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Augusta River Crossing Study : Chapter One, 2000

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I. PURPOSE OF AND NEED FOR THE PROPOSED ACTION

I.1 INTRODUCTION

The Federal Highway Administration and the Maine Department of Transportation (MDOT) propose to reduce traffic deficiencies within the transportation system serving the City of Augusta. **Improvements considered include constructing a third crossing over the Kennebec River, expanding and improving the existing roadway system, and constructing an additional interchange on Interstate 95 with associated connector roads.**

Augusta is the Capital City of Maine. It is centrally located within Maine and serves as a regional transportation hub, with nine major highways intersecting in the heart of the City and the Maine Turnpike/Interstate 95 circumventing it on the western edge (Figure 1-1). The City is bisected by the Kennebec River. Two existing bridges, the Father Curran and the Memorial Bridge, link the east and west sides. These highways and bridges accommodate local traffic, regional commuters, tourists, and cargo-laden commercial truck traffic in ever increasing numbers.

The ability to move people and goods efficiently and safely in the Augusta area has long been of concern. The *Augusta-Gardiner Area Transportation Study* (AGATS), completed in the 1970's, identified a potential third bridge crossing of the Kennebec River south of the downtown and recommended a circumferential highway around the Capital City. In 1987 at the City's request, MDOT initiated a Third Bridge Study in Augusta to evaluate the feasibility of a new Kennebec River crossing in Augusta in terms of traffic, location, engineering and environmental concerns.

The Third Bridge Study was suspended after the Sensible Transportation Policy Act (STPA) was passed in 1991. STPA requires that MDOT evaluate a full range of corridors for significant projects and gives preference to transportation demand management (TDM)/multi-modal actions and transportation system management (TSM) improvements before considering new construction. As a result, the *Augusta Region TDM, TSM, and Multi-Modal Study* (1995) was completed by MDOT and focused on transportation improvements that do not involve widening existing roads or new construction. This study concluded that TDM/multi-modal actions and TSM improvements should be pursued in the greater Augusta area, and that increases in roadway capacity are required to meet current and future demands.

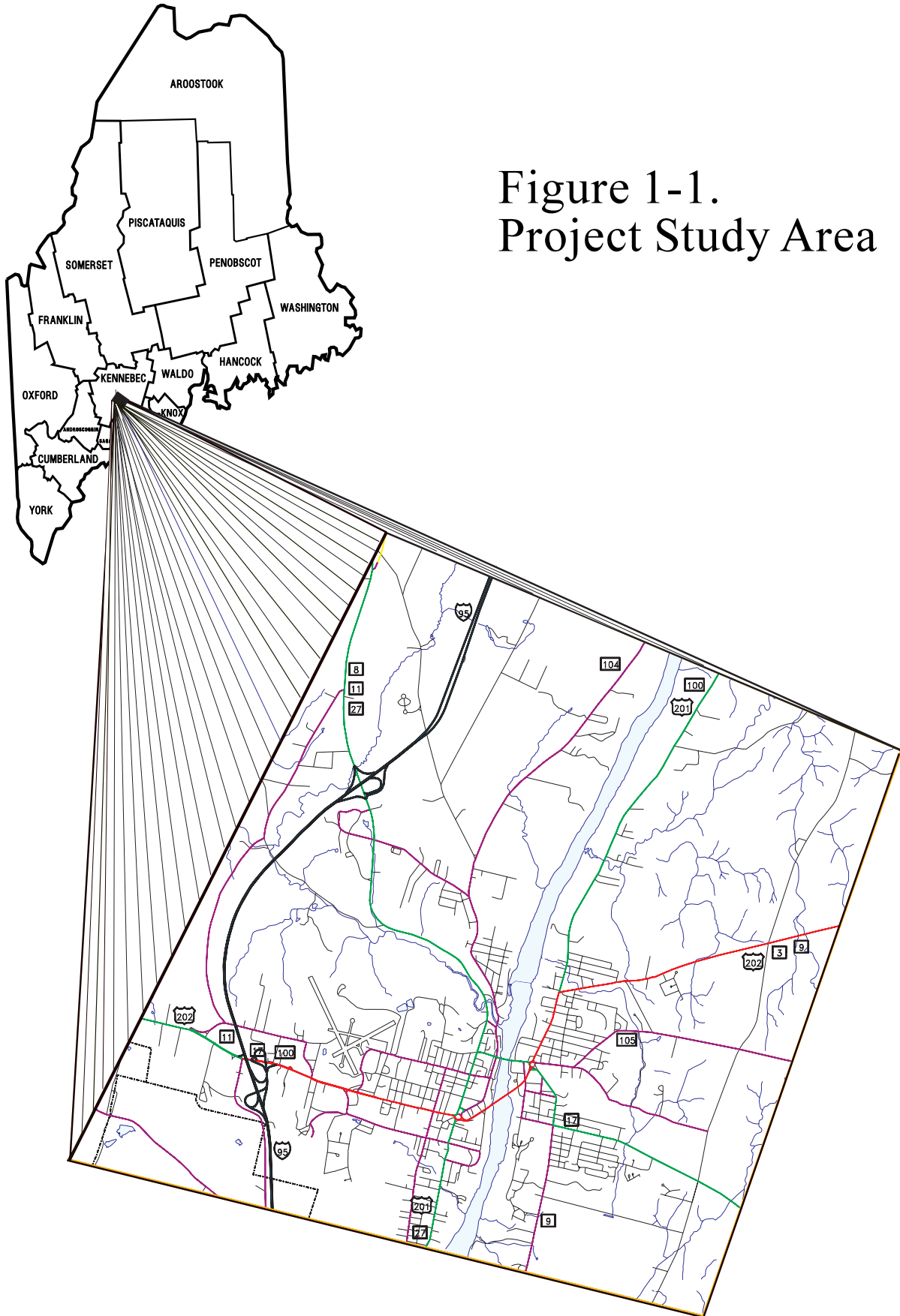


Figure 1-1.
Project Study Area

More recently, the *Draft Analysis of Transportation Alternatives* [strategies] for the *Augusta Area* (MDOT 1997), prepared in accordance with STPA, concluded that **“a third highway bridge with connecting roadways to major intercity routes can reduce Augusta area traffic congestion more than any other single strategy”**.

An MDOT/FHWA Augusta River Crossing Study (ARCS) team was formed in the spring of 1997 and a Public Advisory Committee (PAC) consisting of local citizens, business owners and City officials met bi-weekly until the publication of the DEIS. The ARCS team, PAC, the public and other stakeholders were actively involved in the development of the Study’s Purpose and Need.

This FEIS was developed in accordance with the Highway Methodology (ACOE 1993), which integrates highway planning and design with the requirements of the U.S. Army Corps of Engineers (ACOE) permit regulations under Section 404 of the Clean Water Act and the National Environmental Policy Act (NEPA).

1.2 NEED FOR THE PROPOSED ACTION

The basic study purpose, **to improve east-west traffic flows through the Augusta region thereby reducing congestion and improving safety**, was developed from specific needs and objectives (Table 1-1) identified during a series of PAC and inter-agency meetings, and approved by the Corps as compliant with Section 404 guidelines.

Table 1-1. Study Needs and Objectives

Identified Project Needs	Overall Project Objectives
Alleviate traffic congestion resulting from insufficient capacity and poor levels of service at approaches to existing bridges, both rotaries, and existing routes connecting to I-95	Improve access to major traffic generators, Interstate 95, and regional arterial corridors
Address growing travel demands by commuters, through travelers and local traffic	
Reduce high frequency of accidents at both rotaries	Improve and make safer east-west traffic flow through the Augusta/Capital City region
Assure optimal emergency and medical access	
Preserve community/neighborhood integrity by reducing local/side street through traffic	Allow economic and community development to occur in a manner consistent with the City of Augusta’s Growth Management and Capital Action Plans.
Provide opportunities for alternative transportation modes	
Address long-term future community needs	

The study purpose and needs are grouped and discussed in the following four categories:
Traffic, Safety, Community, and Alternate Transportation Modes.

1.2.1 Traffic - *From MDOT Bureau of Planning, Research and Community Services*

Growth in Travel

Over the years, the Augusta area has experienced steady growth in traffic. The Annual Average Daily Traffic crossing the Kennebec River in Augusta has increased from 36,000 vehicles in 1975 to 50,000 vehicles in 1995, **an increase of 40% in 20 years.** A similar rate of growth is expected over the next 20-30 years. In 2025, total river crossing traffic is projected to be at least **35% higher** than 1995 levels.

“One of the most critical questions facing Augusta is how to reroute commuter and through traffic so that it no longer passes through the heart of the City, causing major congestion problems.”

1988 Growth Management Plan

This is further highlighted by current traffic projections for Augusta’s major (arterial) streets, which indicate that traffic will continue to increase between 1995 and 2025. Overall, travel on these arterials **will grow by about 55%** during this 30-year period (Table 1-2).

Growth in Congestion

The *City of Augusta Capital Action Plan* (1996), developed as part of the master planning process, lists traffic congestion as one of the “major challenges facing Augusta”. Typically, increase in traffic volume leads to increased traffic congestion. The degree of congestion is often defined by the “Level of Service” (LOS), as described in Table 1-3. LOS designations range from “A”, which provides free flow and no traffic delays, to “F”, which consists of vehicle backups and traffic jam conditions.

Approaches to Cony Circle (the East Side rotary) and Memorial Circle (the West Side rotary) become heavily congested on a daily basis, as do Western Avenue (Route 202/100) and other locations in the city. Past studies have documented poor peak-hour levels of service and long delays at these locations. Western Avenue functions at LOS D or E during the mid-day and p.m. peak periods. Some approaches to the two rotaries operate at LOS E and F during the a.m. and p.m. peak periods.

Over 3 million person-hours of delay occurred on Augusta area arterials in 1995. Figure 1-2 shows the projected growth of traffic congestion if nothing is done to increase traffic capacity or reduce the growth of traffic in the area. While passenger-miles traveled (PMT) and vehicle-miles traveled (VMT) are projected to increase by 55% between 1995 and 2025, **traffic congestion will triple**. A LOS analysis for the Augusta area shows that the existing NHS corridor, Western Avenue through Bangor Street will perform primarily at a LOS in the E to F range by the year 2025 if no action is taken.

Table 1-2. Forecasted Traffic Growth at Selected Locations

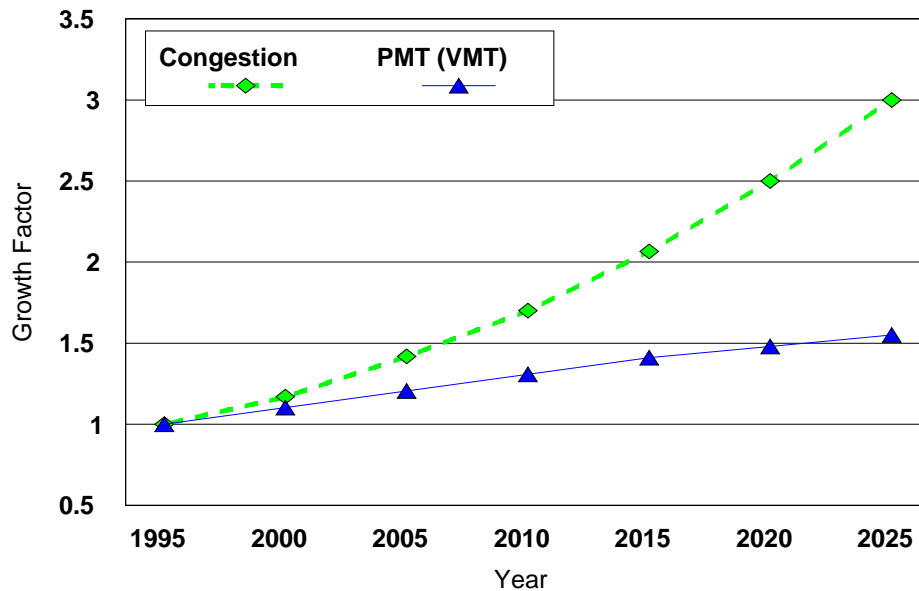
Location	Annual Average Daily Traffic				% Change
	1995	2005	2015	2025	1995-2025
River Crossings					
Father Curran Bridge	19,278	22,775	26,271	28,898	50%
Memorial Bridge	30,294	32,967	35,640	39,204	29%
West Side					
State Street, south of Circle	16,320	18,560	20,800	22,880	40%
Water Street, Hallowell	17,850	19,688	21,525	23,678	33%
Sewall Street, s/o Capitol St.	8,670	11,135	13,600	14,960	73%
Capitol Street, w/o Sewall St.	13,668	17,755	21,842	24,026	76%
Western Avenue, w/o Circle	31,620	34,100	36,580	40,238	27%
Western Avenue, w/o Armory St.	38,964	42,020	45,076	49,584	27%
Western Avenue, w/o I-95	19,074	22,814	26,554	29,209	53%
State Street, n/o Circle	8,976	9,768	10,560	11,616	29%
Mt. Vernon Avenue, n/o Bond St.	18,768	20,608	22,448	24,693	32%
Northern Avenue, n/o Bond St.	10,098	14,405	18,711	20,582	104%
East Side					
Bangor Street, n/o Circle	24,276	27,251	30,226	33,249	37%
Riverside Dr., n/o N. Belfast Ave.	13,056	14,208	15,360	16,896	29%
N. Belfast Avenue, e/o Bangor St.	10,710	12,968	15,225	16,748	56%
Cony Street, e/o Circle	7,650	8,325	9,000	9,900	29%
Stone Street, s/o Circle	24,480	27,240	30,000	33,000	35%
Eastern Avenue, e/o Stone St.	12,240	13,260	14,280	15,708	28%
Hospital Street, s/o Eastern Ave.	15,504	17,632	19,760	21,736	40%

Source: MDOT Bureau of Planning, Research, and Community Services

Table 1-3. Traffic Level of Service for Roadways

Level of Service	Traffic Flow Condition
A	Free Flow Operations Affords the motorist a high level of physical and physiological comfort
B	Reasonably Free Flow Operations Ability to maneuver within traffic stream only slightly restricted
C	Stable Operations Small increases in flow will cause substantial deterioration in service
D	Bordering on Unstable Flow Freedom to maneuver within traffic stream is severely limited
E	Extremely Unstable Operations Maneuverability is extremely limited and level of physical and psychological comfort afforded the motorist is extremely poor.
F	Forced or Breakdown Flow Traffic Jammed

Figure 1-2. Growth in Travel and Congestion on Augusta Area Arterials*



*This graph illustrates that congestion increases disproportionately to increases in PMT because Augusta’s through-city highways and local arterials are saturated.

1.2.2 Safety

Safety is major transportation issue in the Augusta area, with accidents resulting from traffic and congestion, and emergency and medical access of special concern. More than 1100 traffic accidents were reported in Augusta during 1995, and this figure had risen to 1200 traffic accidents during 1997.

At 130 accidents per year, Cony Circle is the scene of **more traffic accidents than any other intersection in Maine**. For the years from 1995 through 1997, Cony Circle also had the highest rate of accidents in Maine, **more than twenty times** the statewide average rate for urban unsignalized intersections and **more than seven times** the average rate for signalized intersections.

Memorial Circle also has one of the highest accident rates in Maine. At 52 accidents per year, Memorial Circle is second only to Cony Circle in number of traffic accidents at intersections in Maine. The root of the high accident rates at these two intersections can be attributed to a combination of factors. The rotaries have an unusual and antiquated design, and they are subjected to very high traffic volumes.

(Cony and Memorial Circles are Maine's first and third highest volume intersections, respectively.)

This combination of factors has led to high numbers of accidents that continue to increase with the increase in traffic volume.

The frequency of accidents at these two intersections is not only a serious safety issue, it also compounds the traffic congestion problem. Because Cony Circle and Memorial Circle are the focal points for Augusta's traffic circulation system, an accident at either circle (or on the Memorial Bridge between them) has far reaching effects on traffic flow for most of the city's major streets. Accidents involving heavy trucks, which use Western Avenue, both circles, and the Memorial Bridge, have particularly dramatic impacts on traffic congestion. The disruption of traffic flow caused by an accident at one of these locations causes extensive delay during times of moderate or heavy traffic.

"Fortunately, we have not had recently a hazardous materials spill in Augusta, but it's been brought to our attention that a hazardous chemical spill on the east side rotary would paralyze the city..."

Dave Smith, Chairman of the Augusta Planning Board 1997

Emergency Access

Directly related to the issues of traffic congestion and traffic safety is the issue of emergency access. Both the normal traffic congestion problems and the breakdowns in traffic circulation brought about by traffic accidents or otherwise disabled vehicles impede emergency access to accident locations, to other emergency locations and to emergency services. These difficulties in access threaten the ability of police, firefighters, and emergency medical services to respond when needed. With both of the existing highway river crossings converging on Cony Circle, which is located close to Augusta’s only hospital, a traffic accident or other traffic incident can cut off large portions of the Augusta area from emergency medical facilities. The next closest river crossing is the Gardiner-Randolph Bridge located approximately 6 miles (10 km) away, or 12 miles (20 km) round-trip.

1.2.3 Community

Neighborhood Integrity

As Augusta’s arterial streets become more and more congested, motorists are tempted to seek alternate routes to reach their destinations. In many cases, these alternate routes involve local residential streets in otherwise quiet established neighborhoods. The intrusion of through traffic, especially trucks, cutting through neighborhoods threatens the safety, stability, and overall livability of these residential areas and the community as a whole and is not consistent with Augusta’s *Growth Management Plan* (Augusta Planning Board 1988).

Economic Development

City officials have consistently identified transportation issues as a major concern in municipal planning and development studies. The *Growth Management Plan* sets forth a policy of locating new traffic-generating developments “within close proximity to the interstate interchanges and where roadways allow efficient and safe movement to and from the interchanges” (Augusta Planning Board 1988).

“This committee ... has representatives from business and the municipal membership of the Council of Governments, and we prioritize projects for this region, and this third bridge project in this community is viewed as the number one priority for what we need to do for economic development in this region.”

Joe Ezhaya, Chairman, Overall Economic Development Committee of the Kennebec Council of Governments 1997

1.2.4 Alternate Transportation Modes

Easing traffic congestion will make the Augusta area more livable. One method of accomplishing this is to implement transportation demand management (TDM) programs. The *Augusta Region TDM, TSM, and Multi-Modal Study* (1995) identified strategies to develop and implement programs that encourage the use of alternative transportation modes such as walking, bicycling, ride sharing, and public transportation. These strategies include:

- Employer rideshare incentives
- Regional rideshare coordination
- Telecommuting support
- Improved local transit service
- Preferential parking for ridesharing (carpooling)
- State government TDM measures.

Several of these programs have been initiated. The TDM Study concluded that these initiatives will help to ease congestion in Augusta, but that increases in roadway capacity are needed to meet current and future demands. This River Crossing Study, in concert with other efforts currently underway, will open opportunities and provide transportation choices for those who travel Augusta’s roadways.

1.3 SCOPE OF THIS ENVIRONMENTAL ANALYSIS

The scope of this study is to address the transportation deficiencies previously identified which relate to east-west traffic flow within the study area. The study area comprises approximately 22 square miles and encompasses the more urban portion of the City of Augusta (Figure 1-1).

1.4 DECISION THAT MUST BE MADE

This Environmental Impact Statement provides the Federal Highway Administration with the decision-making tool for determining the alternative that best addresses the basic study purpose with the least adverse impacts on the social, economic, and natural resources.

1.5 APPLICABLE REGULATORY REQUIREMENTS AND REQUIRED COORDINATION

The following are **Federal** regulatory requirements that are applicable to this project:

- 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 771.119-771.121

CHAPTER ONE – PURPOSE AND NEED

- Sections 401 and 404 of the Clean Water Act, as regulated by the US Army Corps of Engineers through 33 USC 1251-1376
- Section 4(f) of the Department of Transportation Act of 1966, 49 USC 303 and 23 USC 138
- 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
- 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. Environmental Protection Agency, National Pollutant Discharge Elimination System
- Section 10 of the Rivers and Harbors Act of 1899, 33 USC 401 et seq.

The following are **State** regulatory requirements that are applicable to this project:

- Maine Department of Environmental Protection, Natural Resources Protection Act, 38 MRS 480-A et seq.
- Maine Department of Environmental Protection, Solid Waste Management Law, 38 MRS 1301
- Maine Department of Environmental Protection/Maine Department of Transportation, Stormwater Memorandum of Understanding

The following are **local** regulatory requirements that are applicable to this project:

- City of Augusta Capital Action Plan, 1996
- City of Augusta Growth Management Plan
- City of Augusta Land Use Ordinance