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Gorham Bypass Study, Chapter One : Study Purpose and Need, 2003

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1. Study Purpose and Need

1.1 Study Overview and Background

For nearly three decades, the Gorham to Portland Corridor has been the subject of numerous transportation studies to determine the most appropriate and feasible transportation improvement strategy for the corridor. The most recent study, the Gorham-Portland Corridor Alternatives Analysis, which was completed in 1997 by the Portland Area Comprehensive Transportation Committee (PACTS), further documented the transportation deficiencies in the corridor. This study noted that transportation deficiencies and adverse effects of high volumes of through traffic have existed for many years within Gorham Village, as listed in the 1960, 1972, 1986, and 1992 versions of the Town of Gorham's Comprehensive Plan. Each of these plans has identified the need for a relief route (bypass road) of Gorham Village for through traffic. In 1977, Maine Department of Transportation (MDOT) completed a preliminary design for a new road from Route 25 west of Gorham Village to Route 114 south of Gorham Village. In 1978 MDOT completed a regional study which, among its recommendations, included a bypass of Gorham Village. In 1980 and 1989 the Town of Gorham commissioned studies of on-street parking and traffic congestion which describe the seriousness and longevity of the traffic congestion problems within the corridor, and the need to develop an alternative route to alleviate congestion and plan for future growth within the area.

The Gorham-Portland Corridor Alternatives Analysis identified five existing and evolving transportation issues facing the Gorham to Portland corridor: 1) Mobility for motorists; 2) Mobility for users of alternative travel modes; 3) Transportation system safety; 4) Goods movement; and, 5) Land use compatibility. PACTS (1997) evaluated a broad range of alternatives, both local and regional in nature. These included Transportation System Management (TSM) measures, Transportation Demand Management (TDM) measures, new and expanded bus transit, passenger rail, upgraded/widened roads, and new roads. Public input was obtained through an Advisory Committee, a series of public meetings, interviews with area residents, contacts with area stakeholders, and active promotion through the media.

The Gorham-Portland Corridor Alternatives Analysis reached several important conclusions that guided the development of a long-term strategy for the corridor: 1) No Action will exacerbate existing safety and capacity problems, increase travel times and congestion in the corridor, and hinder movement of goods through the corridor; 2) A program of action can be implemented immediately to provide short-term improvement in terms of congestion and safety, however future year conditions will be unacceptable with only those improvements; 3) A long-term program of transit service expansion, carpool and vanpool promotion, and other non-auto travel modes will have a beneficial effect on personal mobility in the corridor, however it will have only a minor effect on traffic congestion and safety over the long-term; 4) Long-term congestion relief in Gorham Village requires the provision of additional east-west roadway capacity; and, 5) Long-term congestion relief in South Gorham/North Scarborough requires provision of additional roadway capacity.

The Gorham-Portland Corridor Alternatives Analysis recommended a Preferred Improvement Strategy of both short-term and long-term measures to address the corridor deficiencies. This Preferred Improvement Strategy included a Southerly Bypass of Gorham Village, from Route 25/Ossipee Trail west of Gorham Village to Route 114/South Street south of Gorham Village.

As a result of this study, the Town of Gorham formally requested that MDOT advance development of the recommended improvement.

In response to this request, MDOT, in cooperation with the Federal Highway Administration (FHWA), commenced preparation of this Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) and to begin compliance with the U.S. Army Corps of Engineers (ACOE) New England Division Highway Methodology.

The Location and Study Area maps for this EA are depicted on Figure 1-1, page 1-3 and Figure 1-2, page 1-4, respectively. The Town of Gorham is located 15.2 km (9.5 mi) west of Portland, Maine, Cumberland County. The Study Area is located in the southern third of the Town of Gorham and encompasses approximately 49 sq km (19 sq mi) (Figure 1-2, page 1-4). The Study Area is generally centered around Gorham Village and includes Mosher Corner, at its northeast corner. To the southeast, the Study Area extends along Route 22 to the Scarborough town line. To the southwest, the Study Area extends to the Buxton town line, in the vicinity of Routes 4/202 and Osborne Road. West Gorham is at the northwest corner of the Study Area.

1.2 Purpose and Need Statement

1.2.1 Study Purpose

The NEPA Study Purpose is to provide for the safe and efficient movement of people and goods through and around Gorham Village in a manner that is consistent with and supports the goals of Gorham's Comprehensive Plan. Current and future demand for local and regional travel, by all appropriate modes including vehicular, pedestrian, and bicycle, should be accommodated to satisfy needs.

1.2.2 Study Needs

Transportation deficiencies in the Study Area have been identified in past studies and reaffirmed in this Environmental Assessment (EA). These deficiencies include: 1) insufficient capacity creating traffic congestion in the Gorham Village area; 2) outdated/inadequate road design features, particularly for accommodating truck movements, affecting traffic safety in Gorham Village and regional mobility; 3) outdated/inadequate facilities for pedestrian and bicycle modes; 4) safety issues in the Study Area, and 5) system needs including system connectivity and commerce also have been identified.

Traffic Congestion

Traffic congestion is evident in Gorham Village during morning and evening peak hours and on weekends, specifically at the intersection of Routes 4/25/114/202. Previous studies (PACTS, 1997) have documented that this intersection operates "at capacity" at 1990 traffic volume levels and is expected to operate "over capacity" at future year 2015 traffic volume levels. Further east, traffic operations at the intersection of Route 25 and New Portland Road are forecast to deteriorate from a 1990 "under capacity" level to a future year 2015 "near capacity" level.

Analyses of 1999 conditions completed for this EA demonstrate that congestion continues to worsen as traffic volumes continue to increase. 1999 levels of service (LOS), which are quantitative measures of the quality of traffic flow (See Section 3.2.4, page 3-4), at both

Insert Figure 1-1

Insert Figure 1-2

intersections have deteriorated to LOS F (over capacity) during one or both peak hours. 1999 average vehicle stopped delays are 89 seconds per vehicle at the intersection of Routes 4/25/114/202 and 124 seconds at the intersection of Route 25 and New Portland Road.

Forecasts of year 2025 No Build conditions show continued congestion and increased delay as traffic volumes would continue to increase. Levels of service would be LOS F at the intersection of Routes 4/25/114/202 during both AM and PM peak hours, and average vehicle stopped delays would increase by as much as 80%, as compared to existing conditions, to 161 seconds per vehicle. LOS at the intersection of Route 25 and New Portland Road also would degrade by year 2025 due to traffic growth. However, signal phasing and timing modifications, along with coordination with a new signal being installed at the intersection of Elm Street and Water Street (see Figure 1-4, page 1-8) as part of the expansion of a local supermarket, would mitigate the impact of traffic growth. As a result, LOS would improve to LOS E in the year 2025, with average vehicle stopped delays of approximately one minute, or 50% better than 1999 conditions. Nonetheless, this LOS is considered substandard.



Westbound traffic queued along Route 25 in Gorham Village

Outside of the Gorham Village area, other roads and intersections in the Study Area experience substandard LOS under existing traffic loads. Levels of service E and F are considered substandard according to guidelines of the American Association of State Highway and Transportation Officials (AASHTO). These include 13 individual road segments and 2 unsignalized intersections. By year 2025, as a result of the forecasted growth in traffic volumes in the Study Area, 13 individual road segments and six unsignalized intersections are forecast to have substandard LOS (No Build Alternative).

Outdated/Inadequate Road Design Features

Additional congestion on Route 114 (South Street) occurs in the vicinity of Morrill Avenue and Lincoln Street during arrival and departure times at the Gorham High School, Shaw Middle School, and the Village School. Seasonal recreation traffic north to Sebago Lake also contributes to congestion on Study Area roads.

Truck traffic through Gorham Village is a concern due to its disproportionately large contribution to traffic congestion compared to automobile traffic, due to its adverse effects on the character of Gorham Village, and due to safety and environmental concerns (spills) raised with heavy truck movements on roads that have substandard horizontal design features (curve radii and lane widths). In general, vertical design features within Gorham Village are not substandard. Existing truck volumes comprise approximately 5% of the total traffic volume in Gorham Village. Truck trips oriented west-east along Route 25, and oriented west-south between Route 25 and Route 114, dominate the truck traffic movements. Seventy four percent of the truck traffic in Gorham Village has one of these trip orientations.

Pedestrian and Bicycle Accommodations

Pedestrians and bicyclists must compete with vehicular traffic for available road space. This raises safety concerns and is contrary to the village environment envisioned in the Town of Gorham Comprehensive Plan.

Safety

Within the Study Area, there are a total of 16 intersections and road segments that are designated as High Crash Locations (HCL) by the Maine Department of Transportation (See Figure 1-3, Page 1-7 and Figure 1-4, page 1-8). To be considered an HCL, an intersection or road segment must have eight or more reported crashes in the past three years and have a critical rate factor (CRF) over 1.00. The CRF relates the crash rate at a particular location to the statewide crash rate for a similar type location. Eleven of these locations are located in the immediate Gorham Village area: the intersection of Routes 4/25/114/202; Route 25 at Flaggy Meadow Road; Routes 4/25/202 at Cross Street; Routes 4/25/202 at Water Street; Route 114 at Green Street; Route 114 at Morrill Avenue; four segments of Routes 4/25/202 between Pine Street and New Portland Road; and Route 114, between Routes 4/25/202 and Preble Street.

In addition, traffic congestion experienced in Gorham Village hinders emergency vehicle response times.

System Linkage and Intrastate and Interstate Commerce

As the juncture of four numbered U.S. and state highways, the Gorham Village area is a vital linkage in Maine's National Highway System network. The National Highway System designated highways in the Study Area include Route 25 from the intersection with Route 4/202 in Gorham Village continuing east to Portland. The National Highway System designation then follows Route 4/202 in a westerly direction from its intersection with Route 25. As the juncture of U.S. Route 202 and State Routes 4, 25, and 114, Gorham Village links northern and western communities with Portland's employment centers and provides connectivity to Portland International Jetport; marine facilities in the cities of Portland and South Portland; passenger and freight rail terminals in Portland, and the Maine Turnpike (Interstate Route 95).

Gorham Village accommodates a diverse range of trip purposes. Through trip purposes include commuting to downtown Portland from Gorham and westerly communities, shopping in the Maine Mall area, and recreational trips to Sebago Lake. As the town's business center, many local trips occur with origins or destinations within Gorham Village. These include shopping and personal business trips and school trips by students from the University of Southern Maine (Gorham Campus).

Insert Figure 1-3

Insert Figure 1-4

Travel desires through Gorham Village are also diverse; and two dominant desires exist: west-east travel along and between Route 25, Routes 4/202, Flaggy Meadow Road, and New Portland Road; and, south-west travel between Route 114 and Route 25, Routes 4/202, and Flaggy Meadow Road. 58% of the traffic approaching Gorham Village from the west is through traffic that continues eastward on Route 25, Routes 4/202, or New Portland Road. Similarly, 61% of traffic approaching Gorham Village from the east is through traffic that continues westward on Route 25, Routes 4/202, or Flaggy Meadow Road. Excluding local traffic, nearly 57% of the traffic approaching Gorham Village from the south on Route 114 travels to Route 25 west of Gorham Village. In the opposite direction, approximately 30% of the through traffic approaching Gorham Village from the west on Route 25 travels to Route 114 south of Gorham Village.

Various commodities also pass through Gorham Village by truck, including forestry products, petroleum products, mobile homes on trailers, etc. Four principal travel routes which pass through Gorham Village are heavily used by trucks:

1. Between Route 25 in Westbrook and Route 25/Ossipee Trail west of Gorham;
2. Between Route 22/County Road and Route 25/Ossipee Trail west of Gorham via Route 114/South Street;
3. Between Gray Road/Routes 4/202 (north) and Narragansett Street/Routes 4/202 (south);
4. Between the Sebago Lake area and Scarborough via Route 114.



Truck turning onto Route 114 southbound in Gorham Village

1.2.3 Army Corps of Engineers Basic Project Purpose

For purpose of determining compliance with Section 404(b)(1) guidelines, the Army Corps of Engineers has determined that the basic project purpose is: "...to improve traffic movements through the Town of Gorham along Routes 4, 25, 114, and 202 in order to improve public safety and relieve traffic congestion. Improvements will accommodate current and future traffic

volumes.” A copy of the Army Corps of Engineers’ July 7, 2000 letter of basic project purpose is included in Section 5.2.1, page 5-6.

1.3 Other EISs/EAs That Pertain to This Study

There are no Environmental Impact Statements or Environmental Assessments ongoing or previously prepared that influence the scope of the Gorham Bypass Study EA.

1.4 Scope of This Environmental Assessment

Prior studies have identified a ‘Preferred Improvement Strategy’ for the Gorham to Portland Route 25 Corridor. This Environmental Assessment addresses one component of the ‘Preferred Improvement Strategy,’ the Gorham Bypass. This EA provides the FHWA and MDOT with a full analysis of the effects of the proposed alternative for satisfying the Study Purpose and Need. It is the result of a process established by the National Environmental Policy Act (NEPA). The NEPA process is intended “to guide public officials in making balanced decisions based on an understanding of project needs, environmental consequences, alternative effectiveness, and alternative costs, and take actions that protect, restore, and enhance the environment”. The intent of NEPA “is not better documents but better decisions”. (40 CFR 1500.1).

Specifically, this EA evaluates the engineering, social, economic, and environmental feasibility of a range of reasonable alternatives. The scope of this EA includes preliminary engineering, an assessment of impacts to the transportation system, and analysis of impacts to natural and manmade resources.

1.5 Decision That Must Be Made

This Environmental Assessment provides the FHWA and MDOT with the decision-making tool to identify the Preferred Alternative that best addresses the basic Study Purpose and Need, with the least adverse impacts on the social, economic, and natural resources, and to determine the significance of proposed impacts.

1.6 Applicable Regulations and Required Coordination

The following are some of the current federal laws and policies that apply to the proposed action.

- National Environmental Policy Act of 1969 (NEPA), as amended. Regulations found in 40 CFR 1500-1508, and as regulated by USDOT-FHWA in 23 CFR 771.
- Sections 401 and 404 of the Clean Water Act, as regulated by the US Army Corps of Engineers through 33 USC 1251-1376.
- Section 6(f) of the Land and Water Conservation Fund Act of 1965, 16 USC 460.
- Section 106 of the National Historic Preservation Act of 1966.
- Section 4(f) of the U.S. Department of Transportation Act, as regulated in 23 CFR 771.135.
- Endangered Species Act, as regulated in 50 CFR 17 et seq.
- Executive Order 11990, Protection of Wetlands, May 24, 1977.
- Executive Order 11988, Protection of Floodplains, May 24, 1977.

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, February 11, 1994.
- U.S. Department of Agriculture, Farmland Protection Policy Act (FPPA) of 1984 (7 CFR 658).
- U.S. Department of Transportation Order on Environmental Justice (USDOT Order 5610.2), 1997.
- Federal Highway Administration Technical Advisory T6640.8A (October 30, 1987).
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601 et seq.).
- U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System (33 USC 1342).

The following are some of the current state laws and policies that apply to the proposed action.

- Maine Endangered Species Act, 12 MRSA § 7751-7759.
- Maine Department of Environmental Protection, Natural Resources Protection Act, 38 MRSA § 480-A et seq.
- Maine Department of Environmental Protection, Solid Waste Management Law, 38 MRSA §1301.
- Maine Sensible Transportation Policy Act, 23 MRSA § 73.
- Maine Department of Transportation/Maine Department of Environmental Protection Stormwater Memorandum of Agreement, pursuant to 38 MRSA § 420-D.

Table 1-1 lists the permits and certifications expected to be associated with the construction of the Preferred Alternative.

Table 1-1
Environmental Permits Expected to be Required for the Preferred Alternative

Agency	Permit	Status
MDEP	NRPA Permit	Application not yet filed
MDEP	Stormwater Permit	Application not yet filed
MDEP	Section 401 Water Quality Certification (issued with NRPA)	Application not yet filed
ACOE	Section 404, Individual Permit	Application not yet filed
MDEP	NPDES Construction Permit	Application not yet filed

Coordination with regulatory and resource agencies has occurred throughout the study. Coordination letters were mailed to 27 federal, state, regional, and local agencies in accordance with the procedural provisions of the NEPA and the FHWA. In addition, a map of the Study Area and a study description were mailed to these agencies in December 1999/January 2000 to notify them of the proposed study and to request specific information. Responses are noted in Section 5-2, page 5-3.

In addition, study information was presented and discussed at three regularly scheduled meetings of MDOT's state and federal interagency group, attended by representatives of MDOT, US Army Corps of Engineers, US Fish & Wildlife Service, US Environmental Protection Agency, US National Marine Fisheries Service, Maine Department of Environmental Protection, and Maine Department of Inland Fisheries & Wildlife, etc. Interagency meetings were held at the Purpose and Need, corridor screening, and alternative screening phases of the Study.

Since the beginning of the Study, there have been a total of 18 meetings of the Public Advisory Committee and two public informational meetings. Coordination with other interested parties and stakeholders at appropriate points in the study included: town staff and elected officials; utility companies; and, local business people (See Section 5-1, page 5-1).