E begins on the mainline of I-395 and proceeds east parallel to Route 1A for approximately 1.5 miles. This component turns north, crossing Route 1A and proceeds along the alignment of Component 3C. Component 3E is 5.3 mile long.

This component was retained as part of Alternatives 3EI and 3EIK for continued study beyond the seventh PAC meeting.

(6) Component 3F

Component 3F begins on the mainline of I-395 and proceed east parallel to Route 1A, crossing Copeland Hill Road, and turning north and crossing Route 1A near the eastern end of Church Road. It continues north across a tributary to Eaton Brook and the western end of Fisher Road before turning northeast to connect with the match line. Component F is 6.2 miles long.

Component 3F was dismissed because it would generate the greatest impact on undeveloped wildlife habitat and surface area of local aquifers. This component is also the longest of all the Alternative 3 components, requiring the most earthwork and total land acquisition (Appendix B).

(7) Component 3G

Component 3G proceeds east from the match line and crosses Clark Hill Road, and crosses Route 46 near the intersection of Route 46 with South Road. It connects with Route 9 approximately 1.0 mile east of the Route 46/Route 9 intersection at East Eddington. Component 3G is approximately 7.7 miles long.

Component 3G was dismissed because it would a have greater impact on NWI wetlands, hydric soils, undeveloped wildlife habitat and floodplains in comparison to other Alternative 3 eastern components. This component would require more land acquisition than Components 3I and 3J (Appendix B).

(8) Component 3H

Component 3H follows a similar path as Component 3G to the north except that 3G crosses Route 1A further to the south. Component 3H is approximately 4.3 miles long.

Component 3H was dismissed because it would a have greater impact on NWI wetlands, hydric soils, undeveloped wildlife habitat and floodplains in comparison to other Alternative 3 eastern components. This component would require more land acquisition than Components 3I and 3J (Appendix B).

(9) Component 3I

Component 3I proceeds from the match line north of Mann Hill and crosses Levenseller Road approximately 0.4 mile west of the Levenseller Road/Clark Hill Road intersection. From this point, Component 3I turns northeast and crosses the inlet to Davis Pond and connects with Route 9 approximately 0.2 mile west of the intersection of Rooks Road and Route 9. Component 3I is 2.5 miles long.

This component was retained as part of Alternatives 3AI, 3AIK, 3EI and 3EIK for continued study beyond the seventh PAC meeting.

(10) Component 3J

Similar to Component 3I, Component 3J proceeds north from the match line north of Mann Hill and crosses Levenseller Road. It then turns sharply east to cross the inlet to Davis Pond. From this point, Component 3J shares the same basic alignment as Component 3I. Component 3J is 2.7 miles long.

This component was dismissed from further consideration because it results in more residential displacements (3 displacements) than Component 3I (1 displacement) and greater impacts on notable wildlife habitat and floodplains (Appendix B).

(11) Component 3K

Component 3K provides an optional Route 9 connection for Components 3I and 3J. Rather than connecting to Route 9 west of Route 46, Component 3K continues from the end of Components 3I and 3J and crosses over Route 9. Component 3K runs north of East Eddington and crosses Mill Brook before connecting with Route 9 approximately 1.0 mile east of the intersection of Route 46 and Route 9. Component 3K is 2.2 miles long.

This component was retained as part of Alternatives 3AIK and 3EIK for continued study beyond the seventh PAC meeting.

d. Southern Alternatives

(1) Alternative 4A

Alternative 4A begins at the I-395/Route 1 interchange and follows Route 1A east to its intersection with Kingsbury Road. From this point, Alternative 4A leaves Route 1A, turns north and crosses Mann Hill Road, Route 46, and Kidder Brook. This alternative parallels Route 46 to the east. Alternative 4A continues due north and connects with Route 9 approximately 1.0 mile east of the Route 46/Route 9 intersection at East Eddington. Alternative 4A is approximately 10.2 miles long.

Alternative 4A would not be economically practicable because of the amount of earthwork necessary to construct it. Alternative 4A was dismissed because it would generate the greatest number of residential and commercial displacements in comparison to the other southern alternatives. It would displace 17 residences and 1

commercial property. Alternative 4A would require the greatest improvements on Route 1A, resulting in substantial impacts to the business community. In addition, 4A would impact more floodplain area and prime farmland soils than other southern alternatives.

(2) Alternative 4B

This alternative begins at I-395 and continues parallel to Route 1A, crossing Copeland Hill Road and Ridge Bluff Road. Approximately 0.2 mile east of Hart's Corner, Alternative 4B crosses Route 1A. From this point, Alternative 4B proceeds directly east, crossing over Route 46 approximately 0.9 mile north of the intersection of Route 1A and Route 46. The alternative turns north, crossing Kidder Brook and is parallel and east of existing Route 46 before connecting with Route 9 east of the Route 9/Route 46 intersection. Alternative 4B is approximately 10.9 miles long.

Although not economically practicable, Alternative 4B was retained for consideration beyond the seventh PAC meeting as the best member of this family.

(3) Alternative 4C

Alternative 4C proceeds east on a similar alignment as Alternative 4B. It crosses South Road south of Hart's Corners, and continues east to the south of Route 1A. Alternative 4C crosses Route 1A east of Kingsbury Road and continues directly east, crossing Route 46 approximately north of the Route 1A/Route 46 intersection in East Holden. From this point, Alternative 4C follows the same alignment as Alternatives 4A and 4B. Alternative 4C is 11.2 miles long.

Alternative 4C would not be economically practicable because of the amount of earthwork necessary to construct it. Alternative 4C was dismissed because it would generate the second highest residential displacements (8 displacements) and wetland/hydric soils impacts in comparison to other southern alternatives.

(4) Alternative 4D

Alternative 4D begins at I-395 and parallels Route 1A farther south than the other southern alternatives. Alternative 4D crosses Copeland Hill Road approximately 1.1 miles south of Route 1A and continues south of Ridge Bluff Road. Alternative 4D continues east and crosses South Road approximately 0.9 mile south of Hart's Corners. Alternative 4D turns north and meets the alignment of Alternatives 4A, 4B and 4C south of Hatcase Pond Road to continue north and connect with Route 9 east of Route 46. Alternative 4D is 11.7 miles long.

Alternative 4D would not be economically practicable because of the amount of earthwork necessary to construct it. This alternative was dismissed because it would be generate substantial impacts on wetlands/hydric soils, high yield aquifers, and generate the highest number of water crossings in comparison to other southern alternatives. Alternative 4D would generate the highest impact on undeveloped wildlife habitat and active farmland compared to other alternatives in this family. As the longest southern alternative, Alternative 4D would require the greatest total land acquisition and substantial earthmoving and grading to meet engineering criteria.

3. Result of the Preliminary Screening

The following alternatives were retained for screening beyond the seventh PAC meeting:

- No-build
- Transportation strategies
- Alternative 1
- Alternative 2B
- Alternative 3AI
- Alternative 3AIK
- Alternative 3EI
- Alternative 3EIK
- Alternative 4B

IV. Continued Alternatives Identification, Development, and Screening

The preliminary development and screening reduced the initial range of reasonable build alternatives from 45 to seven. Following the seventh PAC meeting in June 2001, the MDOT continued to develop, refine, and screen alternatives. It responded to suggestions for additional alternatives from municipalities and the PAC. The suggested alternatives were developed using the same methodology and level of detail and screened with the results presented at PAC meetings and interagency meetings.

A. No-build

The No-build Alternative assumes that no new construction or major reconstruction would occur to the transportation system within the study area, that regular maintenance to I-395, Route 1A, Route 46, and Route 9 would continue at its present level, and other (minor) planned projects would be developed. Currently planned maintenance and roadway projects include: Route 178 road resurfacing, a Route 1A intersection improvement near Bangor, and the creation of a bikeway to I-395 near Brewer (MaineDOT, Bureau of Planning. 2004-2009 Draft Six-Year Transportation Improvement Plan).

Although the No-build Alternative does not satisfy the study purpose and needs, it was retained as required by the NEPA. Its consequences for the design year, 2030, will be fully developed as part of detailed studies.

B. Transportation Strategies

In accordance with the STPA, the transportation systems management and the travel demand management transportation improvement strategies were considered to satisfy the study purpose and needs.

1. Transportation Systems Management

Transportation system management (TSM) consists of low impact roadway and intersection geometric improvements and operational strategies, which improve traffic flow through an area. TSM improvements, whether implemented separately or in combination with travel demand management strategies, may reduce or delay the need for improvements and upgrades that would be necessary if no actions were taken.

The TSM alternative was dismissed from further consideration because it did not satisfy the study purpose or needs. TSM improvements are not possible because their implementation would not meet the system linkage and traffic congestion needs of the study.

2. Travel Demand Management

Travel demand management (TDM) consists of strategies to reduce demand for travel during periods of peak traffic flow through an area. TDM strategies normally attempt to accomplish one of two goals:

- Remove vehicle trips from the roadway network, or
- Shift trips from periods of high traffic demand to periods of less substantial traffic demand.

TDM strategies that seek to remove vehicle trips from roadways include ride-sharing programs and improvement to transit networks. Strategies to shift traffic from periods of high demand to periods of low demand include such programs as encouraging employers to offer flexible work hours.

The TDM alternative was dismissed because TDM strategies work best in areas with a high concentration of commuter traffic during defined peak periods. Most traffic congestion in the study area is caused by increased heavy truck and auto traffic, often with an origin or destination outside the study area and region, and a lack of system linkage in the study area. This type of traffic problem is hard to manage effectively through TDM strategies.

C. Alternative 1

Alternative 1 is one of the initial 45 alternatives. It is described in section III-B-2-a.

This alternative was dismissed prior to the eighth PAC meeting on July 18, 2001. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and

Route 9 east of Route 46. It would require 19 residential displacements, impacts the front of the Holbrook school, and would require a lower-than-optimal design speed. Additionally, MDOT had safety concerns with the dual center turn lane.

D. Revised Alternative 1

The revised Alternative 1 was suggested during the seventh PAC meeting (June 27, 2001). MDOT suggested the inclusion of a revised Alternative 1 for analysis, due to strong public sentiments to consider more fully an upgrade alternative and safety concerns associated with the center turn lane design of Alternative 1. The revised Alternative 1 consists of widening Route 1A and Route 46 to a four lane road, with two through-lanes in each direction and no center turn lane. Revised Alternative 1 is 10.2 miles long.

This alternative was dismissed at PAC meeting #11 on February 20, 2002 because of its inability to satisfy the system linkage project need and impacts residences and commercial establishments along Route 1A. It does not provide a limited access facility between I-395 and Route 9.

1. Alternative 1-1

This modification of Alternative 1 was developed at the suggestion of the town of Holden and discussions at the 13th PAC meeting on July 24, 2002. Modifications to Alternative 1 (and 1-4B) ending in "-1" consist of a series of at-grade, jug handle intersections on Route 1A with frontage roads built to facilitate access to area businesses and residences. The intersections would be controlled with traffic signals and a system of "pacer" lights. Pacer lights are illuminated LCD panels that could help to control the speed of traffic; if a driver keeps a speed consistent with the 'pacer' lights, theoretically he or she should not have to stop at intersections. This is an experimental system that has not been tested in Maine. Approximately 4.9 miles of local roads would be created with these alternatives.

This alternative was dismissed at the 15th PAC meeting on November 20, 2002 because it would not meet the study need of improved system linkage; the addition of seven traffic signals is contrary to an envisioned high-speed connection between the interstate and principal arterials. It would require 17 residential displacements and 3 commercial displacements. Additional concerns included the operation and maintenance of the 'pacer' lights in a cold climate, the operation and maintenance costs of the system that would have to be borne by the town of Holden, driver understanding and acceptance of the system, and the inability of the system to keep traffic platoons together, when considering the vehicle mix and rolling topography of the area. This alternative was also dismissed at the request of the town of Holden and because of lack of support from the town of Holden.

2. Alternative 1-2

Modifications to Alternative 1 (and Alternative 1-4B) ending in "-2" consist of a series of diamond interchanges on Route 1A with parallel service roads. Approximately 6.8 miles of local roads would be created with this alternative.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002, at the request of the town of Holden, because of lack of support from the town of Holden. Alternative 1-2 would require 15 residential displacements and 1 commercial displacement.

3. Alternative 1-3

Modifications to Alternative 1 (and Alternative 1-4B) ending in "-3" consist of grade separations on Route 1A with only right-in and right-out movements for turns. Approximately 4.9 miles of local roads would be created with these alternatives.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002, at the request of the town of Holden, because of lack of support from the town of Holden. Alternative 1-3 would require 12 residential displacements and 3 commercial displacements.

4. Alternative 1-4

Modifications to Alternative 1 (and Alternative 1-4B) ending in "-4" consist of a series of collector/distributor lanes along Route 1A. Approximately 8.2 miles of local road would be created with these alternatives.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002 because it would be less effective, in terms of traffic movement, than other alternatives at satisfying the study purpose and needs. It would result in a high number of residential displacements (21) compared to other alternatives. This alternative would also require 3 commercial displacements.

E. Alternative 1-4B

This alternative was suggested at the ninth PAC meeting on October 23, 2001. It proposes widening of Route 1A to a four-lane cross section, similar to revised Alternative 1, from I-395 to approximately 750 feet east of Harts Corners. From the end of the widening on Route 1A, Alternative 1-4B proceeds directly east on new alignment following the alignment of Alternative 4B, crossing over Route 46 approximately 0.9 mile north of the intersection of Route 1A and Route 46. The alternative turns north and runs parallel and east of the Route 9/Route 46 intersection. The roadway would consist of a two-lane roadway constructed on a four-lane right-of-way to allow for potential widening.

The alternative was dismissed at the 11th PAC meeting on February 20, 2002. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46.

1. Alternative 1-4B-1

Alternative 1-4B-1 was introduced as a modification of Alternative 1-4B. It was suggested to MDOT at a meeting with representatives from the town of Holden. It was developed and presented at the 12th PAC meeting on May 22, 2002. Additional modifications to Alternative 1-4B and Alternative 1 were developed and presented at the 13th PAC meeting on July 24, 2002. These modifications make the upgrade alternatives into limited access roads rather than controlled access roads. Local roads created with these alternatives would be constructed by the state, but operated and maintained by the town of Holden.

The section of Route 1A from the I-395 interchange to approximately 1,640 feet west of Harts Corners is identical to Alternative 1-1.

This alternative was dismissed at the 15th PAC meeting on November 20, 2002, at the request of the town of Holden, because it would not meet the system linkage need, would be very physically intrusive requiring 6 million cubic yards of earthwork, and would potentially have substantial impacts to the Camp Roosevelt Boy Scout camp. It would require 13 residential and 3 commercial displacements.

2. Alternative 1-4B-2

This alternative is similar to Alternative 1-4B, except the section of Route 1A from the I-395 interchange to approximately 1, 640 feet west of Harts Corners is identical to Alternative 1-2.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002, at the request of the town of Holden, because: of a lack of support from the town of Holden, it would be very physically intrusive requiring 6 million cubic yards of earthwork, and would potentially have substantial impacts to the Camp Roosevelt Boy Scout camp. It would require 11 residential displacements.

3. Alternative 1-4B-3

This alternative is similar to Alternative 1-4B, except the section of Route 1A from the I-395 interchange to approximately 1, 640 feet west of Harts Corners is identical to Alternative 1-3.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002, at the request of the town of Holden, because: of a lack of support from the town of Holden, it would be very physically intrusive requiring 6 million cubic yards of earthwork, and would potentially have substantial impacts to the Camp Roosevelt Boy Scout camp. It would require 8 residential and 3 commercial displacements.

4. Alternative 1-4B-4

This alternative is similar to Alternative 1-4B, except the section of Route 1A from the I-395 interchange to a point approximately 500 meters (1, 640 feet) west of Harts Corners is identical to Alternative 1-4.

This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. This alternative was dismissed at the 15th PAC meeting on November 20, 2002 because it would be very physically intrusive, requiring 6 million cubic yards of earthwork, and would potentially have substantial impacts to the Camp Roosevelt Boy Scout camp. It would require 17 residential and 3 commercial displacements.

F. Alternative 2B

This alternative is one of the original 45 alternatives. It is described in section III-2-b-(2).

Alternative 2B was dismissed at PAC Meeting #11 on February 20, 2002 because MDOT and FHWA thought, as a condition of the Record of Decision, or the Section 404 permit, or both, for the existing section of I-395, additional impacts to Felts Brook would not be permitted and therefore this alternative was not 'practicable' under the law.

At the fourth interagency meeting on March 12, 2002, the agencies stated that the permit for the existing section of I-395 was not conditioned to prevent further impacts to Felts Brook, and that Alternative 2B should be considered practicable under the law and should continue to be evaluated.

Alternative 2B was dismissed prior to PAC Meeting #16 on January 15, 2003 because it would inadequately address the system linkage and traffic congestion needs. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. MDOT projects that the future level of service (LOS) for this section of Route 9 resulting from this alternative would be "D" — LOS D is where traffic starts to break down between stable and unstable flow and can become a safety concern in areas of level topography, vehicle mix, and fluctuating speeds. Future traffic volume (year 2030 no-build average annual daily traffic) would be approximately 8,800 vehicles.

Limited opportunities exist to control access management on this section of Route 9 from local roads and driveways. There are ten local roads and 148 existing drives or access points to undeveloped lots. Assuming 10 trip ends per drive and an equal number of left and right turns, Alternative 2B's ability to satisfy the system linkage and traffic congestions needs is questionable. There are several hundred acres that can be developed along this section of Route 9. Additionally, 200 buildings (residential and commercial) would be located in proximity (within 500 feet) of the proposed roadway.

The lack of existing access controls and the inability to effectively manage access along this section of Route 9, and the number of left turns, contribute to the poor LOS and safety concerns, and the inability of Alternative 2B to satisfy the system linkage purpose and need effectively.

G. Alternative 2B-1

This alternative was suggested at the 13th PAC meeting on July 24, 2002 as a modification of Alternative 2B. The first section of Alternative 2B-1 is identical to Alternative 2B. Instead of tying into Route 9 near the intersection with Chemo Road, Alternative 2B-1 parallels Route 9 south of Cummings Bog approximately 0.9 mile south of Route 9. Alternative 2B-1 turns north and crosses Route 9 approximately 1.0 mile east of the intersection with Chemo Road. Alternative 2B-1 runs north of East Eddington, turns south, and ties into Route 9 east of Route 46. This alternative is 10.2 miles long.

This alternative was dismissed at the 17th PAC meeting on April 30, 2003. This alternative was dismissed because it would have greater impacts to forested areas and unfragmented wildlife habitat than Alternative 2C-1/2B-1 (the portion of both alternatives that parallel the utility corridor).

H. Alternative 2BEF

The alternative was suggested at the 12th PAC meeting on May 22, 2002. It follows Alternative 2B, but instead of tying into Route 9 near the intersection with Chemo Road, it continues east parallel to the south side of Route 9 (Component 2E) and passes south of East Eddington (Component 2F). It ties into Route 9 east of Route 46. This alternative is 10.2 miles long.

This alternative was dismissed at the 13th PAC meeting on July 24, 2002 because it would impact approximately 65 acres of wetlands. The USACOE would not likely permit this alternative, as it would not be the "least environmentally damaging practicable alternative" under Section 404 and would not be in the public interest. This alternative would have comparably high floodplain impacts.

I. Alternative 2BE3K

This alternative was suggested at the 12th PAC meeting. This alternative is nearly identical to Alternative 2BEF except that it uses Component 3K (instead of 2F) which passes north of East Eddington and ties in to Route 9 east of Route 46. This alternative is 10.1 miles long.

This alternative was dismissed at the 15th PAC on November 20, 2002 meeting because it would impact approximately 54 acres of wetlands. The USACOE would not likely permit this alternative, as it would not be the "least environmentally damaging practicable alternative" under Section 404 and would not be in the public interest. This alternative would have comparably high floodplain impacts.

J. Alternative 2C-1

This alternative was developed in response to the town of Holden's "corporate boundary route" and to study part of an alternative through the northern part of the town. It was presented at the sixteenth PAC meeting on January 15, 2003. This alternative starts at the I-395-Route 9 interchange. It continues north along the corporate boundary between the city of Brewer and town of Holden, turns east and passes south of Clewleyville Corners. The alternative continues in a northeast direction, crossing Levenseller Road and Route 9 before turning south and tying with Route 9 east of East Eddington.

This alternative was dismissed at the 17th PAC meeting on April 30, 2003 due to overwhelming public opposition. This alternative would result in 8 residential displacements, and would be closest in proximity to the greatest number of buildings of the alternatives under consideration in April 2003.

K. Alternative 2C-2

Alternative 2C-2 is nearly identical to Alternative 2C-1 except that the section from the I-395 interchange to the point where it turns east is offset to the east compared to Alternative 2C-1.

This alternative was dismissed at the 16th PAC meeting on January 15, 2003 because it would have substantial direct and indirect impacts to active farmland and farmland operations. It would require 32.4 acres of active farmland compared with 19.5 acres of impact to active farmland from the similar Alternative 2C-1.

Beyond the direct impacts to farmland, this alternative would indirectly impact farmland and farmland operations. It is likely that a portion of this farm would no longer be a viable remnant raising the impact to farmland to approximately 65 acres. In the event that the owners of the farm could no longer use the pasture underneath the electric towers and lines, the impact to farmland would increase to approximately 111 acres.

L. Alternative 2C-1/2B-1

This alternative uses the section of Alternative 2C-1 from the I-395 interchange to a point approximately 3,280 ft. west Clewleyville Corners. Then, the alternative continues north and is identical to Alternative 2B-1 from that point to where it connects with Route 9 west of East Eddington.

Alternative 2C-1/2B-1 was dismissed following the 17th PAC meeting on April 20, 2003. While it was considered the best of the "2" family of alternatives in April 2003, it did not compare well with Alternative 3EIK-2. In comparison to Alternative 3EIK-2, Alternative 2C-1/2B-1 has substantially greater impact on water crossings (9 vs. 6), active farmland (16.7 ac. vs. 6.2 ac.), floodplain (10.6 ac. vs. 9.6 ac.), prime farmland soils (43 ac. vs. 20.5 ac.), more residential displacements (10 vs. 4), and proximity impacts (54 buildings within 500 feet vs. 12). Public opposition existed against this alternative, although less than Alternative 2C-1.

M. Alternative 2D

Alternative 2D was suggested at the seventh PAC meeting on June 27, 2001. This alternative closely follows the same alignment as Alternative 2B until reaching Route 9. Alternative 2D would cross over Route 9 approximately 0.8 mile west of the Chemo Road/Route 9 intersection and proceeds east, paralleling Route 9 to the north. The alternative connects with Route 9 approximately 0.8 mile east of Route 46. Alternative 2D is 10.2 miles long.

Alternative 2D was dismissed from further consideration at the eighth PAC meeting on July 18, 2001. Alternative 2D results in the greatest impact to wetlands (65 acres). It requires the acquisition of approximately 235 acres of property and 14 bridges with a total length of about 6,192 feet. Alternative 2D also directly impacts 24.6 acres of active farmland. These impacts are far more than other alternatives being considered at that time.

N. Alternative 3AI

Alternative 3AI is one of the initial 45 alternatives. It consists of Components 3A and 3I described in section III-B-2-c.

The alternative was dismissed at the 11th PAC meeting on February 20, 2002. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. It also had higher floodplain impacts when compared to other alternatives considered at that time.

O. Alternative 3AIK

Alternative 3AIK is one of the initial 45 alternatives. It consists of Components 3A, 3I, and 3K described in section III-B-2-c.

The alternative was dismissed at the 11th PAC meeting on February 20, 2002. Although it would provide a limited access facility between I-395 and Route 9, it would have greater impacts to residences than Alternative 3EIK. This alternative also had comparatively high wetland and floodplain impacts when considered against other alternatives at that time.

P. Alternative 3EI

Alternative 3EI is one of the initial 45 alternatives. It consists of Components 3E and 3I described in section III-B-2-c.

The alternative was dismissed at the 11th PAC meeting on February 20, 2002. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. It also had the highest impact on notable wildlife habitat of alternatives considered at that point in the alternatives analysis process.

Q. Alternative 3EIK

Alternative 3EIK is one of the initial 45 alternatives. It consists of Components 3E, 3I, and 3K described in section III-B-2-c.

This alternative was dismissed at the 15th PAC meeting on November 20, 2002 because it would require approximately 20 more acres of area to build than Alternative 3A-3EIK-1. It would have greater proximity impacts to people along Eastern Avenue than Alternative 3A-3EIK-1. It would require approximately 30% (1,100 ft.) more bridge length than Alternatives 3-EIK-1 or 3A-3EIK-1. It would be less effective at satisfying the traffic congestion need than Alternatives 3-EIK-1 or 3A-3EIK-1.

R. Alternative 3EIK-1

This alternative was suggested at the 12th PAC meeting. It is a modification of Alternative 3EIK that was been shifted approximately 1,500 feet to the southeast to reduce impacts to residences along Eastern Avenue. This alternative is 10.2 miles long.

This alternative was dismissed prior at 15th PAC meeting on November 20, 2002 because it would be approximately one mile longer to build and require 20 more acres of land than Alternative 3A-3EIK-1. Alternative 3A-3EIK-1 was also favored by many of the businesses in the town of Holden.

S Alternative 3EIK-2

This alternative was suggested by the Bangor city engineer, and developed between PAC meetings 16 and 17. It was presented at PAC meeting #17 on April 30, 2003. Alternative 3EIK-2 begins off the mainline of I-395 and parallels Route 1A. It crosses Route 1A approximately 3,000 ft. west of Copeland Hill Rd. It continues northeast, crossing Mann Hill Rd., Levenseller Rd., and Route 9. After crossing Route 9, it turns southeast, and connects with Route 9 east of the intersection with Route 46. This alternative is 10.6 miles long.

Alternative 3EIK-2 was retained for detailed studies.

T. Alternative 3A-3EIK-1

This alternative was suggested at the 12th PAC meeting. It is like Alternative 3EIK-1 except that it begins at the end of I-395. This alternative is 9.2 miles long.

This alternative was dismissed at the 16th PAC meeting on January 15, 2003 because it would impact approximately 50 acres of wetlands and 22.8 acres of floodplains (approximately 30% more than other alternatives in the '3' family). This alternative would also impact 12.5 acres of notable wildlife habitat. These impacts are substantially higher than those from the other alternatives retained for continued screening as of January 2003.

This alternative was modified between January and April 2003 to avoid the mobile home park. The modification reduced proximity impacts and impacts to residential land, but had little effect on impacts to the natural environment. It was dismissed at the 17th PAC meeting in April 2003 because it would have greater impacts than Alternative 3EIK-2. It would have greater residential displacements (8 vs. 4), greater proximity impacts (41 residences within 500 feet vs. 12), a greater number of water crossings (8 vs. 6), one water crossing with anadromous fish (vs. none for 3EIK-2), greater impacts to notable wildlife habitat (12 ac. vs. 0.7 ac.), and greater floodplain impacts (22.8 ac. vs. 9.6 ac.).

U. Alternative 3E-2C

Alternative 3E-2C was suggested at the seventh PAC meeting on June 27, 2001. Beginning off of I-395, this alternative follows the alignment of Component 3E, and proceeds north to Clewleyville Corners. From this point, the alternative generally follows the alignment of Alternative 2C. The alternative continues east, crossing Levenseller Road and the outlet of Cummings Bog before connecting with Route 9 approximately 0.7 mile east of the intersection of Chemo Road and Route 9. Alternative 3E-2C is approximately 7.8 miles long.

This alternative was dismissed at PAC meeting #10 on December 19, 2001. This alternative would not be practicable because it would fail to meet the system linkage need of providing a limited access connection between I-395 and Route 9 east of Route 46. It lacked support from the town of Holden and would result in impacts to residential land uses (four residential displacements, and is proximal to established neighborhoods) that were perceived by the public to be substantial. This alternative would also have greater impacts on prime farmland soils than other alternatives considered at that time.

V. Alternative 3E-2C-2E

Similar to Alternative 3E-2C, this alternative was identified and added to the range of preliminary alternatives during the screening of alternatives at the seventh PAC meeting. It's alignment is identical to Alternative 3E-2C, but rather than connecting with Route 9 west of Route 46, this alternative continues east, closely following the alignment of Alternative 2D north of East Eddington, to connect with Route 9 approximately 0.8 mile east of Route 46. Alternative 3E-2C-2E is approximately 10.7 miles long.

Like Alternative 3E-2C, this alternative was dismissed at PAC meeting #10 on December 19, 2001 because it lacked support from the town of Holden and would also impact residential land uses (six residential displacements, and is proximal to established neighborhoods) that were perceived by the public to be substantial. This alternative also had high prime farmland soils impacts and a higher number of water crossings when compared with other alternatives at this point in the alternatives screening process.

W. Alternative 4B

Alternative 4B is one of the initial 45 alternatives. It is described in section III-B-2-d-(2).

This alternative was dismissed at the 15th PAC meeting on November 20, 2002 because it would be physically the most intrusive of the build alternatives. It would require approximately 7.92 million cubic yards of earthwork making it economically not practicable. Alternative 4B would result in substantial impacts to the Camp Roosevelt Boy Scout camp. Alternative 4B would not eliminate the need to improve Route 1A in the future.

X. Alternative 5A2EF

This alternative begins at the I-395 interchange and turns north near the city of Brewer / town of Holden town line. It follows a utility corridor north and then turns northeast, passing northwest of Clewleyville Corners and connecting with Component 2E 3,280 feet west of Cummings Bog. From that point, it follows the alignment of Alternative 2BEF.

This alternative was dismissed at PAC meeting #13 on July 24, 2002 because it would impact approximately 80 acres of wetlands and 32.9 acres of floodplain impact; the highest impacts for those criteria in comparison to the alternatives being considered at that time. This alternative would also have resulted in 5 residential displacements, more than other alternatives retained at that time.

Y. Alternative 5A2E3K

This alternative is nearly identical to 5A2EF, except that it continues onto Component 3K which connects with Route 9 east of East Eddington.

This alternative was dismissed at PAC meeting #13 on July 24, 2002 because it would impact approximately 69 acres of wetlands and 31.7 acres of floodplain; the second highest impacts for those criteria (only Alternative 5A2EF had higher impacts) in comparison to other alternatives at this point in the alternatives analysis process. This alternative would also have resulted in 5 residential displacements, more than other alternatives retained at that time.

Z. Alternative 5B2EF

This alternative starts west of the I-395 interchange and follows a utility corridor north, crosses Felts brook between Lambert and Pierce Streets, and continues northeast crossing Mann Hill Road. Alternative 5B2EF turns east north of Mann Hill Road and follows the alignment of Alternative 2BEF from that point on.

This alternative was dismissed at PAC meeting #13 on July 24, 2002 because it would impact approximately 80 acres of wetlands and would require 10 residential and 1 commercial displacements. Other alternatives were being considered at this time with substantially fewer impacts than this alternative.

AA. Alternative 5B2E3K

This alternative is nearly identical to 5B2EF, except that it continues onto Component 3K which connects with Route 9 east of East Eddington.

This alternative was dismissed prior to PAC meeting #13 on July 24, 2002 because it would have comparably high impacts of approximately 68 acres of wetlands and 32 acres of floodplain impacts against other available alternatives.

V. Alternatives Retained for Detailed Studies

As a result of the alternatives development and screening process, two alternatives have been retained for detailed studies (see map pocket):

- No-build
- 3EIK-2

At the interagency meeting held on May 13, 2003, the regulatory and resource agencies with direct or indirect jurisdiction concurred with the range of alternatives retained for detailed study, pending review of this document.

VI. References

MaineDOT, Bureau of Planning. "2004-2009 Draft Six-Year Transportation Improvement Plan."

Public Law. Maine Sensible Transportation Policy Act of 1991. 17-229 Chapter 103.

Public Law 91-190. The National Environmental Policy Act of 1969. 42 U.S.C. 4321 et seq. Signed January 1, 1970.

Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. 40 CFR Parts 1500-1508. November 29, 1978.

Public Law 95-217. Clean Water Act of 1977. 33 U.S.C. 1251.

U.S. Army Corps of Engineers, New England Division. The Highway Methodology Workbook. Integrating Corps Section 404 Permit Requirements with Highway Planning and Engineering and the NEPA EIS Process. 1993.