KNIK ARM CROSSING

Scoping Report

March 8, 1983

U.S. Department of Transportation
Federal Highway Administration

Alaska Department of Transportation
and Public Facilities

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Chapter I

INTRODUCTION

In September 1982, the State of Alaska Department of Transportation and Public Facilities (ADOT/PF) began preliminary design for a highway crossing of the Knik Arm of Cook Inlet from Anchorage to the Matanuska-Susitna Borough.

The project, which began where previously completed work left off, is structured to help assure that the crossing will reinforce southcentral Alaska's growth objectives and do so economically with minimal adverse impact to existing urban neighborhoods, military facilities, and the environment. Project development will be completed in three cycles illustrated in Figure I-1.

Cycle 1, Corridor Analysis, will include the evaluation of all possible crossing and approach road corridors. In July 1983, several of these corridors will be selected for further analysis.

Cycle 2, Location Analysis and Environmental Impact Statement, will include evaluations of specific alignments within the selected corridors

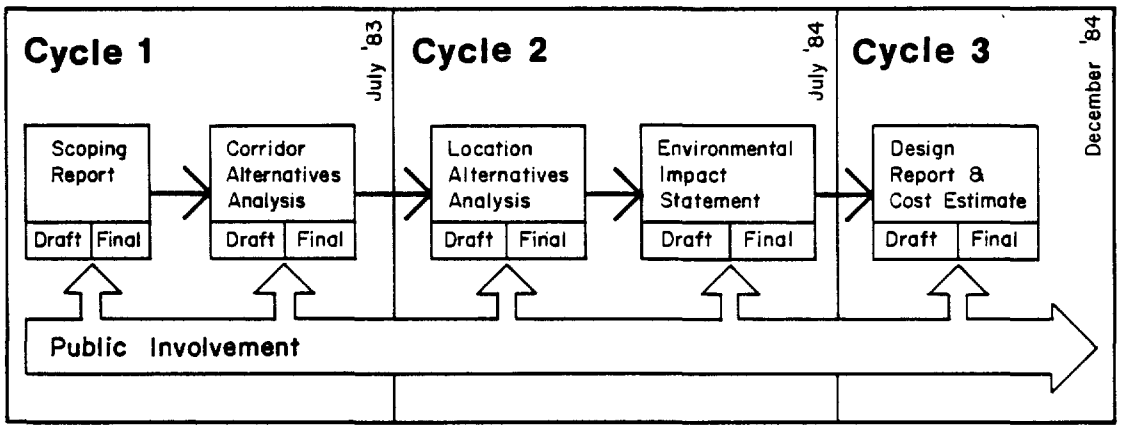

Figure I-1
Project Development & Design Process

and selection of a preferred alternative in July 1984. An Environmental Impact Statement will present the findings of these analyses.

Cycle 3, Preliminary Design, includes preparation of engineering plans, cost estimates, scheduling, and implementation plans for the preferred alternative. Recommendations for project construction will be developed in December 1984.

This Scoping Report marks the midpoint in Cycle 1. Corridor alternatives have been defined and initial technical reconnaissance completed. Government agencies and the public have been asked to comment on the scope of the project in compliance with Council on Environmental Quality (CEQ) regulations. A detailed comparison of alternatives will next be conducted, according to procedures described in this report.

Chapter II

SUMMARY AND CONCLUSIONS

A. PURPOSE OF SCOPING

ADOT/PF, based upon previous experience and initial contacts with Federal agencies, determined that an Environmental Impact Statement meeting Federal criteria (National Environmental Policy Act, NEPA) would be required to obtain necessary permit approvals for construction of a Knik Arm Crossing and its approach roadways.

"Scoping" is the term applied to the activities required by Federal regulations (40 CFR 1501.7) to initiate preparation of an Environmental Impact Statement (EIS). Knik Arm Crossing scoping activities have included:

- Identification of a Federal "Lead Agency," the Federal Highway Administration, which will sponsor the EIS.
- Preparation of a Scoping Document (November 29, 1982) identifying project alternatives to be evaluated, impact assessment procedures, and a schedule for environmental document preparation.
- Establishment of lines of communication with Federal, State, and local agencies and organizations with interest in the project. Federal agencies with interest are referred to as "cooperating" agencies. Other agencies and organizations serve in an "advisory" capacity throughout the project.
- Coordination of scoping meetings with agencies and the public providing information on project alternatives and impact assessment.
- Performance of initial technical analysis to aid in refining key design and environmental issues, project alternatives, and assessment procedures.

Scoping activities concluded with the presentation of a clearly defined set of project alternatives and assessment procedures.

B. AGENCY COORDINATION

Federal law contains specific requirements for Federal agency contact and coordination. State and local agencies and business, civic, neighborhood, and conservation organizations were asked to advise in EIS preparation. A Scoping Document (November 29, 1982) with a letter

requesting comments and/or review were sent to all agencies and organizations identified as having interest in the project. Typical letters are shown in the appendices.

C. SCOPING MEETINGS

On January 12 and 13, 1983, four scoping meetings were held, two for public (January 12 - Wasilla, January 13 - Anchorage) and two for government agencies (January 13 - Anchorage). The format of each meeting was similar, beginning with a description of the project purpose, procedures, and schedule (10 minutes), followed by description of alternatives and design evaluation considerations (20 minutes), followed by a comment period.

Prior to the meetings, announcements were published in local newspapers and distributed to radio and television stations. Notice of pending scoping meetings were also announced in the December 2, 1982 Federal Register (Vol. 97, #232) along with the Notice of Intent to prepare an EIS. Correspondence to government agencies and public interest groups included invitations to the meetings.

A newsletter, summarizing contents of the Scoping Document, and pre-addressed, postage paid comment cards were prepared for distribution at the scoping meetings. The public scoping meetings in Wasilla and Anchorage were each attended by approximately 100 persons. Combined attendance at the agency scoping meetings was approximately 30 persons. Meeting comments are contained in Section III of this report.

In addition to the formal scoping meetings, several briefings were held to acquaint agency staffs with project alternatives and evaluation procedures:

Elmendorf Air Force Base staff, Anchorage - November 2
FHWA staff, Juneau - November 15
Fort Richardson Army Post staff, Anchorage - November 22
Knik Arm Crossing Project Steering Committee and DOT/PF staff, Anchorage - January 6
Matanuska-Susitna Borough Planning Commission, Palmer - January 24
Matanuska-Susitna Borough staff, Palmer - December 14

Minutes of each of these meetings are on file with the Alaska Department of Transportation and Public Facilities.

D. INITIAL TECHNICAL INVESTIGATION

Concurrently with presentation to agencies and the public, the consultant design and evaluation team reviewed available technical information

and suggested refinements to alternatives and evaluation procedures. Substantial trade-offs were identified among cost, benefit, and environmental impact.

E. CONCLUSIONS FROM SCOPING

Based on comments from government agencies and the public, obtained during the scoping process and initial technical investigations, the following changes in project direction are recommended:

Add an Alternative North Approach Across Goose Bay to Connect with Knik Road and Wasilla.

A right-of-way exists for winter access, by all-terrain vehicles, across the Goose Bay State Game Refuge. This route would be the shortest connection between Point MacKenzie and the existing Knik-Goose Bay road. Environmental impacts would be reduced with bridge construction across the wetland area.

Add a North Approach Corridor Through the Nancy Lake Recreation Area via the Nancy Lake Parkway.

Mat-Su Borough staff suggested a variation of the Willow corridor that would connect through Nancy Lake Recreation Area rather than passing West and North of the Recreation Area. This option would provide greater access to recreation opportunities.

Adjust the Elmendorf Corridor to Avoid Major Elmendorf AFB and Fort Richardson Facilities.

Considerable military opposition was expressed to Knik Arm Crossing south approaches across Elmendorf AFB and Fort Richardson, particularly the Elmendorf corridor. Modifying these corridor locations might make them more acceptable.

Consider Staging of Crossing Development to Keep Initial Cost Low.

There was recognition that costs of crossing construction would be high, and that traffic and benefits would increase over time. Staged construction within an overall plan may make the project more financially feasible.

Identify Techniques for "Fast Tracking" the Project.

General support was expressed for a highway crossing, but displeasure was expressed over the lengthy schedule anticipated for environmental investigation, design, and construction. Consideration will be given to alternatives which minimize time required

for right-of-way acquisition, permit approvals, construction techniques, financing methods, and project administration/management approaches to expedite project completion.

Avoid Premature Selection of a Single Preferred Corridor at the End of Cycle 1 Corridor Analysis.

Several reviewers expressed concern that key decisions regarding the type and location of the project would be made during the next four to five months of corridor evaluation, and that subsequent EIS evaluation would not address many valid alternatives. The project's initial direction was to select, at the end of Cycle 1, a single reasonable corridor, determine the configuration of the crossing (bridge, tunnel, or causeway), and include or exclude tidal power, railroad, and utilities for further evaluation within the preferred corridor. NEPA procedures require consideration of of "all reasonable" alternatives. Consequently, at the close of Cycle 1 it is expected that at least two corridor locations will be carried into the EIS, and the issue of including railroad with a highway crossing will remain unresolved. Those alternatives that appear technically feasible and offer benefit commensurate with cost would be retained for detailed evaluation and inclusion in the EIS. It is the intent of ADOT/PF and FHWA to include the full range of reasonable alternatives in the EIS.

Provide Specific Plans for Project Alternatives as Soon as Possible to Facilitate Project Understanding and Comment.

Presenting specific (representative) approach road plan lines, crossing plans, and cost estimates at the earliest possible date would provide reviewers a better understanding of alternatives and might elicit greater comment on community impact and environmental issues.

Obtain Supplemental "Scoping" Input Prior to Environmental Impact Statement Preparation.

Corridor alternatives are generally defined at this time. Review agencies and the public have had some difficulty identifying how project alternatives will relate to specific features within the community. The project development schedule provides opportunity for agency and public comment at several points prior to Draft EIS publication:

- Corridor Alternatives Analysis Report - A review and comment period and public meetings are scheduled following distribution of the draft report and prior to selection of preferred corridors.

- Draft Alignment Alternatives Report - A review and comment period and public meetings are scheduled following distribution of the draft report and prior to selection of alternatives to be featured in the EIS.

It is the intent of ADOT/PF and FHWA to use these review periods to obtain additional specific direction from government agencies and the public regarding the alternatives and evaluation criteria to be included in the EIS.

F. CORRIDOR LEVEL ALTERNATIVES

The alternatives to be evaluated are of six basic types summarized here and described in greater detail in Section VI of this report. Figure II-I illustrates the location of the alternative highway crossing and approach corridors. Alternatives which have been added or modified as a result of the scoping process are identified with an asterisk.

No Action

Alternative Travel Modes

- Ferry/Surface Water Mode
- Intercity Bus/Passenger Rail *

Upgrade Existing Highway System

- Widen and Grade Separate Glenn Highway
- Widen and Grade Separate Parks Highway
- Combination

Highway Crossing Locations

- North Approaches
  - Willow
  - Nancy Lake *
  - Houston
  - Big Lake
  - Wasilla *

- South Approaches
  - Eagle River
  - Fort Richardson
  - Elmendorf *
  - Downtown
  - Point MacKenzie

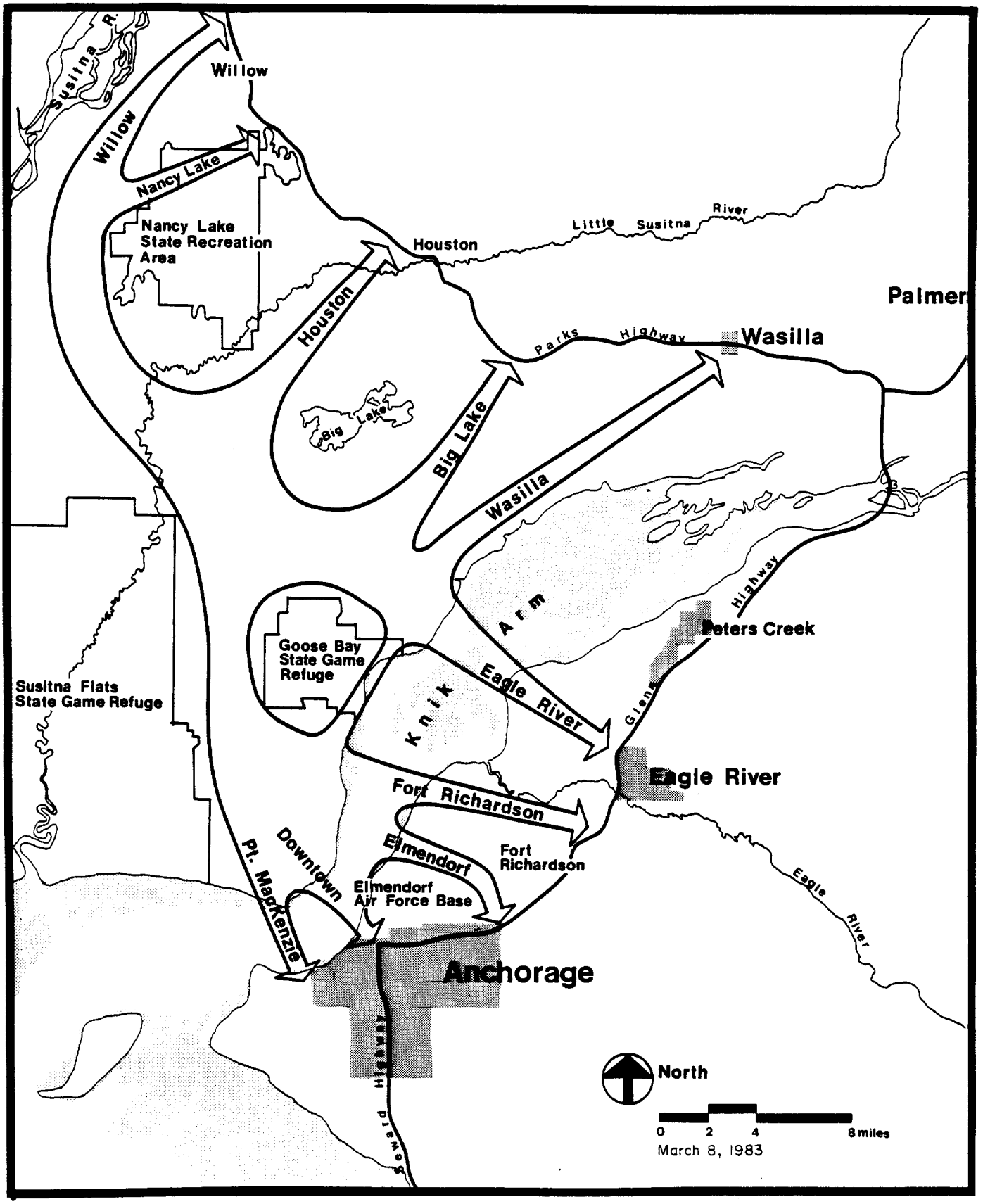

Figure II-1

Corridor Locations

- Crossing Corridors
  - Eagle River
  - Central (Fort Richardson to Downtown)
  - Point MacKenzie

Highway Crossing Configurations

- Bridge
- Tunnel/Tube
- Causeway
- Combinations of above

Auxiliary Crossing Facilities

- Railroad
- Tidal Power
- Utilities (Water, Gas, Coal Slurry, Electricity, Communications)

G. EVALUATION CONSIDERATIONS

The evaluation factors to be addressed in corridor level evaluation are identified below and described in greater detail in Section VII. Factors which have been added or modified following scoping activity are identified by an asterisk.

Engineering Design

- Plans and Profile Drawings
- Soils and Seismic Safety
- Channel Navigation
- Aviation Clearance
- Military Communications and Safety
- Tidal Currents, Wind, and Ice
- Right-of-Way
- Materials *

Cost and Schedule

- Construction and Right-of-Way Costs
- Operation and Maintenance Cost
- Construction Schedule

Finance and Implementation

- Financing
- Construction Staging *
- Permit Requirements *
- Management *

Benefit-Cost and Cost-Effectiveness

- Vehicle Travel
- Freight Movement
- Economic Development
- Community Development
- Resource Development

Transportation Impacts

- Highways Accessibility
- Traffic Volumes and Service Levels
- Freight Movement
- Public Transportation *
- Transportation Plan Compatibility *

Social and Economic Impacts

- Urban Growth
- Land Use Plan Compatibility
- Dislocation and Relocation
- Urban and Military Disruption
- Economic Development
- Public Finance
- Business and Housing

Natural Resource Impacts

- Biological Resources
- Water Resources
- Air Quality
- Noise
- Energy
- Visual

Cultural Resource Impacts

- Antiquities and Historic Sites
- Parks and Recreation

Chapter III

AGENCY AND ORGANIZATION CORRESPONDENCE

A. FEDERAL AGENCY CORRESPONDENCE

Table III-1 summarizes Federal agency communications. The first and second columns list agencies, contact people, and addresses. The type of participation requested and each agency's interest and/or expertise is shown in column three.

Letters requesting participation were sent December 1, 1982. The fourth column shows which agencies were invited to attend the January 13 scoping meetings by letters dated December 29, 1982. Agencies represented at the meetings are indicated in the fifth column.

In addition to scoping meetings, some agencies were contacted for additional input; those agencies are shown in column six entitled, "Meeting Other Than Scoping." The seventh column shows which agencies sent written responses, as well as their general comments. Responses from Federal agencies are summarized below.

Weymouth E. Long, Soil Conservation Service, recommended the consideration of the Farmland Protection Policy Act (PL 97-98 Dec. 22, 1981) for corridor selection. The purpose of the act would be to insure that conversion of farmland to non-agriculture uses would be minimized and that administration of Federal programs be compatible with State, local and private programs and policies for farmland protection. (January 17, 1983).

Colonel Don R. Conway, United States Air Force, wrote that additional emphasis is needed in the following areas:

- Impact of proposed courses of action on all antenna fields in the vicinity of the crossings.

- Impact of dislocation/relocation of facilities on the overall mission activities of the military installations and costs associated with the disruption, especially disruption of ammunition storage areas and range locations and uses.

- Impact of selected routes on the physical security of the installations bounded by the route selected. The actual physical barriers and their emplacement, maintenance, and operation should be discussed and covered as part of the physical design requirements of the roadway and route.

- Milestone dates, i.e., month and year, for the Cycle I, II, and III actions listed on pages two and three of the Scoping Document.

Table III-1

FEDERAL AGENCY COMMUNICATION

Cooperating Agency Contact Person	Address	Interest/Expertise	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Federal Highway Administration Mr. Thomas Neunaber Field Operations Engineer (586-7427)	P. O. Box 1648 Juneau, Alaska 99801	Lead Agency	X	X	X	Agree to serve Agency
The Alaska Railroad Mr. Bill Coghill Manager of Planning (265-2667)	P. O. Box 7-2111 Anchorage, Alaska 99510	Railroad Operation Possible right-of-way acquisition	X	X	X	Investigate crossing, requests data to determine operations impacts
Bureau of Indian Affairs Superintendent (271-4126)	P. O. Box 120 Anchorage, Alaska 99501	Review Agency	X			
Bureau of Land Management Mr. John Merrick, Area Manager (267-1308)	Peninsula Resource Area Bureau of Land Management 4700 East 72nd Avenue Anchorage, Alaska 99507	Review Agency				
Chugach National Forest Mr. Norm Howse (279-5541)	2221 E. Northern Lights Anchorage, Alaska 99504	Forest Resources				No comment, no expertise to offer on environmental issues
Corps of Engineers Mr. Ted Rockwell (552-4942)	U. S. Army Engineer District, Alaska ATTN: NPACO-RF-S Pouch 898 Anchorage, Alaska 99506	Waterways and Wetlands; Encroachment on waterways and wetlands (Section 10 and Section 404) permits	X	X	X	Detailed impacts in tary operations necessary
Department of Housing & Urban Development (HUD) Mr. Ken Bowring Environmental Officer/Planner (271-4181)	701 C Street, Box 64 Anchorage, Alaska 99513	Land Use and Urban Growth	X			Impacts to HUD assisted projects. Assistance in noise, energy, land use planning compatibility, dislocation and relocation urban disruption, growth and economic impacts
Federal Aviation Administration Mr. David Epstein (271-5892)	701 C Street, Box 14 ATTN: AAL 400 Anchorage, Alaska 99513	Airport Operations; Possible aircraft approach zone encroachment permit	X	X		
Federal Emergency Management Agency Mr. William H. Mayer (481-8800)	Federal Regional Center Bothell, Washington 99801	Natural Hazards				No comment

Table III-1

FEDERAL AGENCY COMMUNICATION

Cooperating Agency Contact	Address	Interest/Expertise	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
National Marine Fisheries Mr. Brad Smith (271-5006)	701 C Street, Box 43 Anchorage, Alaska 99513	Marine Resources				Marine resources impacts
National Park Service Dr. Floyd Sharrock (271-4051)	540 West 5th Avenue Anchorage, Alaska 99501	Antiquities and Historic; Possible encroachment on recreation, historic, and cultural resources (4 (F) and 106)	X	X		Cultural resources management participation
U. S. Airforce/U. S. Army Col. Don R. Conway (552-4100)	AAC/CV, Elmendorf AFB Anchorage, Alaska 99506	Base Facilitiies and Operations; possible right-of-way acquisition	X	X	X	Impact to airport facilities, cycle dates, land use changes
U. S. Department of Agriculture Soil Conservation Service Mr. Sterling Powell (276-4246)	2221 E. Northern Lights Anchorage, Alaska 99504	Agriculture, Soils	X	X	X	Data available in the area; evaluation of potential route links with ADNR
U. S. Coast Guard Lt. J. D. Klimas (271-5137)	701 C Street, Box 17 Anchorage, Alaska 99513	Knik Arm Navigation; Bridge Permit	X	X	X	Use of bridge type structure to avoid sedimentation and salinity changes
U. S. Department of Energy Alaska Field Office (271-5954)	701 C Street, Box 12 Anchorage, Alaska 99513	Review Agency	X			
U. S. Environmental Protection Agency Mr. William B. Lawrence Anchorage Operations (271-5083)	701 C Street, Room E5556 Anchorage, Alaska 99513	Air and Water Quality and Noise; Certify completion of environmental documents, compliance with State Air Quality Implementation Plan	X			Air quality & wetlands cooperation; do not deal with noise
U. S. Fish & Wildlife Service Mr. Robert Bowker (271-4575)	605 West 4th Avenue Room G-81 Anchorage, Alaska 99501	Biological Resources and Endangered Species	X	X	X	Fish & wildlife data available, review of EIS & Federal permits
U. S. Geological Survey Water Resources Division Mr. Philip A. Emery, District Chief (271-4138)	1515 East 13th Avenue Anchorage, Alaska 99501	Water Resources	X			No Comment

- Headquarters, Department of Air Force, Department of Army, Department of Defense, and local levels need to approve land uses proposed by this project. This is a time consuming process and land within the installations is limited.

- Impacts of proposed corridors on present flight activities.

- Clearing of unexploded ordnance in the Eagle River route that passes through the Fort Richardson impact area.

- Comments from the Air Force Technical Applications Center Detachment at Elmendorf AFB indicate concern in finding a suitable location, free from electrical noise sources, for relocating communication facilities displaced by a south approach. Such a location may not exist on any other military installation lands. This would constitute a serious mission impairment and is not acceptable to the Air Force. Additional comments have been requested from Headquarters Air Force Technical Applications Center. These comments will be forwarded when received.

- Corps of Engineers has requirements for permits (Section 404 of Clean Water Act and Section 10 of Rivers and Harbors Act). (December 27, 1982)

Colonel Neil E. Saling, Corps of Engineers, commented on the need for detailed assessment of the effect of alternatives on military operations at Fort Richardson and Elmendorf AFB. Greater detail than that presented in the 1972 study is required.

Robert Bowker, U.S. Fish and Wildlife Service expressed concern with the general nature of the Scoping Document because it was difficult to determine if environmental impacts would be adequately addressed. He recommends the full appraisal of secondary impacts. He stated that an assessment based on sound biological data is needed to insure the development of a mitigation plan, and that the following gaps exist in the current data base:

- Identification of extent and duration of use, and movement through the Knik Arm estuary, by juvenile salmonids.

- Clarification of ecological processes of upper Cook Inlet and Knik Arm. Sediment transport, as it relates to both the naturally occurring process and the fate of dredged spoils, and nutrient flow must be better understood.

- Determination whether or not the Susitna flats are utilized as breeding grounds by the relatively scarce tule white-fronted geese. Baseline studies for other species including trumpeter swans, sandhill cranes, lesser snow geese, Pacific white-fronted geese, lesser Canadian geese, cackling Canada geese, and shorebirds are also needed.

F. H. Jones, Federal Railroad Administration, advocated a highway/railroad crossing and stated the following benefits:

- Will aid in the development of Alaska resources providing entrances to three major coal fields - Susitna, Yentna, and Beluga.
- Reduction of vehicular traffic along the Glenn Highway by developing a rapid transit system to the Mat-Su Borough (creating a 15 to 20 minute commuter service from Wasilla to Anchorage).
- Encourage industrial development directly across the Knik Arm, away from the city. (December 22, 1982)

Robert McVey, National Marine Fisheries Service, stated that the type of crossing structure chosen will determine how critical marine resources are, but that any crossing may impact marine resources. (January 10, 1983)

John Duffy, Department of Housing and Urban Development (HUD), expressed concern with the impact that the alternatives would have on HUD assisted projects. Provision of assistance in the following areas may be available:

- Noise
- Energy
- Land Use Plan Compatibility
- Urban Disruption
- Growth Impacts
- Economic Impact

(December 21, 1982)

Captain R.H. Spoltman, U.S. Coast Guard, wrote that a causeway type structure would be less desirable due to potential sedimentation and salinity changes, and because future development of the upper Knik Arm waterway for seaborne commerce would be eliminated. His interpretation of the Scoping Document is that development is a prime objective of the project and therefore he recommends a bridge type structure with sufficient under clearance. (December 21, 1982)

B. STATE AGENCY CORRESPONDENCE

Table III-2 summarizes State agency communication. Agency contact people and addresses are listed on the left. Agencies that were sent a Scoping Document are shown in the next column. Scoping Documents were sent to State agencies on December 1, 1982.

Invitations to attend the January 12, 1983 scoping meeting were sent to agencies on December 29, 1982. State agencies that were requested to attend the scoping meetings and those that attended are shown in columns four and five. Additional meetings held with State agencies are listed

Table III-2

STATE AGENCY COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Alaska State Department of:						
Coastal Management Policy Development & Planning (465-3540)	Pouch AP Juneau, Alaska 99811	X	X			
Commerce & Economic Development Mr. Ron S. Walt, Development Specialist III (465-2022)	Pouch EE Juneau, Alaska 99811	X	X			Cost effective, maximize commercial and personal transportation efficiencies
Alaska Power Authority Mr. George Gleason (277-7641)	334 West 5th Avenue Anchorage, Alaska 99501				X	
Energy & Power, Division of Mr. Bill Beardsley, Director (561-4201)	3601 C Street, Suite 7222 Anchorage, Alaska 99503	X	X			
Community & Regional Affairs Mr. Mark Lewis (465-4700)	Commerce Building Pouch B Juneau, Alaska 99811	X				Socioeconomic impacts, Capital improvements Planning, land development, Alaska railroad impacts
Environmental Conservation Mr. Bob Martin, Regional Supervisor (272-2533)	437 E Street, 2nd Floor Anchorage, Alaska 99501	X	X			Air and water quality, Point Woronzof sewage outfall
Fish & Game Habitat Division Mr. Philip J. Brna, Habitat Biologist (344-0541)	333 East 4th Avenue Anchorage, Alaska 99501	X	X	X		Further input after review of Draft Alternatives Analysis/Environmental Investigation Report
Natural Resources Forestry, Division of (276-2653)	323 East 4th Avenue Anchorage, Alaska 99501	X	X			

Table III-2

STATE AGENCY COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Natural Resources						
Land & Resource Planning Mr. Bill Beatty (276-2653)	Pouch 7-005 Anchorage, Alaska	X	X		X	No comments at this time
Land & Water Management Ms. Donna Lane (276-2653)	Pouch 7-005 Anchorage, Alaska 99510	X	X	X		No comments at this time
Parks, Division of Director (276-2652)	619 Warehouse Avenue Suite 210	X	X			
Chugach State Park Planning Team (276-2652)	323 East 4th Avenue Anchorage, Alaska 99501	X				
Historic Preservation Office (276-2653)	619 Warehouse Avenue, Suite 210 Anchorage, Alaska 99501	X	X			
Public Safety Alaska State Troopers Mr. James D. Vaden, Deputy Director (269-5649)	P. O. Box 6188 Annex Anchorage, Alaska 99502	X	X	X		
Transportation & Public Facilities Mr. Mike Millar State Environmental Coordinator (465-3900)	P. O. Box 3-1000 Juneau, Alaska 99802	X	X	X	X	
Alaska State Housing Authority Mr. John B. Curtis Executive Director (279-7643)	P. O. Box 80 Anchorage, Alaska 99510	X	X			No comments at this time
Alaska State Resources Library (271-5025)	701 C Street Anchorage, Alaska 99513	X				Scoping Document made available for public review; no written response required

Table III-2

STATE AGENCY COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Iditarod Trail, Joint State & Federal Office Terry O'Sullivan (264-2110)	619 Warehouse, Suite 210 Anchorage, Alaska 99501					Will participate as advisory agency
University of Alaska Institute of Social & Economic Research (278-4621)	707 A Street	X	X			
School of Engineering (786-1900)	c/o University of Alaska Fairbanks, Alaska 99701	X				

in column six. Column seven, "Written Response/Comments" shows only those agencies that sent written responses and briefly describes the responses. Responses from State agencies are also summarized below.

Mark Lewis, Commissioner of Alaska Department of Community and Regional Affairs, commented that the extent of land shortages in Anchorage and the potential relief to be derived from a Knik Arm Crossing should be analyzed in terms of time so that required planning for capital improvements projects can be completed. In addition, he feels development should be encouraged in the Anchorage core area rather than creating sprawl along a proposed transportation corridor. Mr. Lewis expressed concern regarding possible competition that might develop between rail and road vehicles to service agriculture lands in the Point MacKenzie area. He recommended that analysis of this be included in the report. The use and incorporation of comprehensive planning efforts by the Municipality of Anchorage and of the Mat-Su Borough are expected by him. (January 7, 1983)

Bill MacClarence, Department of Environmental Conservation, recommended, in a telephone call, that the report address the impact of a causeway on the Municipality's sewage treatment outfall. (January 17, 1983)

Ron S. Walt, Department of Commerce and Economic Development, wrote that the design should maximize commercial and personal transportation efficiencies. (December 22, 1982)

Bob Martin, Department of Environmental Conservation, noted that the Anchorage urban area is classified non-attainment for air quality and, thus, USEPA 1979 Non-attainment Area Implementation Plan Revisions criteria will need to be used in the analysis of alternatives. Two of the requirements of this plan include demonstration that the benefits of the project outweigh the environmental and social cost, and demonstration of a commitment to the establishment, expansion, and improvement of public transportation to meet basic transportation needs as expeditiously as possible. His concerns with water quality are impacts to fish migration, anadromous stream systems, potential salinity changes, erosion, and sedimentation created by construction of access roads. Point Woronzof sewage outfall dilution and dispersal could be impacted by changes in tidal current patterns and should also be investigated. (January 25, 1983)

C. LOCAL AGENCY CORRESPONDENCE

Table III-3 summarizes local agency communication. Local agencies, contact people, and addresses are shown in the first two columns. The agencies that received a Scoping Document are shown in column three. Column four shows which agencies were sent invitations to the scoping meeting. Columns five and six show agencies which attended either the scoping meeting or other meetings. Written responses received from agencies are summarized in the last column.

Table III-3

LOCAL AGENCY COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Anchorage Air Pollution Control Agency Director	825 L Street Anchorage, Alaska 99501	X	X			
Anchorage Economic Development Commission	3221 Providence Drive Anchorage, Alaska 99508	X	X			
Anchorage Municipal School District School Facilities Assistant Superintendent (333-9561)	4600 DeBarr Road Anchorage, Alaska 99504	X	X			
City of Houston City Clerk's Office (892-6869)	P. O. Box 27 Houston, Alaska 99694					
City of Palmer Mr. David Soulak, City Manager (745-3271)	P. O. Box 1368 Palmer, Alaska 99645	X	X			
City of Wasilla Office of the Mayor	P. O. Box 430 Wasilla, Alaska 99687	X	X			
Matanuska-Susitna Borough Borough Manager	P. O. Box B Palmer, Alaska 99645					
Historical Preservation & Restoration Committee	Box 874 Wasilla, Alaska 99687	X	X			
Mayor Edna Armstrong (745-4801)	Box B Palmer, Alaska 99645	X	X		X	Impact to port facilities
Planning Department Mr. Rodney Schulling (745-4801)	Box B Palmer, Alaska 99645	X	X	X	X	
School District District Superintendent (745-4822)	P. O. Box AB Palmer, Alaska 99645	X	X			

Table III-3

LOCAL AGENCY COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Municipality of Anchorage Transportation Planning Division Mr. Jeff Scherbarth, Coordinator, AMATS (264-4224)	Pouch 6-650 Anchorage, Alaska 99502	X	X			
Parks & Recreation Council of Anchorage	913 West 6th Avenue Anchorage, Alaska 99501	X	X			
Port of Anchorage Mr. Tyler Jones, Assistant Port Director (272-1531)	2000 Anchorage Port Road Anchorage, Alaska 99501	X	X		X	
Water Utility Advisory Commission	3808 Locarono Drive Anchorage, Alaska 99508	X	X			

Below is a summary of local agency written comments:

The Mat-Su Borough, represented by the Mayor, the Borough Manager, and the Borough Engineer, responded to the Scoping Document with feelings that more emphasis is needed concerning the port proposed at Point MacKenzie. Impact to existing as well as potential port facilities should be throughly investigated. Recommendation was made for the addition of Knikatnu (Knik Village Corporation), the City of Wasilla, and the City of Houston to the agency contact list. (December 20, 1982)

In a letter from Claudio Arenas, Planning Director of the Mat-Su Borough, Gary Thurlow, Mat-Su Borough Manager, suggested the addition of a fourth corridor alternative that uses the Nancy Lake Parkway to connect to the Parks Highway from the Willow corridor. Enclosed with this letter was a copy of a letter (December 9, 1982) from Mr. Arenas to Pat Beckley, Division of Parks, that gave reasoning for the use of Nancy Lake Parkway as an access road. Mr. Arenas also included a memorandum (December 1, 1982) from the Division of Parks that rejected the proposal of using the Nancy Lake Parkway as an access road.

D. ORGANIZATION AND PUBLIC CORRESPONDENCE

Table III-4 summarizes other organization communications. Other organizations, contact people, and addresses are shown in the first two columns. The organizations that received a Scoping Document are shown in column three. Column four lists organizations which were sent invitations to the scoping meeting. Columns five and six show organizations which attended either the scoping meeting or other meetings. Written responses received from organizations are summarized in the last column.

Two responses were received from these organizations:

David L. Sinclair, Chief Engineer of ENSTAR Natural Gas Company, would like the crossing to be built so that a gas transmission line could be installed within the right-of-way. (December 28, 1982).

Eric Haemer, Director of Planning and Major Projects for Chugach Electric Association, wrote that the crossing design should provide utility right-of-way and that safety concerns for electrical power transmission should be considered. He also recommended the consideration of a gas pipeline within the right-of-way. Mr. Haemer provided information on the location of two CEA submarine cable fields that cross the Knik Arm.

Public written responses used the "Public Comment Cards" with the

Table III-4

ORGANIZATION COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Alaska Carrier's Association, Inc. (272-0568)	3443 Minnesota Drive Anchorage, Alaska 99503	X	X			
Alaska Center for the Environment Ms. Mary Core (272-3621)	1069 West 6th Avenue Anchorage, Alaska 99501	X	X			
Alaska Federation of Women's Clubs Ms. Linton (272-1440)	1430 West 23rd Avenue Anchorage, Alaska 99503	X	X			
Alaska Gas & Service Company/ENSTAR (272-5551	3000 Spenard Road Anchorage, Alaska 99503	X	X			
Alaska Jaycees, Inc.	P. O. Box 4-3032 Anchorage, Alaska 99509	X	X			
Alaskan Federation of Natives Ms. Janie Leask, President (274-3611)	411 West 4th Avenue Suite 1A Anchorage, Alaska 99501	X	X			
Alaska Public Interest Research Group Coordinator (278-3661)	P. O. Box 10-1093 Anchorage, Alaska 99501	X	X			
Alaska Society of Professional Engineers	c/o Alaska Professional Design Council P. O. Box 3115 D.T. Anchorage, Alaska 99510	X	X			
Aleut Corporation Mr. Wayne Lewis (274-1506)	2550 Denali Anchorage, Alaska 99503	X	X			
American Institute of Architects	600 Barrow, Suite 200 Anchorage, Alaska 99501	X	X			
American Society of Civil Engineers (276-4245)	2515 A Street Anchorage, Alaska 99501	X	X			
Anchorage Audubon Society (274-9152)	P. O. Box 1161 Anchorage, Alaska 99510	X	X			

Table III-4

ORGANIZATION COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Anchorage Board of Realtors (272-3833)	1818 West Northern Lights, Suite 103 Anchorage, Alaska 99503	X	X			
Anchorage Chamber of Commerce (272-2401)	415 F Street Anchorage, Alaska 99501	X	X			
Association of General Contractors Alaska Chapter Mr. Richard Pittenger (276-5354)	P. O. Box 4-2500 Anchorage, Alaska 99509	X	X			
Calista Corporation Ms. Merlyne Paine, CPS	516 Denali Anchorage, Alaska 99501					
Chugach Electric Association, Inc. Mr. Eric Haemer, Director of Planning and Major Projects (276-3500)	P. O. Box 3518 Anchorage, Alaska 99501	X	X			Location of CEA submarine cable fields across Arm, utility and gas right-of-way, safety of electrical power transmission lines.
Chugach Native, Inc. (276-1080)	12 West 15th Avenue Anchorage, Alaska 99501	X	X			
Cook Inlet Regional, Inc. Mr. Ron Huhndort (274-8638)	2525 C Street, 5th Floor Anchorage, Alaska 99503	X	X			
Denali Citizen's Committee	Box 39 McKinley Park, Alaska 99510	X	X			
Eklutna, Inc. Mr. Daniel Alex (276-5701)	840 K Street, Suite 202 Anchorage, Alaska 99501	X	X			
ENSTAR Natural Gas Company Mr. David L. Sinclair, Chief Engineer (277-5551)	3000 Spenard Road P. O. Box 6288 Anchorage, Alaska 99502	X	X			Gas transmission line in right-of-way
Federation of Community Councils Mr. Kris Bornes (277-1977)	801 West Fireweed Lane, #103 Anchorage, Alaska 99503	X	X			

Table III-4

ORGANIZATION COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Federation of Western Outdoor Clubs	1895 Pioneer Way Fairbanks, Alaska 99701	X	X			
Friends of the Earth	1895 Pioneer Way Fairbanks, Alaska 99701	X	X			
Highway Users Federation of Alaska Mr. Vern Smith (561-1030)	c/o 3M Company 5331 Minnesota Drive	X	X			
Homebuilders Association of Alaska (274-9243)	999 East Tudor Road Anchorage, Alaska 99503	X	X			
Knik Village Corporation	Willow Street Wasilla, Alaska 99687					
League of Women's Voters (274-8477)	P. O. Box 1345 Anchorage, Alaska 99510	X	X			
National Audubon Society (276-7034)	308 G Street, Suite 219 Anchorage, Alaska 99501	X	X			
Operating Engineers Local 302	610 6th Avenue Anchorage, Alaska 99501	X	X			
Palmer Chamber of Commerce (745-2880)	P. O. Box 45 Palmer, Alaska 99645	X	X			
Resource Development Council for Alaska, Inc. Ms. Paula Easley, Executive Director (278-9615)	444 West 7th Avenue Anchorage, Alaska 99501	X	X			No comments
Sierra Club Ms. Sally Kabisch (274-2318)	545 East 4th Avenue, Suite 5 Girdwood, Alaska 99501	X	X			
Talkeetna Chamber of Commerce	P. O. Box 334 Talkeetna, Alaska 99676	X	X			
Teamster Local 959	1829 East 5th Avenue P. O. Box 2092 Anchorage, Alaska 99501	X	X			

Table III-4

ORGANIZATION COMMUNICATION

Agency Contact Person	Address	Scoping Document Recipient	Invitation to Scoping Meeting	Attendance at Scoping Meeting	Meeting Other Than Scoping	Response Received
Trustees for Alaska Mr. Jeff Eustis (276-4244)	338 D Street Anchorage, Alaska 99501	X	X	X		
Tyonek Native Corporation Ms. B. Agnes Brown (272-4548)	912 East 15th Avenue, Suite 2 Anchorage, Alaska 99501	X	X			
Wasilla Chamber of Commerce (376-2121)	P. O. Box 1930 Wasilla, Alaska 99687	X	X			

exception of one letter (see Appendix D). Listed below are the respondents:

Dan Brockhurst
Garvan Bucaria
Richard & Barbara Burg
Robert B. Butt
Brian Caldwell
Benjamin H. Cowart
Jeffery M. Eustis
Ed Fortier
E. A. Hamm Jr.
Carroll Raney
Ken Hinchey
Bud Hooker
Dewey Jarrett
Darryl Jordon
Donald C. Jones
Leo C. Kaye
Ann Leach
James B. Leach III
Ann Lewis
Charles Lippitt
Robert G. Lincoln
William J. Lindow
L.M. McDonals
Peter S. Morgan
Charles Nevada
John Nystrom
Carol Raney
Mark Rauch
Jean Ring
Bruce Rizer
Ron Roberts
Henry G. Saylor, Jr.
Norman L. Schlittler
Charmaine Smith
Chuck Smith
Kurtis J. Smith
Jacklyn Sourant
Jim Sourant
Carol E. Staats
Elaine Swearingin
A. R. Timm
Connie Wassink
Tom Williams
Jim Woelfel
D. J. Wright

Written responses from the public were similar in character to oral responses at the public meetings. The following additional comments were made:

- Use tube (tunnel) design to reduce possible damage by ice flow, strong winds, and high tides. This would reduce exposure hazards (wind, ice, snow, climate, snow removal) and problems encountered with construction of support structures.

- Inform public about major funding.

- Cross Goose Bay State Game Refuge to connect to existing Knik Road.

- Place crossing near C Street overpass to avoid blocking navigation routes.

- Use Nancy Lake Parkway to access Parks Highway and provide easier access to Nancy Lake Recreation Area.

- Investigate funding raised through revenue bonds, paid by tolls.

- Include Federal Highway Commission in planning and design.

- Investigate population increases, housing demand, public services, and public costs for growth.

- Tie into present and future municipal transportation system.

- Avoid Goose Bay Refuge and tie into Point MacKenzie road extension.

CHAPTER IV

SCOPING MEETINGS

A. INTRODUCTION

As part of the scoping process for the Knik Arm Crossing Environmental Impact Statement, ADOT/PF held two public scoping meetings and two agency scoping meetings.

At each of the meetings, the ADOT/PF described the work program, the proposed corridor alternatives, and the key issues in corridor selection. Each meeting provided opportunity for the public and agency representatives to ask questions and make comments. There was also an opportunity for agency representatives to hear the concerns of the other interested agencies.

B. WASILLA MEETING

The Wasilla Public Scoping Meeting was held at 7:30 p.m. January 12, 1983, at the Wasilla City Hall. The following comments were expressed by the public.

Tidal power, in conjunction with a causeway at Point MacKenzie was favored by one respondent. He felt the longterm benefits of tidal power outweighed the adverse changes in the environment that a causeway would create. Among the benefits of tidal power, he included enough excess energy to heat greenhouses that could produce food for the Anchorage area; utilization of silt deposits, created by the causeway, for fill in the Anchorage area; and better air quality in Anchorage because tidal power could reduce use of petroleum products.

Alternative modes of transporting goods and people across the Knik Arm in a tube system, utilizing electromagnetic propulsion, was presented by another person. Minimal construction efforts, little to no environmental impacts, early project completion, low cost, and fast transport of goods and materials were the major benefits of his proposal.

Another respondent suggested that ADOT/PF consider more strongly the cost benefits of reducing travel distances from Fairbanks to Anchorage, versus the cost-benefits of a shorter route between Wasilla and Anchorage. He suggested the use of the Knik-Goose Bay Road. In addition, he pointed out that native lands within any of the corridors may create problems and questioned the State's ability to condemn native lands. He also felt a strong population base created by a dock and industrial development on the north side of Knik Arm might reduce the need for people commuting to Anchorage.

Someone else felt that the location of the crossing at either end of Knik Arm, rather then in the middle, would allow a second bridge to be built at the opposite end if future demand warranted.

Going through each of the alternative crossing locations, one person felt the most benefit could be derived from a crossing that was close-in to Anchorage. He felt the Point MacKenzie alternative would work only with a tunnel due to problems between a bridge and air traffic. However, he felt a tunnel or tube would be too expensive. His final recommendation was a bridge at the narrowest part of the Knik Arm (Cairn Point). He stated that the benefits of location and structure here would include lower cost due to shorter distance, open access to the city dock, uninterrupted waterfront development, movement of freight up the Knik Arm (bridge designed with high clearance), and better access to western Alaska. He also recommended the ADOT/PF reduce costs to insure the building of the project. He said incremental or stage construction would do this and would also put more local people to work. Phasing the project so the approach roads were developed later would also reduce the overall price tag of the project. Existing roads should be used now for approach roads.

Concerns from the next respondent were twofold. He felt the project could create degradation of air quality in the Knik/Big Lake area. His second concern was that the project could increase congestion along the Knik/Goose Bay road. As a representative of the Iditarod Trail Blazers, he raised concern over impacts to the Iditarod Trail and to sled dog trails in the area. He mentioned coordination between ADOT/PF, the Bureau of Land Management (BLM), and the State Division of Parks. In further discussion with ADOT/PF representatives, he cited the Matanuska-Susitna Borough Planning Department as a source for trail maps and the BLM for its recent survey of parts of the Iditarod trail.

A respondent felt better access from Wasilla to Anchorage was needed. He felt upgrading the Knik/Goose Bay road and the Parks Highway to Wasilla should be considered with connecting approaches.

Cost and funding were a concern of another person who suggested ADOT/PF investigate the Rivers and Harbors Act for funding sources. He questioned whether a 1955 Corps of Engineers study was being used.

Impatience with more studies was expressed by another respondent, saying that he knows of seventeen studies in Juneau that are "gathering dust." The concensus of the seventeen studies, he stated, was that the most feasible crossing would be Eagle River with a combination of causeway and bridge across the channel. He suggested that the crossing be built in stages. For example, one two-lane causeway could be built, and if the need was found, an additional two-lanes could be added, providing a four-lane highway. If necessary, the respondent suggested, fill could be added for a railroad. Utilities, a gas pipeline, and

power lines crossing overhead could also be added. The respondent said that problems could be encountered where Military, Borough, University, and other agencies own land.

The next person to comment wanted the maps used at the public meeting to include more detailed information to show high activity areas. He recommended the following areas be identified or emphasized on the maps:

- Knik/Goose Bay road
- Point MacKenzie agricultural project
- Port access road
- Fish Creek proposed agricultural project
- Railroad
- ENSTAR gas line
- Existing gas wells
- Existing and proposed land ownership
- Iditarod Trail
- Beluga coal fields

He added that by showing these areas ADOT/PF could get a better idea of future transportation needs.

The remaining respondents duplicated earlier responses with a few additional suggestions including the use of a toll or fee type system to help pay for the road, the use of the 1955 Corps of Engineers study, the 1972 ADOT/PF report, and the Rothschild Corporation study on tidal power.

C. ANCHORAGE MEETING

The Anchorage Public Scoping Meeting was held at 7:30 p.m. on January 13, 1983, at the Anchorage School District headquarters offices. The following comments were expressed by the public.

The Executive Director of the Alaska Lung Association was in favor of a crossing. However, he wanted more information on location, type, costs, and timing. He stated that Anchorage is in trouble because it can not meet Environmental Protection Agency standards for carbon monoxide levels. He believed Anchorage should consider moving people out into other areas and that the crossing would open areas of land across the Knik Arm. He complimented the Department of Highways for doing what has to be done and stated the Lung Association would support them 100 percent.

In a detailed analysis another person went through each of the corridors explaining what he felt were major advantages and disadvantages to each of the alternatives. His main points were to keep cost down by building the project in increments, to determine costs of a bridge alone so that connecting road costs could be analyzed separately, to use only State funding for the project so that the Environmental Impact Statement could

be omitted, and to keep the project simple, excluding railroad and hydro alternatives. These, he said, could be added later as need arises.

A representative from Air Cushion Technology was in favor of building a causeway crossing but suggested that in the interim a Hovercraft system should be put into service. He commented that once the crossing was developed, the Hovercraft could be used to connect Anchorage to Kenai, Tyonek, Hope, and Beluga. It could also be used locally for search and rescue.

A bridge crossing at Cairn Point was the choice of the next respondent. He recommended connecting to the A Street/C Street couplet on the Anchorage side and using the existing road (Knik/Goose Bay Road) on the north side. He felt there was no need for an Environmental Impact Statement and that a design could be completed in months, with the building of the project complete in two years.

Coordination was a concern of another person. He wanted assurance that ADOT/PF use existing planning efforts of the Municipality of Anchorage, the Matanuska-Susitna Borough, and the Military. He felt an alternative further North would avoid Federal lands.

One respondent was concerned with the way the project would be presented to the Legislature, to the public, and how the issue would go on a ballot. He wanted to avoid mistakes that might result in the failure of the project.

A causeway was recommended by the next person who believed benefits would include development of better port facilities and the utilization of local materials (gravel and muck) to reduce construction costs. He gave a detailed description of how a causeway could be built using local labor and materials.

An aide to a State Legislator had two concerns. The first concern was the connecting roads on either side of the crossing and how they would work with the port. Secondly, he questioned the need for an Environmental Impact Statement since he felt the likelihood of Federal funds is small.

A crossing location that would tie into downtown would be more beneficial, according to one respondent. He also felt that the crossing design should allow for future addition of railroad and utilities.

Another person felt a causeway would create significant negative changes to the existing salt water marsh including impacts to wildlife. He felt a bridge would be better.

Several other people spoke supporting what had been said earlier, with the additional comments that the study should focus on the crossing and use of existing roads to approach the crossing. North approaches should be investigated at a later date.

D. AGENCY MEETINGS

The agency scoping meetings were held at 9:30 a.m. and 1:30 p.m. January 13, 1983 in the ADOT/PF Anchorage office conference room. The following agencies were represented:

U.S. Coast Guard, Anchorage
Alaska State Troopers, Anchorage
Alaska Railroad, Anchorage
U.S. Air Force, Elmendorf Air Force Base, Anchorage
Alaska Department of Fish & Game, Habitat Division, Anchorage
ADOT/PF, Juneau
National Park Service, Anchorage
Corps of Engineers, Anchorage
U.S. Fish & Wildlife Service, Anchorage
National Marine Fisheries Service, Anchorage
Federal Highway Administration, Juneau
Alaska Department of Natural Resources, Division of Land and Water, Anchorage
Soil Conservation Service, Anchorage
Federal Aviation Administration

Agency comments were as follows:

Ted Rockwell, Corps of Engineer's Environmental Manager, questioned the decision to do corridor analysis outside of the Environmental Impact Statement (EIS) process. His concern was that alternative corridors might be eliminated too early, resulting in an EIS that examines only one corridor.

Larry Wright, National Park Service, questioned the need for a Willow corridor because of the defeat of the vote for the capital move. He suggested that it should be fairly obvious that the most direct connection between highly concentrated populations should be the chosen corridor. He also questioned the feasibility of a tunnel, and pointed out the hardships of crossing Department of Defense lands.

Bill Coghill, Alaska Railroad (ARR), stated that ARR visualizes an industrial area across the Knik Arm from Anchorage. He sees the coal fields (Beluga, Susitna, and Yentna) as a developing industry and also sees the possibility of a commuter railroad service that could carry approximately 3,000 persons from the Mat-Su valley each day to work in Anchorage. Mr. Coghill stated that there is little room for further industrial expansion in Anchorage and that the area directly across the Knik Arm from Anchorage is a logical expansion area.

James Hostman, Alaska Air Command, pointed out that sensitive military facilities may have to be relocated, and that he knows of no alternative sites.

Mr. Hostman explained that such encroachments require Secretary of the Army, Air Force, Defense, and ultimately congressional approval. He also said that the military base would have to declare those lands as surplus prior to disposal. This would open them to claims by other agencies. He mentioned that the pending agreement with Eklutna and Municipality of Anchorage has been in process for ten years and is still waiting congressional approval even though it was advocated by all levels of command and by Alaska's Senator.

Mr. Hostman questioned the plan for tie-ins to other arterials such as Minnesota Drive and the proposed Ship Creek Arterial. He stated many other problems with Fort Richardson and Elmendorf corridors. He said the Fort Richardson corridor crosses ammunition storage areas, impact areas, and firing zones. The Elmendorf corridor comes close to ammunition storage areas, recreation areas, fuel storage areas, the final approach zone of Elmendorf's north-south runway and the zone for the east-west runway, the hospital, and it goes through a housing area. He said that these corridors are not acceptable because of function disruption to the installation's function.

Brad Smith, National Marine Fisheries, asked if the study was seriously considering the tidal power alternative.

Obie Weeks, Chief Engineer, Alaska Railroad, stated that from their point of view this study should start with a railroad/highway study as the main objective instead of a highway crossing with the railroad as a secondary objective. Mr. Weeks mentioned the need to look at the Beluga coal field and how and where coal from that field would be delivered. He said that in the discussion of the alternative of upgrading the Parks and Glenn Highways that upgrading of the ARR also needs to be included.

Gary Lieptiz, Alaska Department of Fish and Game, pointed out that multiple corridors were not suggested as an option and asked if multiple roads might be built.

David Epstein, Federal Aviation Administration, inquired if environmental impact will receive the greatest effort of the consultant team. He also wanted to know if the analysis will be done "in house".

Lt. Col. Michael Blair, United States Air Force, speaking for the military, took issue with the reference to "The Crossing" citing the 1972 recommendation for a crossing upstream of Cairn Point. He recommends referring to it as "A Crossing" rather than "The Crossing."

Lt. Col. Blair also commented that the Eagle River corridor crosses one of the military's primary training drop zones for equipment and personnel serving all of Alaska. The Fort Richardson corridor and the

Elmendorf corridor will seriously impact the military's ability to carry out their training missions. The Downtown corridor will impact not only the military, but also the Port of Anchorage. Questions re- garding the military mission or the base can be referred to Col. Blair.

Chapter V

TECHNICAL ANALYSIS

A. INTRODUCTION

As part of the scoping process, a general evaluation of the corridor alternatives was conducted. The purpose of this evaluation was to determine, from an engineering or environmental impact standpoint, if any alternatives should be dropped or altered, and what criteria are key to distinguishing between the alternatives. Evaluation criteria and alternatives presented in the Scoping Document and at the scoping meetings, as well as criteria added as a result of public and agency response, were considered.

B. ENGINEERING

Two principal criteria were used in evaluating the corridors: Cost and ease of implementation.

Cost

Construction costs for the crossing will vary depending on the depth and width of channel, type of crossing, and the structure type required to meet design constraints. A tunnel will be the most costly type of crossing ($490 to 515 million), followed by a causeway ($269 to 431 million), causeway/bridge ($262 to 342 million), and bridge ($194 to 389 million). The corridor requiring the greatest cost to construct a bridge is the Downtown corridor ($389 million), followed by Point MacKenzie ($300 million), Fort Richardson ($281 million), Eagle River ($250 million), and Elmendorf ($194 million). The cost of a causeway or causeway/dam decreases as one moves up the Arm ($431 to 269 million). The cost of a tunnel varies little between alternatives ($413 to 515 million). Maintenance costs generally vary by the length of the crossing.

Cost of construction and right-of-way for the north approach will be primarily dependent on the roadway length, with the longer corridors being the most costly ($2 to 65.8 million, exclusive of right-of-way cost).

Total cost for completion of a south approach would be greatest in the Downtown corridor ($121.1 to 292.5 million), followed by Elmendorf ($49 to 223.2 million), Fort Richardson ($47.5 to 48.5 million), Eagle River ($42 to 43.5 million), and Point MacKenzie ($28 to 80 million).

The Downtown and Elmendorf corridors have the highest right-of-way costs due to displacement of urban development or military facilities. Costs also vary depending on whether the approach is at-grade, elevated, depressed, or in tunnel (least costly to most costly). Maintenance costs would increase with approach road length.

Implementation

All of the crossing corridors are technically feasible although they will be challenging to construct. Difficulties in construction will be greatest for a tunnel and least for a bridge. All the crossing types lend themselves to staged construction. Several permits from Federal agencies will be required with any of the crossing alternatives.

Staged construction can be readily achieved in the north approach corridors by initially connecting into the existing road system. Right-of-way availability and ease of construction are not expected to be significant concerns. Federal permits will be required for crossing streams and wetlands.

South approach road construction can be staged by building two lanes initially and adding lanes as required to meet future traffic demand. Significant displacement will be involved in obtaining right-of-way for approaches in the Point MacKenzie, Downtown, and Elmendorf corridors. The Elmendorf, Fort Richardson, and Eagle River corridors all cross military lands which can only by obtained with the approval of the U.S. Department of Defense. Ease of construction is not a significant concern. Federal permits would be required for crossing any streams or wetlands.

C. TRANSPORTATION

The following evaluation criteria are addressed in this section: Motor Vehicle Travel, Freight Movement, Public Transportation, and Transportation Plan Compatibility.

Motor Vehicle Travel

A Knik Arm Crossing has essentially two travel markets: Diversion of traffic from the Glenn and Parks Highway to a Knik Arm Crossing in order to realize a shorter trip; and traffic resulting from residential and industrial growth induced by increased accessibility between the Mat-Su Borough and Anchorage. Of the two, diversion of traffic is the smaller.

Anchorage-Fairbanks travel is a very small part of the travel demand; only a straight, fast route between Wasilla and downtown Anchorage would be expected to divert substantial Glenn/Parks Highway traffic. The

larger share of travel demand would be from residential development in the southern Mat-Su Borough, particularly from a Point MacKenzie to central Anchorage route. Routes that zigzag between the Mat-Su Borough and Anchorage (Eagle River, Fort Richardson) will induce little growth and hence carry little traffic.

From the standpoint of complementing the existing Anchorage transportation system, a Point MacKenzie crossing appears optimal, since facilities on the west side of Anchorage generally have more available capacity (typical peninsula situation). Crossing into the downtown area could compound downtown circulation problems and necessitate upgrading of the 5th-6th and Ingra-Gambell couplets to freeway facilities. Crossings which feed into the Glenn Highway (Ft. Richardson, Eagle River, possibly Elmendorf) would compound circulation problems on the Glenn Highway, and no real alternate access to Anchorage will be achieved.

Freight Movement

Rail access across the Knik Arm could shorten the railbelt route to Fairbanks, and eliminate a crooked and slow section of the Alaska Railroad immediately north of Anchorage. Cost of railroad relocation will be quite high (perhaps $150-200 million). Substantially greater freight volumes than at present may have to be achieved before benefits offset cost. Point MacKenzie industrial development would undoubtedly necessitate rail access to the Point. It is conceivable that rail access would be less costly via a Knik Arm Highway Crossing than extending the railroad south from Willow or Wasilla.

Public Transportation

Little impact on public transportation is expected. Provision for future highway bus pull-outs and park-and-ride lots could be incorporated on north approach right-of-way.

Transportation Plan Compatibility

Neither the Anchorage Metropolitan Area Transportation Study (AMATS) nor the Mat-Su Borough's transportation plan incorporate a Knik Arm Crossing route. A connection which ties into existing roadways and causes the least disruption to the current plan may be considered most compatible. The Eagle River, Fort Richardson, and Point MacKenzie (to International Airport) corridors would be least disruptive to planned improvements and system capacity. The Downtown corridor could necessitate substantial rethinking of planned facilities through the Downtown area due to increased traffic volumes.

D. SOCIAL AND ECONOMIC

The following evaluation criteria are addressed in this section: Urban Growth, Land Use Plan Compatibility, Dislocation and Relocation, Urban and Military Disruption, and Economics.

Urban Growth

The extent to which change in planned growth patterns would occur with a crossing is primarily related to how accessibility from developable lands to downtown Anchorage would be altered. Such changes would be least likely for the Eagle River corridor, followed by the Fort Richardson corridor. In these cases developable lands within the Anchorage bowl would remain more accessible than the southern portion of the Mat-Su Borough.

The Point MacKenzie and Downtown corridors would bring new developable lands close to Anchorage and thus would be the corridors most likely to alter future development patterns. Shifts in planned residential and some commercial development would be likely. Decreased development would be expected on marginal lands in the Anchorage bowl, and new urban development beyond what is now anticipated would occur in the Point MacKenzie area and to a limited extent along the Parks Highway.

A north approach from either a Downtown or Point MacKenzie crossing would have similar influence on new growth patterns. If growth is encouraged in the Point MacKenzie area, public services would need to be provided and strict zoning and subdivision regulations would be required to achieve desired urban densities.

Land Use Plan Compatibility

Neither the land use plans for the Anchorage area nor the Mat-Su Borough assume a Knik Arm Crossing within their planning period.

Although the Point MacKenzie and Downtown corridors would alter planned growth patterns, this could be viewed as a positive feature since they would open new development options for Anchorage. The Anchorage bowl would be filled almost to capacity within the current 20 year planning period.

If an alignment were placed through the Port of Anchorage, it could have a significant adverse impact on port development plans due to the scarcity of land for new port facilities. Completion of new physical facilities in the Fort Richardson land use plan would not be impacted by the Eagle River or Fort Richardson corridors.

A north approach road leading to a crossing south of Goose Bay would be most in keeping with Mat-Su Borough planning. Plans for industrial and port development in the Point MacKenzie area would be reinforced. However, development would need to be controlled so it does not impact planned agriculture development in the same area. The Wasilla corridor would bring the Borough's principal area for development closer to Anchorage. However, it would also cause the Knik area, now planned for only limited development, to have increased development pressure due to its new proximity to Anchorage.

Any of the north approach corridors would bring the Parks Highway and Big Lake areas closer to Anchorage, encouraging additional development. New roads serving agriculture and timber development are already planned in the Willow corridor.

Dislocation and Relocation

Dislocation of existing structures and facilities and their functions is not expected to occur with the north approach corridors due to the sparseness of development in the areas through which they pass. Dislocation is of primary concern in the developed areas southeast of Knik Arm. The greatest displacement could occur with the Downtown corridor; including homes on Government Hill, Alaska Native Medical Center, businesses; and Elmendorf Air Force Base's circularly disposed antenna array (CDAA), POL storage facilities, and receiver site antenna. Again, the extent of displacement would depend on the alignment selected.

Urban and Military Disruption

An alignment could be placed within any of the north approach corridors without significant impact to existing urban development or military facilities.

A bridge crossing south of Cairn Point would have to be high enough and have wide enough spans not to impede ships served by the Port of Anchorage. There also is a potential for intrusion into aircraft approach zones from bridges connected to the Point MacKenzie, Downtown, and Elmendorf approach corridors.

An alignment in the Point MacKenzie corridor near International Airport could interfere with the small plane taxiway and parking west of Lake Hood. If the alignment followed the Alaska Railroad from Bootlegger's Cove, it would displace park land, require an elevated roadway through a residential development (until the approach could join the existing arterial street system), and would result in significant displacement at it's connection to the existing street system.

An alignment in the Downtown corridor could pass through or adjacent to the Government Hill residential neighborhood. If the Elmendorf corridor is angled south it is anticipated that an alignment could be developed that would avoid interference with Elmendorf operations and facilities, except for those facilities described under "Displacement and Relocation." The Fort Richardson and Eagle River corridors would both interfere with Fort Richardson training areas.

Economics

Economic impacts of the crossing alternatives are related to the patterns of urban growth that can be expected with each alternative. Thus, progressively less impact on economic development, public finance, and housing and business markets would occur with the Fort Richardson and Eagle River corridors, in that order.

Economic development plans for Point MacKenzie and Anchorage are not dependent on each other, so a crossing of Knik Arm, even with a Point MacKenzie or Downtown south approach, should not significantly change these plans. This includes both port and industrial development proposals.

The primary economic change that would come when the southernmost south approaches are used, would be a shift in the responsibility for providing public services from the Municipality of Anchorage to the Mat-Su Borough. The costs of this might ultimately be offset by increased Borough revenues.

With a crossing, the increased availability of land near the Anchorage area could keep housing costs lower than what would otherwise be expected. Land values would rise in the Point MacKenzie area.

E. NATURAL ENVIRONMENT

The following evaluation criteria are addressed in this section: Biological Resources, Water Resources, Air Quality, Noise, Energy, and Visual.

Biological Resources

A causeway/dam would have the greatest impact on biological resources of any of the crossing types under construction. Salmon runs, fisheries programs, marine habitat, wetland vegetation, waterbird habitat, moose habitat, and aquatic habitats would be adversely affected. Dam height and provisions for exchange of tidal water across the causeway are

critical factors in the extent of impact. The impacts would also be less severe for a causeway in the Eagle River corridor than one in the Elmendorf Corridor. Little long-term impact would be expected from a bridge or tunnel crossing.

Conflict with biological resources would exist with any of the north approach corridors, but it would not preclude development of an approach road. The greatest conflict would be with the Wasilla corridor where it crosses Goose Bay, and the Willow and Nancy Lake corridors. Primary concerns would be stream crossings; moose migration; new road access to fishing, hunting, and trapping areas; and crossing of wetland habitat. Lessor impacts would be expected with the Houston and Big Lake corridors.

South approach alternatives with the greatest conflict with biological resources would be the Elmendorf, Fort Richardson, and Eagle River corridors. The potential for impact would be roughly the same as for north approach corridors.

Water Resources

A bridge or tunnel crossing would not be expected to have a significant long-term impact on water resources. However, a causeway/dam would significantly alter the existing hydrological regime of Knik Arm. Impacts would include creation of a freshwater reservoir, flooding of lowland areas, sediment deposition, higher summer water temperature, and continuous ice cover on the reservoir in winter. Other impacts might be increased icing and a greater tide range at the Port. A causeway with bridged openings or incorporating tidal power would reduce the impact. As with biological resources, the extent of impact would vary by the location of the causeway.

Impacts to water resources would be minimal for a north approach near Goose Bay. The Big Lake, Houston, Nancy Lake, Willow, and Wasilla corridors all would involve stream crossings and wetlands encroachment. Fewer impacts would occur in the Houston and Big Lake corridors. Greater impacts would occur in the Wasilla corridor where Goose Bay is crossed. All south approach corridors would have a minimal impact on water resources.

Air Quality

The Downtown, Point MacKenzie and Elmendorf corridors could have a significant impact on air quality. The greatest impact could be with the Downtown corridor. Traffic presently creates a carbon monoxide problem and with this corridor all crossing traffic would have to pass through downtown, increasing the problem.

Noise

The potential for noise impact would be greatest for the south approach. The Point MacKenzie, Downtown, and Elmendorf corridors all would place crossing traffic adjacent to noise sensitive land uses.

Energy

Motor vehicle energy consumption would be reduced by providing more developable land close to Anchorage. This potential would be greatest for crossings using the Downtown and Point MacKenzie corridors. However, if urban densities are not achieved in new developable area this potential would be lost. The energy used to construct and maintain the crossing and its approach roads would also tend to offset motor vehicle energy savings.

Visual

A bridge would create a significant visual feature, contrasting with the natural landscape, and could either complement or intrude into views of Knik Arm. A causeway would also be a significant visual element, intruding upon existing views. Visual impacts from north approach corridors could be minimized by avoiding recreation areas, lakes, streams, and trails and by using proper revegetation techniques. Revegetation would also minimize any adverse visual impacts in the Elmendorf, Fort Richardson, and Eagle River corridors. The dominance of manmade elements in the Point MacKenzie and Downtown corridors would reduce visual impacts, except where an alignment is selected that would pass through a residential area or block views of the Arm.

F. CULTURAL RESOURCES

Two evaluation criteria are considered in this section: Antiquities and Historic Sites, and Parks and Recreation.

Antiquities and Historic Sites

Most sites of historic value in the areas through which corridors pass are small, discrete, and easily avoided. The corridors also appear to have low archaeological value.

Parks and Recreation

Potential impacts on recreation would be greatest for the north approach corridors. Recreation opportunities exist throughout the Mat-Su Borough, including hunting, hiking trails, lake and stream access, and camping areas. The crossing and north approach roads would improve access to these areas. Trails and streams would be crossed. The Nancy Lake corridor passes through the Nancy Lake Recreation Area. Fish Creek Recreation Area lies in the Big Lake Corridor.

The Point MacKenzie and Downtown south approach corridors contain public recreation areas along the shore of Knik Arm. Major parks could probably be avoided. A bike trail is proposed for construction along the full length of the Arm between and including the two corridors. The trail and smaller recreation areas along the Arm could be impacted. It is anticipated that recreation impacts can be avoided along the Elmendorf, Fort Richardson and Eagle River corridors.

G. CONCLUSIONS

The technical analysis resulted in the conclusion that all the corridor alternatives presented in the Scoping Document and those added as a result of the scoping process should be further evaluated in the Corridor Alternatives Analysis. They each offer distinct trade-offs in terms of benefits and impacts. None of the corridors have impacts of such severity that they should be excluded from further consideration at this time. The Elmendorf corridor was angled to the south to reduce the disruption of military operations and displacement of military facilities.

No additional evaluation criteria were identified as a result of the technical analysis.

Chapter VI

CORRIDOR LEVEL ALTERNATIVES

A. INTRODUCTION

The following alternatives defined for corridor level evaluation reflect the full range of possible travel improvements between Anchorage and the Mat-Su Borough. The first three alternatives - no action, alternative travel modes, and upgrade Glenn and Parks Highways - are required by Federal environmental regulation; they provide a good benchmark for comparison with highway crossing alternatives. During corridor level evaluation, limited effort will be spent in evaluating these alternatives. Most effort will be focused on the last three types of alternatives - highway corridor locations up and down Knik Arm (crossing, north, and south approaches), configuration alternatives (bridge, causeway, tunnel) and auxiliary crossing facilities, i.e., projects that might be pursued in conjunction with a highway crossing (rail, tidal power, utility lines).

The following section describes each of the alternatives:

B. NO ACTION

Area population, employment, land development, and traffic growth would increase to the year 2000 as projected in Anchorage and Mat-Su Borough plans. There would be no Knik Arm Crossing, no improvement of the Glenn and Parks Highway north to Palmer and Willow, and no provision of alternative travel modes.

C. ALTERNATIVE TRAVEL MODES

Ferry/Water Surface Mode

A passenger and vehicle ferry, Hovercraft, or other water surface craft, would link downtown Anchorage with Point MacKenzie in the Mat-Su Borough.

Intercity Transit

A substantially increased intercity bus or passenger rail service would be provided along the Glenn Highway to Palmer and along the Parks Highway to Wasilla and Willow.

D. UPGRADING EXISTING HIGHWAY SYSTEM

Glenn Highway Improvements

Major intersections along the highway would be grade separated with full access-control extended from central Anchorage to Palmer. The highway would be widened to four and six lanes as travel demand warrants.

Parks Highway Improvements

Major improvements along the highway would include bypasses of Wasilla and Houston with access-control between the Glenn Highway and Willow. The highway would be widened to four lanes as travel demand warrants.

Combination

Both Glenn Highway improvements and Parks Highway improvements would be made.

E. HIGHWAY CROSSING LOCATIONS

Figure II-1 locates five north approach highway corridors in the Mat-Su Borough, five south approach highway corridors in the Anchorage area, and three broad Knik Arm crossing corridors. These broad corridors incorporate all of the 1971 HNTB Knik Arm Highway Crossing study crossing sites. They minimize encroachment on recreation and wildlife preserves on the north, and major military and transport facilities and urban neighborhoods to the south.

North Approach Corridors

Willow Corridor: This corridor provides the longest bypass of the existing Parks and Glenn Highways. From north of Willow the corridor passes between the Susitna River and Nancy Lake Recreation Area and extends south across the Little Susitna River and then passes between the Susitna Flats and Goose Bay State Game Refuges to the Knik Arm shore. This offers the shortest route between Fairbanks and Anchorage, with approximately 30 miles savings over the present route. Principal design constraints are the water bodies, planned agriculture development, proposed industrial and port development, recreation sites, natural habitat, and poor soils associated with wetland areas. Provision must also be made for crossing the Iditarod Trail.

Nancy Lake Corridor: This corridor links the Parks Highway below Willow to Point MacKenzie passing through the Nancy Lake Recreation Area along the Nancy Lake Parkway. This corridor provides increased access to Nancy Lake Recreation Area, but could also create impacts to existing recreation opportunities within the park. Principal design constraints are similar to those of the Willow Corridor.

Houston Corridor: This corridor joins the Parks Highway, in the vicinity of Houston, with the southern part of the Mat-Su Borough, passing between Nancy Lake Recreation Area and the Big Lakes area. The corridor provides the most direct access to both Big Lake and Nancy Lake recreation area. Design constraints are similar to those of the Willow Corridor. Soil conditions in this corridor may be particularly difficult for road construction.

Big Lake Corridor: This corridor links the Big Lake area with southerly Mat-Su Borough, passing east of the Big Lakes area. Design constraints are similar to those of the Willow Corridor, including water bodies, game refuges, and poor soils. Archaeological sites are in the Fish Creek area and an extensive system of dog mushing trails are in the Knik area.

Wasilla Corridor: This is the most easterly corridor. It utilizes the existing Goose Bay Road between Knik and Wasilla and a winter access road along the mouth of Goose Bay to Point MacKenzie. This corridor provides the most direct access to existing and planned Mat-Su Borough population growth in the Wasilla-Palmer area. Utilization of the existing roadway would reduce project cost. The access route across the Goose Bay State Game Refuge is constrained by soils and natural habitat considerations.

South Approach Corridors

Eagle River Corridor: This easternmost corridor crosses Fort Richardson land to connect with the Glenn Highway north of the Eagle River community. The greater distance of this corridor from central Anchorage will reduce travel benefits. Design constraints include potential disruption to military training areas near Clunie Lake.

Fort Richardson Corridor: This corridor crosses the northern tip of Elmendorf AFB and the Fort Richardson gunnery area to tie into the Glenn Highway south of the Eagle River community. Relocation of ammunitions storage and gunnery range would be required.

Elmendorf Corridor: This corridor crosses the middle of Elmendorf AFB and Fort Richardson to tie into the Glenn Highway near Muldoon Road. Relocation of communications antennas, munitions storage, transport routes, and military recreation areas would be required. Military security and wildlife habitat could be affected.

Downtown Corridor: This corridor connects to the intersection of the Glenn and Seward Highways extended, passing through the congested Port of Anchorage and the Ship Creek area. Relocation of petroleum storage tanks, industrial and transport facilities, and residential buildings would be required. A crossing approach route below the bluffs, beside Elmendorf AFB, would require relocation of major military communications facilities sensitive to electrical and sound interference.

Point MacKenzie Corridor: This corridor would connect to Northern Lights Boulevard and/or International Airport Drive in Anchorage. Proximity to Anchorage International Airport operations and waterfront residential development are design constraints.

Crossing Corridors

Eagle River Crossing: Although the farthest north of Anchorage, this alternative reduces disruption of community and military facilities. It appears to offer greater potential use of causeway due to shallow depth of channel, and greater potential for auxiliary tidal power facilities. This is the longest crossing at approximately 3 to 4 miles in length. However, the channel is shallow with less than 15 foot depth at high water. This corridor, like all others, must address extreme icing, wind loading, tidal action, seismic forces, and poor soil conditions.

Central Crossing: A two to three mile crossing appears technically feasible within a nine mile reach of the Knik Arm between Goose Bay State Game Refuge on the north and downtown Anchorage on the south. This corridor includes a range of geographic conditions; both deep and narrow sections of Knik Arm with the shortest crossing structure near Cairn Point; shallower channel depths conducive to causeway and auxiliary tidal power generation near Goose Bay State Game Refuge; and deep (over 100 feet) channel depths conducive to long span bridge or tunnel nearer downtown Anchorage. Elmendorf AFB runway clear zone, military communications non-interference, and Port access criteria must be met. Avoidance of existing structures and transport lines on the south shore becomes increasingly difficulty with proximity to downtown Anchorage.

Point MacKenzie Crossing: A deep channel and 2.5 mile channel width indicate a crossing in this location will be technically challenging and most expensive. Anchorage Airport clear zone and Port access criteria pose constraints. South shore residential and park use along the waterfront limit the width of the corridor.

F. HIGHWAY CROSSING CONFIGURATIONS

Bridge

A long span structure is necessitated by a deep channel and safe navigational clearance in the southwest portion of Knik Arm. Large and costly substructure units are expected due to long spans, poor soils, and seismic safety requirements. Less costly shorter span structures appear possible in the northeast portion of the Arm. A high-level long span structure will be required south of the Port of Anchorage to facilitate ship access.

Tunnel/Tube

A tunnel or a subaqueous tube will be considered in all locations although the narrower central crossing corridor appears most conducive to tunnel/tube feasibility.

Causeway

A causeway is most feasible in the Eagle River corridor and northerly end of the central corridor due to shallower channel depths. Sediment transport and settlement are design constraints for causeway construction. Changes in water temperature and water quality upstream of a causeway may have climatic, agriculture, wetlands, and wildlife impacts. Downstream of a causeway there may be increased icing and tidal ranges.

Combination

Bridge, tunnel/tube, and causeway options could be combined in the upper reaches of the Knik Arm.

G. AUXILIARY FACILITIES

Railroad

The highway crossing design could be modified to accommodate addition of railroad trackage. Crossing sizes and costs would be increased.

Tidal Power

Causeway design could be modified to accommodate the addition of tidal power generation.

Utilities

Highway bridge, tunnel, or causeway design could be modified to accommodate addition of utilities. Crossing cost and safety could be impacted.

Chapter VII

EVALUATION CONSIDERATIONS

A. ENGINEERING DESIGN

The engineering evaluation will determine potential design and constructability constraints and benefits for each alternative, including crossing and approach roads. The general design criteria for highways will be based on State of Alaska, Federal, and American Association of State Highway and Transportation Officials (AASHTO) standard specifications and design standards. As required, criteria will be developed for the railroad, utility, and tidal power generation options.

Plan and Profile Drawings

By means of aerial photo examination, field inspections, and study of available mapping and other data, schematic alignments for the crossing and approach roadways will be developed. The alignments, cross-sections, and profiles will be used to develop quantities for costing purposes.

Soils and Seismic Safety

Geotechnical factors may affect the cost of a crossing by 20 to 30 percent. The geographic location of Knik Arm, in one of the world's most active seismic zones, and the presence of vibration sensitive glacial deposits in the Knik Arm region, combine to make this area one of considerable concern with respect to the design and construction of structures. Seismic reflection surveys have been made at crossing locations to understand channel subbottom conditions and structural design requirements. Later, a limited number of borings will be taken to confirm survey findings.

On the shore, there is concern for bluff stability and roadway foundation requirements. Terrain will be investigated to determine its influence on design, drainage in conjunction with highway construction, and potential erosion and sedimentation during and following construction. Soil Conservation Service soils investigations, Landsat satellite photo interpretation, and previous borings will be used to identify subsurface soils and geology.

Channel Navigation

Access to the Port of Anchorage dictates width and height of a bridge span and protection for a tunnel/tube for any crossing south of Cairn Point. Navigation requirements north of Cairn Point will need to be determined.

Aviation Clearance

Elmendorf AFB airport and Anchorage International Airport flight approach zones pose constraints on the height of any bridge placed within Knik Arm.

Military Communications and Safety

A highway within one mile of a sensitive circularly disposed antenna array (CDAA) on Elmendorf AFB could cause eltro-magnetic and sound interference. Other communication antennas on Elmendorf AFB and Fort Richardson must also be avoided or relocated. Clear zones around ammunition storage and firing ranges must be maintained.

Tidal Currents, Wind, and Ice

Climatic factors are severe in the Arm, affecting cost of structure and maintenance for all crossing locations.

Right-of-Way Acquisition

Military, port, business, and recreation activities may need to be relocated in south approach corridors. Acquisition and clearing of right-of-way requires both time and monetary expenditures.

Materials Available

Aggregate for roadway base construction is not uniformly available within the study area. Some corridor locations may be closer than others to material sites and construction requirements in one corridor may also require more long distance transport of materials than others.

B. COST AND SCHEDULE

Construction and Right-of-Way Costs

Construction and right-of-way costs will be developed for each alignment and for the non-crossing alternatives. Unit prices will be abstracted from recent bids received by ADOT/PF and others. The prices will be adjusted as necessary to reflect variables such as geologic constraints and distances to sources of construction materials. For each approach corridor, right-of-way costs will be based upon assessed values obtained from the Mat-Su Borough for the north approach and Municipality of Anchorage for the south approach.

Operation and Maintenance Costs

The evaluation of maintenance costs for the approaches will consist of obtaining historic maintenance cost data from appropriate study area

maintenance stations. Crossing maintenance costs will be based on past U.S. and Alaska experience as well as anticipated crossing use. In the case of tunnel/tube alternatives, operating costs will be estimated from historic costs of operating other tunnel/tubes.

Construction Schedule

A schedule for design, right-of-way acquisition, and construction will be developed for each alternative. Scheduling will permit assessment of financing and manpower requirements as well as assessment of project benefits and impacts.

C. FINANCE AND IMPLEMENTATION

Financing

Cashflow requirements will be identified based on design, right-of-way acquisition, and construction schedule. Potential revenue sources will be identified. A suggested financial program will be developed to implement alternatives, and mechanisms for guaranteed long-term financing will be investigated.

Construction Staging

Consideration will be given to incremental construction of crossing and approach road improvements within a long-range plan. Phasing of construction could minimize initial cost and allow time for traffic and associated crossing benefits to increase before additional phases are added.

Permit Requirements

Federal permit approvals, particularly authorization to cross military lands, could delay project construction. Potential delay time and associated costs will be gauged for each alternative.

Management

Alternative mechanisms will be considered for obtaining expertise needed to construct, operate, and maintain project alternatives, particularly the crossing structure.

D. BENEFIT-COST AND COST-EFFECTIVENESS

Where possible, user and community benefits will be stated in dollar value and the estimated benefit compared to cost. In addition, the relative performance (effectiveness) of each alternative will be determined, and cost per unit of effectiveness computed.

Vehicle Travel

Cost of vehicle travel will be evaluated for each corridor alternative and for the No Action alternative. Comparisons will be made based on cost per passenger trip; cost per passenger mile; cost per vehicle mile; cost per vehicle mile eliminated; and cost per passenger hour saved.

Freight Movement

Cost-benefit evaluation would address highway and rail freight shipment costs (per mile and per hour) via alternative corridors and savings compared to the No Action alternative.

Economic Development

This evaluation will address industrial development costs (tourism, coal, etc.) associated with alternative corridors and estimate benefits compared to the No Action alternative.

Community Development

Cost-effectiveness evaluation will be used to compute typical costs for developing a residential lot in the Point MacKenzie area compared to costs in the Anchorage bowl. Infrastructure costs (roads, sewer, water) will be estimated from interviews with local contractors and developers.

Resource Conservation

The cost-effectiveness evaluation will identify the incremental cost of preserving natural resources (i.e., dollars per acre of wetlands).

E. TRANSPORTATION IMPACTS

Transportation considerations that will be a part of the Knik Arm Crossing evaluation fall into five categories. These are highway accessibility, traffic volumes and level of service, freight movement, public transportation, and transportation plan compatibility.

Highway Accessibility

A primary objective of the Knik Arm Crossing project is to provide more direct accessibility between the Municipality of Anchorage and communities in the Matanuska-Susitna Borough. This is expected to divert traffic from the existing Glenn and Parks Highways and to induce new development and traffic. Accessibility to downtown Anchorage will be a key factor in diverting travel, affecting urban growth patterns, and

generating travel benefits (time and operating savings). Accessibility is important to reduce travel time; because of secondary benefits of reduced energy consumption, air pollutant emissions, cost of travel; and for the potential economic development. Savings will be determined for existing trips and for forecasted new trips.

Traffic Volumes and Level-of-Service

Highway trip diversion and trips generated by growth in the Mat-Su Borough will be determined. Areas of concern related to anticipated volumes include:

- The capability of the existing and planned street and highway system, both in the Municipality of Anchorage and the Matanuska-Susitna Borough, to handle forecasted volumes at an appropriate level-of-service.

- Design of intersections and highway cross-sections required for smooth operation.

A two-step travel forecasting procedure will be used to address accessibility, traffic volume, system capacity, and level-of-service: First, initial "quick response" procedures designed to provide order-of-magnitude comparison, and secondly, testing of selected alternatives using the Anchorage Metropolitan Area Transportation Study (AMATS) travel models.

Year 2030 as well as year 2000 travel demand will be evaluated to reflect the useful life of a crossing structure. Forecasted traffic volumes will be used to determine air quality, noise, and other traffic related impacts.

Freight Movement

Potential changes in railroad passenger and freight operations and truck freight operations will be addressed. This will include changes in the volume of goods transported to and from existing receivers and shippers, and changes resulting from new economic development generated by each alternative.

Public Transportation

Two factors will be considered: The future transit travel demand in the corridor, and the capacity of corridor alternatives to handle increased bus, rail, or water transit volumes. Use of bus and rail passenger service may be increased or decreased indirectly as a result of new access and the resulting urban growth pattern. Provision may be made within design of each alternative to accommodate future bus or rail transit facilities.

Transportation Plan Compatibility

Factors to be considered in the evaluation are whether or not the corridor alternatives complement planned access and circulation patterns; make use of existing and planned roadway, rail, port, transit and airport capacity; minimize local transportation capital and operating costs; provide opportunities for joint or collateral facility development (clearing, grading, filling, access); and minimize encroachment on existing and planned transport facilities (airport, port, and rail) and their operation.

F. SOCIAL AND ECONOMIC IMPACTS

Social and economic considerations include urban growth; land use plan compatibility; dislocation and relocation; urban and military disruption; economic development, public finance and business, and housing.

Urban Growth

Any Knik Arm crossing, particularly linking Point MacKenzie with central Anchorage, would shift population and employment growth due to changes in accessibility. Accessibility factors used in the Anchorage Metropolitan Area Transportation Study (AMATS) and the Municipality's Planning Land Use Model (PLUM) will be employed to estimate order of magnitude shifts in land use allocation.

Increased requirements for urban services are expected to result in any urbanizing area. Items considered under growth impacts will be population and employment increases, changes in population distribution, changes in way-of-life for persons living in areas where growth occurs, and new or changed public service requirements. The impact on public service will be gauged, including sewer, water, electricity, gas, telephone, cable TV, fire, police, schools, parks and recreation facilities, street construction and maintenance, snow removal, and public transit.

Land Use Plan Compatibility

The compatibility of each alternative with land use planning by the Municipality of Anchorage, other communities within the study area, Matanuska-Susitna Borough, Elmendorf Air Force Base, and Fort Richardson Army Post will be addressed. At the present time, no land use plan within the study area includes a Knik Arm Crossing. Thus, the focus of consideration will be whether or not each alternative reinforces or counters implementation of area land use plans.

Dislocation and Relocation

Dislocation and relocation issues include: Location and type of dwelling units, businesses, railroad, port, and military facilities that could be displaced within each corridor and the probability of being able to avoid such displacements. If displacement is likely, the availability of suitable land and buildings for relocation will be identified. Techniques will be identified for reducing disruption to business and military operations during relocation.

Urban and Military Disruption

Potential disruption to urban and military land uses include disruptions by division, disruption due to traffic, and construction disruption.

Disruption by Division: If an alternative passes through a residential neighborhood, school, or service area, the effect on circulation within those areas will be evaluated. A Downtown corridor will require care in placement to avoid impacts to port facilities. Changes required in railroad operations could also be a consideration.

The Elmendorf, Fort Richardson and Eagle River corridors could potentially impact military operations. Explosives are stored at various locations on the bases and clear zones must be maintained for safety and security. The CDAA, south of Green Lake, is of particular concern. Underground fuel storage tanks, communications antennas, and access routes across any corridor are other considerations. In the Eagle River corridor, a joint military assault training field should be avoided.

Disruption Due To Traffic: Residential neighborhoods may be affected by traffic and associated noise, air pollutants, safety, and circulation changes. The presence of traffic too close to the CDAA could disrupt its operation and require its relocation.

Construction Impacts: Temporary increases may be expected in noise levels, air pollutant emissions, and changes in pedestrian and motor vehicle traffic circulation around any construction project. Means of controlling impact in residential and other sensitve locations will be addressed.

Economic Development

The economic development analysis will focus on what changes are anticipated in resource and other economic development plans, as a result of access improvements between Anchorage and the Mat-Su Borough. Areas to be addressed include changes in the extent, location, and

timing of future economic development, and the impact of economic development changes on employment, freight movement, and utility service requirements. The economic benefits to be derived from combining tidal power with a crossing will also be addressed.

Public Finance

Areas to be addressed under this category include changes in local and State revenues created by new development, and cost to local government for public services. Increases in revenue could come from either the sale of government owned lands to private owners or from the taxation of new development or redevelopment of present private lands. Costs to local government include roads, sewers, and other facilities and services needed to support growth. The principal objective will be to identify corridor alternatives that facilitate orderly and economical development patterns rather than those that contribute to high municipal construction and maintenance costs.

Business and Housing

The project may generate changes in property values, either increases due to development and redevelopment or decreases resulting from introduction of increased motor vehicle travel near residential areas.

The effect of a crossing in generating economic growth will be considered, including effects on prevailing wage/price structure, on the cost-of-living, and on cost of doing business. The effect on tourism will also be addressed.

The financial impact on local business from temporary or permanent traffic diversions and the potential for altering retail markets will be considered.

G. NATURAL RESOURCE IMPACTS

Biological Resources

The crossing may impact anadromous fish, marine mammals, wetlands, and salt marsh and other coastal ecosystems. Approach road considerations include stream crossings, encroachment to floodplains, wetlands, and game refuges, opening of lightly hunted areas, and impacts to moose, water fowl, rare and endangered species, and unique ecological systems. Construction of a causeway and conversion of upper Knik Arm from salt-water to freshwater ecosystem has the greatest potential for impact on biological resources.

The corridor biological resources analysis will be done at a general level of detail focusing on the likelihood of such impacts occuring with each corridor, and the potential for avoiding adverse impact with careful route location and design.

Water Resources

Design and construction techniques to mitigate potential erosion into streams will be used. Changes in hydrologic regime and water quality of streams due to highway construction and operations and resultant development will be evaluated. Significant impact to the hydrology or water quality of streams is not expected.

The extent of impacts to the hydrology of Knik Arm will depend on the crossing mode and design. A partial causeway would alter current and sediment deposition regimes. Such impacts could become a significant concern if secondary impacts on navigation or biological resources were a probable outcome. The causeway alternative would convert the upper part of Knik Arm into a freshwater reservoir and thus have far reaching effects on water resources. The detrimental and beneficial impacts of a causeway will undoubtedly become an important concern.

Air Quality

The primary air quality concern likely to be associated with a Knik Arm crossing is the potential aggravation of existing air quality problems. Portions of the Anchorage metropolitian area now qualify as non-attainment areas of carbon monoxide pollution. The magnitude of this problem will depend on the location of the crossing and connecting roadways, amount of traffic, and kinds of intersections. A connecting roadway to the downtown area or other high traffic areas would be much more likely to compound air quality problems than would roadways to the north where background levels of carbon monoxide are low. The traffic analysis described earlier will be used to model the air quality impacts associated with alternative routings and to determine the severity of the problem.

There could be a degradation of air quality northwest of the Knik Arm as a result of increased human development in areas now largely undeveloped. Development patterns and transportation infrastructure with a crossing will be predicted for use in this analysis.

Noise

Potential noise impacts to be addressed include increased noise levels at sensitive urban receptors such as residential and recreational areas, and impact on wildlife due to the introduction of highway noise.

Energy

The focus of evaluation will be on changes in highway and rail energy consumption. Items to be addressed will include fuel consumed by present and anticipated trips making use of an improvement, fuel consumed by new trips generated, changes in indirect vehicle energy consumption (manufacturing, maintenance and operation), construction energy consumption, and consumption required for roadway maintenance.

Visual

Crossing design and location will be reviewed for visual compatibility with the adjacent landscape and existing views. The location of approach roads will affect the visual quality of the view from the road, depending on the adjacent land uses, landscape types, and the ability of approach roads to complement the surrounding landscape. Detrimental change to the natural character of the landscape should be minimized. Corridors should avoid areas and situations where revegetation and restoration would be difficult such as steep slopes, wetlands, and certain soil types. Corridors next to or within view of visually sensitive areas including recreation areas, trails, historic sites, streams and campgrounds should be avoided.

H. CULTURAL RESOURCE IMPACTS

Antiquities and Historic Sites

There are numerous sites of historic value either within or adjacent to the preliminary corridors that will be considered when planning road routes.

The greatest concentration of historic sites occurs in the downtown Anchorage vicinity; therefore, the location of highway interconnections could be constrained to some degree in this area. Earthquake Park, east of Point Woronzof, is a historic landmark and could affect the location of the bridge and roadway in the Point MacKenzie corridor. The other known sites within the study area are small, discrete and easily avoidable.

Most of the area west of Knik Arm has not been surveyed for archaeological sites. However, this area does not appear to have exceptional potential, but surveys will need to be conducted when road alignments are selected.

The Iditarod Trail, part of the National Historic Trail system, extends westward from the town of Knik to Nome. The proposed highway, regardless of the corridor used, would cross this trail. Crossing the Ititarod Trail may become a significant issue and mitigation of impacts will be required to preserve the trail and its historic status.

Parks and Recreation

Impacts to parks and recreation include improved access, encroachment on parklands, and crossing of trails.

Improved access may increase the number of park visitors and recreation users to areas within the Mat-Su Borough, and may change present circulation patterns within parks and recreation areas.

Encroachment on parklands occurs within the Wasilla and Nancy Lake corridors where Goose Bay State Game Refuge and Nancy Lakes Recreation Area would be affected. Adverse effects would be the disruption of existing uses within these areas. Other potentially adverse effects to mitigate in design are the crossing of existing or proposed recreational trails, traffic, noise, and air pollutants.

Both private and public recreation facilities and opportunities will be considered. Impacts to public facilities are governed by the requirements of Section 4(f) of the Department of Transportation Act of 1966.

Appendix A
Federal Agency Correspondence

APPENDIX A

FEDERAL AGENCY CORRESPONDENCE

HIGHWAYS DESIGN AND CONSTRUCTION

PHONE: 266-1500

October 25, 1982

RE: 242C-2507
Project A81021
Knik Arm Crossing;
Lead Agency

Mr. Barry F. Morehead
Division Administrator
Federal Highway Administration
P.O. Box 1648
Juneau, Alaska 99802

Dear Mr. Morehead:

On September 15th, 1982, we entered into a 27-month contract with EMPS/Sverdrup, an engineering joint venture firm, to obtain an Environmental Impact Statement and a Preliminary Design Report for a crossing of the Knik Arm and highway connections from the Parks Highway on the north and to the AMATS on the south. The scope of this project will require extensive co-ordination among federal, state and local agencies to assure that all environmental considerations are adequately addressed.

Pursuant to Title 40, Code of Federal Regulations, Part 1501.5, subparagraph (d), we request the Federal Highway Administration (FHWA) assume the responsibilities of "Lead Agency" as promulgated under the National Environmental Policy Act for preparation of the project Environmental Impact Statement. Since the project is clearly one in which FHWA is the federal agency having the most expertise, this request has not been addressed to any other agency.

Please indicate your decision and sign below, and return a copy as soon as possible. We are ready to begin the environmental "scoping" process and a lead agency must be designated prior to this effort.

Approved____ Disapproved____

_____ _____
Barry F. Morehead Date

Sincerely,

Richard S. Armstrong, P.E.
Director, Central Region
Design and Construction

RSA/JH/bpa

A-3

US Department of Transportation
Federal Highway Administration

Memorandum

Subject: Knik Arm Crossing
Request for Lead Agency

Date: November 1, 1982

From: Division Administrator
Juneau, Alaska

Reply to Attn of: HFO-AK
734.2

To: Mr. Richard Armstrong, Director
Design and Construction, ADOT/PF
Central Region

Your letter dated October 25, 1982, requested that we assume the responsibilities of "Lead Agency" pursuant to Title 40, Code of Federal Regulations, Part 1501.5. Because of our commitment to work closely with you in the continued development of Alaska's highway system, we accept the responsibility of Lead Agency.

The Notice of Intent to be published in the Federal Register should now be submitted to us as soon as possible. Also, the determination on who should be requested as cooperating agencies should be jointly made before the Scoping process starts.

Barry F. Morehead

Barry F. Morehead

A-4

Federal Highway Administration

Environmental Impact Statement; Anchorage, Alaska

AGENCY: Federal Highway Administration (FHWA), dot.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in the Municipality of Anchorage and the Matanuska-Susitna Borough, Alaska.

FOR FURTHER INFORMATION CONTACT: Tom Neunaber, Field Operations Engineer, Federal Highway Administration, P.O. Box 1648, Juneau, Alaska 99801, Telephone (907) 586-7428; Terry Fleming, Central Region Environmental Coordinator, Alaska Department of Transportation & Public Facilities, Pouch 6900, Anchorage, Alaska Telephone (907) 266-1506.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Alaska Department of Transportation and Public Facilities, will prepare an Environmental Impact Statement (EIS) on a proposed highway crossing over the Knik Arm connecting the Anchorage Metropolitan Area Transportation Study (AMATS) system in the Municipality of Anchorage to the Parks Highway in the Matanuska-Susitna (Mat-Su) Borough. Construction of the proposed highway crossing and approaches is considered necessary for the following reasons: (1) To provide an important link within the regional transportation plan; (2) To provide increased access to employment, recreation, and other opportunities for Anchorage area residents; (3) To provide opportunity for orderly economic and population growth of the Anchorage area through improved access to suitable residential and industrial sites in the Mat-Su Borough; (4) To reduce travel and cost from Anchorage to the Parks Highway communities and north to Fairbanks; and (5) To increase the marketability of the natural resources, tourism, agriculture, and coal development in the Susitna River Basin and area to the west.

Alternatives under consideration include:

(1) No Action.

(2) Alternate Travel Modes.

(3) Upgrade Existing Transportation System.

(4) Highway Crossing.

a. Alternative Crossing Locations.

b. Alternative Crossing Configurations.

c. Alternative Approach Locations.

d. Ancillary Crossing Facilities.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have previously expressed interest in this proposal. A Scoping Document, describing alternatives and proposed environmental analyses, will be distributed with each letter. Three public information/scoping meetings will be held during the second week in January at times and locations to be determined. One meeting will be held in the Mat-Su Borough and two other meetings will be held in Anchorage. There will be corridor public meetings and workshops held periodically prior to circulation of the DEIS. Public hearings will be held in mid-1983 after a corridor level evaluation report has been completed and made available; and in mid-1984 after the Draft Environmental Impact Statement has been completed and made available.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning the proposed action should be directed to the FHWA or the ADOT/PF at the addresses provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research Planning and Construction. The Provisions of OMb Circular No. A-95 regarding State and Local Clearinghouse review of Federal and federally assisted programs and projects apply to this program)

Issued on November 23, 1982.

Thomas C. Neunaber,

Field Operations Engineer, FHWA Juneau, Alaska.

[FR Doc. 82-32691 Filed 12-1-82; 8:45 am]

BILLING CODE 4910-22-M

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

4111 AVIATION AVENUE
POUCH 6900
ANCHORAGE, ALASKA 99502
(TELEX 25 185)

December 1, 1982

Dear Sir:

The State of Alaska Department of Transportation and Public Facilities (DOT/PF) in cooperation with the Federal Highway Administration (FHWA) is now studying alternative highway transportation corridors to accommodate future travel needs between the Municipality of Anchorage and the Matanuska-Susitna Borough. These studies are centered on the physical barrier presented by the Knik Arm of Cook Inlet. FHWA is the designated Federal Lead Agency. We are requesting your participation as a Cooperating Agency under provisions of 40 CFR 1501.6.

An introduction to the Knik Arm Crossing project is contained in the enclosed Scoping Document. The current investigation is divided into three "cycles".

- Cycle I: Corridor Studies, including (a) Scoping Process and (b) Alternative Corridor Analysis/Environmental Investigation.
- Cycle II: Location Studies and Environmental Impact Statement, including (a) Preliminary Location Alternatives Evaluation, (b) Conceptual Design and Draft Environmental Impact Statement, and (c) Final Environmental Impact Statement.
- Cycle III: Preliminary Design

Alternatives to be considered during Cycle I include:

1. No Action
2. Alternate Travel Modes
3. Upgrade Existing Transportation System
4. Highway Crossing
   a. Alternate Crossing Locations
   b. Alternate Crossing Configurations
   c. Alternate Approach Locations
   d. Auxillary Crossing Facilities

Your assistance as a cooperating agency is requested in the examination of the following areas of concern:

a. Forecast Changes in Freight Tonnages and Passenger Service
b. Disruption of Railroad Operations

At the present time we forsee your participation as including the following:

- designate contact person
- review and comment on scoping document
- make available to project technical representatives any data published by your agency
- meet periodically with project technical representatives prior to publication of DEIS
- comment on appropriate sections of review draft of Draft Alternatives Analysis/Environmental Investigation Report (Cycle I)
- formal review of Draft Alternatives Analysis/Environmental Investigation Report (Cycle I)
- comment on appropriate sections of review draft of Draft Location Alternatives Report (Cycle II)
- formal review of Draft Location Alternatives Report (Cycle II)
- comment on appropriate sections of review draft of Draft Environmental Impact Statement (Cycle II)
- formal review of Draft Environmental Impact Statement (Cycle II)

The enclosed scoping document is provided for your information. Please confirm your willingness to participate and provide any comments on the document within the next 30 days.

Sincerely,

Richard S. Armstrong
Director, Design & Construction
Central Region

Enclosure
As Stated

STATE OF ALASKA

Bill Sheffield, Governor

DEPARTMENT OF TRANSPORTATION and PUBLIC FACILITIES
HIGHWAYS DESIGN AND CONSTRUCTION

4111 AVIATION AVENUE, POUCH 6900
ANCHORAGE 99502 (TELEX 25-100)
PHONE: 266-1506

December 29, 1982

RE: 242C-2507
Project A81021
Knik Arm Crossing;
Agency Scoping Meetings

As part of the scoping process for the Knik Arm Crossing Environmental Impact Statement and related environmental impact investigations, the Alaska Department of Transportation and Public Facilities will hold two meetings. The Department recently distributed the Knik Arm Crossing Scoping Document for comment and review. Your agency should have received a copy in early December. The purpose of the scoping process is to obtain input into the selection of alternatives and the determination of the scope of environmental issues to be considered in the corridor impact evaluation.

The two meetings will be held on January 13th, 1983, and you are invited to send a representative to one or both of these meetings. At both meetings, the Departments's consultant team will describe the work program, and those issues presently viewed as the key issues in corridor selection. There will then be an opportunity for agency representatives to ask questions of the Department and consultant team representatives and/or make comments. This will also be an opportunity for your agency to hear the concerns of the other interested agencies.

The times and place of the meetings are:

TIMES	PLACE
Morning (9:30-11:00 a.m.) Afternoon (1:30-3:00 p.m.)	ADOT/PF Conference Room 4111 Aviation Drive Anchorage, Alaska

Two public information and environmental impact scoping meetings will also be held on January 12th and 13th, at 7:30 p.m., in Wasilla and Anchorage, respectively.

If you would like more information about the Scoping Process or the project in general, please call the Knik Arm Crossing office at 278-1565.

Sincerely,

Terry Fleming
Environmental Co-ordinator
Central Region

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

THE ALASKA RAILROAD
Pouch 7-2111
Anchorage, Alaska 99510

December 28, 1982

Mr. Richard S. Armstrong
Director, Design & Construction
Department of Transportation and
Public Facilities
State of Alaska
Pouch 6900
Anchorage, AK 99502

Dear Mr. Armstrong:

My staff and I have reviewed your letter dated December 1 transmitting the Knik Arm Crossing Scoping Document.

We will be glad to provide you with the forecast and changes in freight tonnages and passenger services upon specific request with the time elements involved. Regarding disruption of railroad operations, it will be necessary to have further data supplied to us concerning the areas the construction would impact.

In reviewing the scoping document, our basic concern is that the Knik Arm is designed as a primary highway crossing, and we feel that it should be designed as a highway/railroad crossing. We strongly believe that the Knik Arm crossing with rail assessability will aid the development of Alaska's resources. It would provide the entrance to three major coal fields of Alaska--Susitna, Yentna, and Beluga. Additionally, a rapid transit system could be developed to the Mat-Su Valley where some 3,000 people per day commute to/from the City of Anchorage. Fifteen to twenty minute commuter service from Wasilla to Anchorage would be most attractive and would most assuredly reduce the vehicular traffic on the Glenn Highway. The Knik Arm crossing with highway/railroad accessability would provide for industrial development directly across the Knik Arm away from the city and a rapid transit system to the bedroom communities to the north and east.

Based upon these comments, it is recommended that the highway configuration be modified to include a highway/railroad crossing. My staff and I will be available to further discuss these recommendations at your convenience. I have designated Mr. Bill Cognill, Manager of Planning, as the contact person for this project; he can be reached at 265-2667.

Sincerely,

F. H. Jones
General Manager and
Chief Executive Officer

A-7

United States Department of Agriculture | Forest Service | Regional Office

[illegible]

December 16, [illegible]

Mr. Terry Fleming
Department of Transportation and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, AK 99502

Dear Mr. Fleming:

We shall be pleased to serve as a cooperating agency in a review capacity or the Knik Arm Crossing as requested in your recent letter. Our representative for this effort will be Acting Forest Supervisor, Norm Howse of the Chugach National Forest. He will furnish you any comments we might have relating to the Scoping Document prior to January 1, 1983.

Sincerely,

JOHN A. SARBOR
Regional Forester

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS ALASKAN AIR COMMAND
ELMENDORF AIR FORCE BASE, ALASKA 99506

REPLY TO ATTN OF: CV

27 DEC 1982

SUBJECT: Knik Arm Crossing Scoping Document

TO: State of Alaska
Department of Transportation and
Public Facilities, Central Region
4111 Aviation Drive
Anchorage, AK 99502

1. The Knik Arm Crossing Scoping Document dated 29 Nov 82 has been reviewed by the Air Force, Army and Corps of Engineers. We find several areas in the document that require additional emphasis:

a. Impact of proposed courses of action on all antenna fields in the vicinity of the crossings.

b. Impact of dislocation/relocation of facilities on the overall mission activities of the military installations and costs associated with the disruption, especially ammunition storage areas and range locations and uses.

c. Impact of selected routes on the physical security of the installations bounded by the route selected. The actual physical barriers and their emplacement, maintenance and operation should be discussed and covered as part of the physical design requirements of the roadway and route.

d. Milestone dates, i.e., month and year, for the Cycle I, II and III actions listed on pages 2 and 3 of the document.

e. The issue of transfer of Federal lands for an active military installation is not as simple as it would appear in the current document. Approvals for land use of the type proposed require action at Headquarters, Department of the Air Force, Department of the Army and Department of Defense levels as well as at the local level. This takes time to accomplish. Also, both installations have only the minimum amount of land necessary for their missions.

f. The Scoping Document does not adequately outline the discussion of impacts on flight activities presently occurring in the areas selected for potential routes. While physical facilities of buildings, tanks and antennas can be moved, runways and their flight paths cannot be moved.

g. The Eagle River route passes over the Fort Richardson Impact Area and would have to be cleared of unexploded ordnance before any construction could be accomplished.

2. Comments from the Air Force Technical Applications Center Detachment at Elmendorf AFB indicate concern in finding a suitable location free from electrical noise sources. Such a location may not exist at any other location on the military installation lands. This would constitute a serious mission impairment and is not acceptable to the Air Force. Additional comments have been requested from Headquarters Air Force Technical Applications Center. These comments will be forwarded when received.

3. The Alaska District, Corps of Engineers has a regulatory agency interest in the Knik Arm Crossing. The requirements of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act concerning permits must be applied for directly to the Corps of Engineers. Please provide this office with an information copy of the correspondence.

4. It must be reemphasized that this office is the only point of contact for military input on this project. All correspondence must be routed through AAC/CV, Elmendorf AFB AK 99506.

5. Project officers at this Headquarters are Lt Col Michael Blair (552-2117) and Mr James Hostman (552-5185).

Don R. Conway

DON R. CONWAY
Colonel, USAF
Vice Commander

Cy to: 172d Inf Bde (AK)
Attn: AFZT-EH-PS
Fort Richardson AK

ADE/NPARE
ADE/NPACO-RF-S

A-8

Top Cover for America

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 21ST COMBAT SUPPORT GROUP (MAC)
ELMENDORF AIR FORCE BASE, ALASKA 99506

JAN 3 1982

REPLY TO ATTN OF: DEEV

SUBJECT: Alternative Highway Transportation Corridors Between the Municipality of Anchorage and the Matanuska-Susitna Borough (Your Ltr, 1 December 1982)

TO: Richard S. Armstrong
Department of Transportation and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

The scoping document provided with subject letter includes the major areas of interest previously identified by our staff. The contact person for the study process will be Mr Michael Grenko (21 CSG/DEEV/552-4157).

RUSSELL E. SEGUIN, P.E.
Deputy Base Civil Engineer

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 1668
Juneau, Alaska 99802

January 10, 1983

Mr. Terry Fleming
Environmental Coordinator
Dept. of Transportation and Public Facilities
4111 Aviation Ave. Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

We have received your letter of December 1, 1982 and enclosed Scoping Document concerning the Knik Arm Crossing. Our agency welcomes the opportunity to assist your department in the planning stages of this proposal. As your Scoping Document points out, the type of crossing structure ultimately proposed will determine whether marine resources will become a critical consideration, although any crossing may present potential impact here. Our Anchorage Field Office will coordinate NMFS involvement with this project. They can be reached at 271-5006.

Sincerely,

Robert McVey
Regional Director

United States Department of Agriculture | Soil Conservation Service

Professional Center - Suite 129
2221 East Northern Lights Boulevard
Anchorage, AK 99504 (907) 276-4246

January 17, 1983

RE: 242C-2507
Project A81021
Knik Arm Crossing;
Agency Scoping Meetings

Terry Fleming
Environmental Coordinator, Central Region
Department of Transportation and Public Facilities
Highways Design and Construction
4111 Aviation Avenue, Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

The Farmland Protection Policy Act (PL 97-98 December 22, 1981) should be considered in the Corridor Selection process. The purpose of this act is to minimize the extent to which Federal Programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal Programs are administered in a manner that, to the extent practicable, will be compatible with state, unit of local government, and private programs and policy on farmland protection.

Weymeth E. Long
State Conservationist

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, CORPS OF ENGINEERS
P.O. BOX 7002
ANCHORAGE, ALASKA 99510

January 10, 1983

REPLY TO ATTENTION OF:
Regulatory Functions Branch
Special Actions Section

Richard S. Armstrong, Director
Design and Construction
Alaska Department of Transportation
and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Reference: Knik Arm Crossing
Scoping Document

Dear Mr. Armstrong:

This is in response to your December 1, 1982 letter requesting that the Alaska District participate, as a cooperating agency, in the Knik Arm Crossing Study. The Alaska District will participate as a cooperating agency. The person to contact is Mr. Ted Rockwell of the Special Actions Section at the above address, ATTN: NPACO-RF-S or call (907) 552-4942.

At this time, I have only one comment on the referenced Scoping Document. The impact assessment of the various alternatives upon the military operations of Fort Richardson and Elmendorf Air Force Base must be detailed and comprehensive. It is my understanding that the 1972 study by Howard, Needles, Tannen and Bergendorff is being used as the starting point for the present study. The 1972 study did not consider impacts upon military facilities in the detail necessary for reasonable decision making. Work will be required to assess the impacts and consequences of the various alternatives on military facilities for inclusion in the present planning effort.

Thank you for the opportunity to review the Scoping Document.

Sincerely,

Neil E. Saling
Colonel, Corps of Engineers
District Engineer

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ANCHORAGE AREA OFFICE
701 C STREET, BOX 64
ANCHORAGE, ALASKA 99513

REGION X

IN REPLY REFER TO:

December 21, 1982

Richard S. Armstrong
Director, Design & Construction
Central Region
Department of Transportation and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Armstrong:

Thank you for the recent letter in which HUD was requested to participate as a Cooperating Agency under the provisions of 40 CFR 1501.6 as the Department of Transportation and Public Facilities (DOT/PF) evaluates the Knik Arm Crossing project. In response to this request, I have designated Ken Bowring, Environmental Officer/Planner, as HUD's contact person for this project.

HUD has a primary concern with the potential impact the various alternatives will have on HUD assisted projects. In addition, a review of the "Knik Arm Crossing:Scoping Document" indicates that assistance may also be provided in the following areas of consideration:

- Noise
- Energy
- Land Use Planning Compatibility
- Dislocation and Relocation
- Urban Disruption
- Growth Impacts
- Economic Impacts

Draft review material and information requests should be sent directly to Ken Bowring. If you have any questions or need any additional assistance, he can also be contacted at 271-4181.

Sincerely,

John G. Duffy
Area Manager, 10.1S

A-11

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Water Resources Division
1515 East 13th Avenue
Anchorage, Alaska 99501

December 13, 1982

Mr. Terry Fleming, Environmental Coordinator
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Mr. Fleming:

The U. S. Geological Survey, Water Resources Division is willing to participate in a review capacity for the Knik Arm Crossing Project.

Please note our new address. We are no longer at 218 "E" Street.

Sincerely yours,

Philip A. Emery
District Chief

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Commanding Officer
U. S. Coast Guard
Marine Safety Office
701 C. St., Box 17
Anchorage, AK 99513
907 271-5137

16000
21 December 1982

Mr. Richard S. Armstrong
State of Alaska
Department of Transportation and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, AK 99502

RE: Your ltr of Dec 1, 1982

Dear Sir:

1. In response to your letter please be advised of the following:

a. LT KLIMAS (271-5137) has been designated as the point of contact.

b. Comments on the scoping document would indicate that development is one of the prime objectives. If a causeway type structure were chosen it appears to be the less desireable because of potential sedimentation and salinity change problems. It would eliminate future development of the upper Knik Arm Waterway to commerce by sea. It would thus appear that from this viewpoint a bridge type structure with sufficient under clearance be constructed.

c. Specific data for the project will be provided to representatives once it is justified to the Coast Guard.

d. Review of all drafts with comments will be provided through the point of contact.

2. Should you desire any specific information that we have available you can expect our full cooperation.

Sincerely,

R. H. SPOLTMAN
Captain, U. S. Coast Guard
Commanding Officer

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO ATTN OF: M/S 443

DEC 22 1982

Richard S. Armstrong, Director
Design & Construction, Central Region
Department of Transportation and Public Facilities
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Armstrong:

The Environmental Protection Agency Region 10 will participate as a cooperating agency for the Knik Arm Crossing project. Our primary areas of interest are air quality and wetlands. Although we are interested in potential noise impacts, EPA no longer has a formal noise program nor do we have in-house expertise to provide technical assistance on noise questions.

Documents for EPA's review should be sent to both the following addresses:

Richard R. Thiel, P.E., Chief
Environmental Evaluation Branch
Environmental Protection Agency
1200 Sixth Avenue, M/S 443
Seattle, Washington 98101

William B. Lawrence
Anchorage Operations Office
Environmental Protection Agency
Room E556, Federal Building
701 C Street
Anchorage, Alaska 99513

The scoping document appears to anticipate those issues which will need to be addressed in greater detail in future studies and in the Environmental Impact Statement. We have no additional comments to provide at this time. The contact person(s) for this project will be Kathy Davidson in Seattle at (206) 442-1834 and Bill Lawrence in Anchorage at (907) 271-5083.

Sincerely,

Robert S. Burd
Director, Water Division

Federal Emergency Management Agency
Region X Federal Regional Center Bothell, Washington 98011

Terry Fleming, Environmental Coordinator
Alaska Department of Transportation
and Public Facilities
4111 Aviation Avenue, Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

We have reviewed your December 1, 1982 transmittal of the "Knik Arm Crossing Scoping Document," and have no comments to offer at this time. Thank you for the opportunity to review the document.

Sincerely,

Charles L. Steele
Deputy Regional Director

United States Department of the Interior
NATIONAL PARK SERVICE
Alaska Regional Office
540 West Fifth Avenue
Anchorage, Alaska 99501

IN REPLY REFER TO:
L7619 (ARO-P)

JAN 10 1982

Mr. Terry Fleming
Central Region Environmental Coordinator
Alaska Department of Transportation &
Public Facilities
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

In response to the December 2, 1982, Federal Register notice of intent to prepare an environmental impact statement for the Knik Arm Crossing project, we have the following comment. The National Park Service will participate as a cooperating agency for cultural resources management. Dr. Floyd Sharrock, Archeologist of my staff, will serve as the contact person. His telephone number is 271-4051.

Thank you for the opportunity to participate in this project.

Sincerely,

Associate Regional Director
Planning, Recreation & Cultural Resources
Alaska Region

cc: WASO-135
Mr. Richard S. Armstrong
Mr. Paul Gates

United States Department of Agriculture
Soil Conservation Service
Professional Center - Suite 129
2221 East Northern Lights Boulevard
Anchorage, AK 99504 (907) 276-4246

December 27, 1982

Terry Fleming
Environmental Coordinator
Dept. of Transportation and
Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

We have reviewed your Knik Arm Scoping Document. The SCS has collected much data in the area and we have made evaluations of potential route links through the area in cooperation with ADNR.

If we may be of any assistance, please call Sterling Powell (276-4246).

Weymeth E. Long
State Conservationist

United States Department of Agriculture
Science and Education Administration
Agricultural Research Service
Western Region
P.O. Box AL
Palmer, Alaska
99645

December 7, 1982

Mr. Terry Fleming
Environmental Coordinator
Dept. of Transportation and
Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, AK 99502

Dear Mr. Fleming:

This will acknowledge receipt of your December 1, 1982 letter and Knik Arm Crossing Scoping Document which was delivered to the Agricultural Research Service office in Palmer. I believe this should have been directed to the Soil Conservation Service, so am forwarding the material to Mr. Weymeth E. Long, USDA-SCS, 2221 E. Northern Lights Blvd., Suite 129, Anchorage, Alaska 99504.

Very truly yours,

ROSCOE L. TAYLOR
Research Leader

cc: W. Long

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Alaska Ecological Services
733 W. 4th Avenue, Suite 101
Anchorage, Alaska 99501
(907) 271-4575

IN REPLY REFER TO:
WAES

Mr. Richard S. Armstrong
Alaska Department of Transportation
and Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Armstrong:

We have received your request to participate in the study of alternative highway transportation corridors between the Municipality of Anchorage and the Matanuska-Susitna Borough and to review the Knik Arm Crossing Scoping Document. We appreciate this opportunity to contribute to the planning process and provide the following comments on the scoping document for your consideration.

The scoping document identifies many of the general issues regarding wetlands, moose winter range and migration routes, fish passage, water quality, and sediment transport which represent significant environmental concerns to be considered in the planning process. The general nature of the document, however, makes it difficult to determine whether the assessment of the various alternatives will adequately address environmental impacts. Secondary impacts, in particular, would be extensive if one of the Knik Arm crossing alternatives is selected and need to be fully appraised.

A thorough assessment, based upon sound biological data, is also needed to insure that a mitigation plan for the project can be developed. Significant information gaps presently exist in the data base and must be filled to analyze impacts and formulate a mitigation plan. Immediately apparent study needs include:

1. Identification of extent and duration of use, and movement through the Knik Arm estuary by juvenile salmonids.

2. Clarification of ecological processes of upper Cook Inlet and Knik Arm. Sediment transport, as it relates to both the naturally occurring process and the fate of dredged spoils, and nutrient flow must be better understood.

3. Determination of whether the Susitna flats is utilized as breeding grounds by the relatively scarce tule white-fronted geese. Baseline studies for other species including trumpeter swans, sandhill cranes, lesser snow geese, Pacific white-fronted geese, lesser Canada geese, cackling Canada geese, and shorebirds are also needed.

We are interested in actively contributing to the planning process and will participate as a Cooperating Agency as provided in 40 CFR 1501.6. Our contact for this project is:

Robert Bowker, Field Supervisor
U.S. Fish and Wildlife Service
605 W. 4th, Room G-81
Anchorage, Alaska 99501
Phone: (907) 271-4575

We hope that close coordination and early identification of our concerns will aid your planning efforts.

Sincerely,

Robert Bowker

Field Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Alaska Ecological Services
605 W. 4th, Room G-81
Anchorage, Alaska 99501

IN REPLY REFER TO:
WAES

Mr. Thomas C. Neunaber
Field Operations Engineer
Federal Highway Administration
Juneau, Alaska 99811

Dear Mr. Neunaber:

This letter is provided in response to the Notice of Intent to prepare an Environmental Impact Statement (EIS) for the Knik Arm Crossing, ~~Municipality~~ of Anchorage and Matanuska-Susitna Borough, Alaska.

The Fish and Wildlife Service agrees to participate as a cooperating agency in the preparation of this document, with the intent of focusing upon providing technical assistance in the review of early planning efforts and the scoping of issues to be addressed through the identification of data gaps. We will make available applicable fish and wildlife resource data to lead agency personnel writing the EIS. Because of budget and manpower constraints, however, we do not have the capability to collect and analyze new data or write portions of the document. Our agency will also review the EIS and any Federal permits which may be required to implement a project.

Enclosed is a copy of our earlier response to the Alaska Department of Transportation and Public Facilities indicating some of our initial concerns for the project. As stated therein our contact for this project is:

Robert Bowker, Field Supervisor
U.S. Fish and Wildlife Service
605 W. 4th Ave., Room G-81
Anchorage, Alaska 99501
Phone: (907) 271-4575

We appreciate the opportunity to contribute to this planning process and look forward to working with lead agency personnel.

Sincerely,

Field Supervisor

cc: DOI, Bruce Blanchard
ADOT/PF, Richard Armstrong
ADF&G, Gary Liepitz
NMFS, Brad Smith

A-16

United States Department of Agriculture — Forest Service — Chugach National Forest — 2221 E. Northern Lights Blvd Suite 238 Anchorage, Alaska 99508

Reply to 1950

Date December 23, 1982

Mr. Terry Fleming
Department of Transportation and
Public Facilities
4111 Aviation Avenue
Pouch 6900
Anchorage, AK 99502

Dear Mr. Fleming:

We have reviewed the "Knik Arm Crossing Scoping Document" and have no comments. The area in question lies outside of Forest Service jurisdiction and, in addition, we can offer no special expertise with respect to the environmental issues at this time.

However, please contact us if we can be of further assistance. We appreciate being given the opportunity to comment.

NORMAN A. HOWSE
Acting Forest Supervisor

FS-6200-11(8-80)

Appendix B
State Agency Correspondence

APPENDIX B

STATE AGENCY CORRESPONDENCE

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

CENTRAL REGION

4111 AVIATION AVENUE
POUCH 6900
ANCHORAGE, ALASKA 99502
(TELEX 25-185)

December 1, 1982

The State of Alaska Department of Transportation and Public Facilities (DOT/PF) in cooperation with the Federal Highway Administration (FHWA) is now studying alternative highway transportation corridors to accommodate future travel needs between the Municipality of Anchorage and the Matanuska-Susitna Borough. These studies are centered on the physical barrier presented by the Knik Arm of Cook Inlet. FHWA is the designated Federal Lead Agency. We would appreciate any information or input you may wish to make to this study.

An introduction to the Knik Arm Crossing project is contained in the enclosed Scoping Document. The current investigation is divided into three "cycles".

- Cycle I: Corridor Studies, including (a) Scoping Process and (b) Alternative Corridor Analysis/Environmental Investigation.
- Cycle II: Location Studies and Environmental Impact Statement, including (a) Preliminary Location Alternatives Evaluation, (b) Conceptual Design and Draft Environmental Impact Statement, and (c) Final Environmental Impact Statement.
- Cycle III: Preliminary Design.

Alternatives to be considered during Cycle I include:

1. No Action
2. Alternate Travel Modes
3. Upgrade Existing Transportation System
4. Highway Crossing
   a. Alternate Crossing Locations
   b. Alternate Crossing Configurations
   c. Alternate Approach Locations
   d. Auxillary Crossing Facilities

It would be most helpful if we could receive your initial comments within the next 30 days.

Sincerely,

Terry Fleming
Environmental Coordinator

Enclosure
As Stated

ALASKA STATE HOUSING AUTHORITY

December 8, 1982

Mr. Terry Fleming
Environmental Coordinator
State of Alaska
Department of Transportation
and Public Facilities
411 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Re: Knik Arm Crossing
Scoping Document

Dear Mr. Fleming:

I have reviewed the Knik Arm Crossing Scoping Document that was transmitted with your letter of December 1, 1982. It appears from my review of the document that the three cycles of the study will result in full consideration and public exposure of the project. Thank you for the opportunity to review the document.

Sincerely,

ALASKA STATE HOUSING AUTHORITY

John B. Curtis
Executive Director

JBC:GMB:mrm

TELEPHONE (907)279-7643 BOX 80 ANCHORAGE, ALASKA 99510

B-4

MEMORANDUM State of Alaska

TO Terry Fleming, Environmental Coordinator
Department of Transportation and Public Facilities
Anchorage

DATE December 22, 1982
FILE NO
TELEPHONE NO 465-2022

FROM Ron S. Walt, Development Specialist III
Office of Special Industrial Projects
Department of Commerce & Economic Development

SUBJECT Comments on Knik Arm Crossing

I am taking this opportunity to respond to your request for comments on the Knik Arm Crossing in place of Richard Eakins, who is no longer with the department.

As indicated in your letter, this crossing proposal has been aired previously. Our chief interest in reviewing this proposal is that it be cost effective and that it be designed in such a way that it maximize commercial as well as personal transportation efficiencies.

We will look forward to reviewing additional phases of the study as work progresses.

RSW/saL/22

STATE OF ALASKA / BILL SHEFFIELD, GOVERNOR

DEPT. OF COMMUNITY & REGIONAL AFFAIRS

OFFICE OF THE COMMISSIONER

POUCH B
JUNEAU, ALASKA 99811
PHONE: (907) 465-4700

January 7, 1983

Mr. Terry Fleming
Environmental Coordinator
Department of Transportation
and Public Facilities
Central Region
4111 Aviation Avenue
Pouch 6900
Anchorage, AK 99502

Dear Mr. Fleming:

The State of Alaska Department of Community and Regional Affairs has reviewed the Knik Arm Crossing Scoping Document and agree with the initial direction the Document is taking. The following comments are constructive in nature and reflect potential areas of concern to DCRA's current and anticipated program activities.

B15

The Knik Arm Crossing Scoping Document suggests, as an overriding presumption, that growth in Anchorage will spill over into the Point MacKenzie area of the Matanuska-Susitna Borough as well as the highway corridor and adjacent communities. This presumption is supported by the statement that "there is an apparent shortage of residential land and industrial building sites within the Anchorage urban area." To begin to understand the anticipated impacts of these physical developments in terms of time it would seem appropriate to focus a portion of the study document on defining the nature and scope of the apparent land shortage within the Anchorage area. In terms of assessing and adjusting to socio-economic impacts to communities confronted with major capital improvement projects and said projects future influence on land use patterns, timing is a critical factor. Capital expenditures associated with service delivery and planning decisions should be based on long-term objectives thus requiring the study to consider the relationship of land shortages in Anchorage to the anticipated "spillover" in terms of time.

Promoting development as close to the developed core of Anchorage as possible represents a reasonable and cost effective development pattern as opposed to urban sprawl along transportation corridors or leapfrogging development encouraged by said corridors. This will be particularly true in terms of service delivery costs to local governments and the State.

Another concern which we feel needs to be considered is the influence of such a crossing on the immediate and long term operation of the Alaska Railroad. There is a possibility that such a facility could adversely impact the States ability to operate and maintain an efficient rail system, assuming of course that the State finds it favorable to acquire the system. Given the anticipated ties of agriculture to the rail system and agricultural development potential of the Point MacKenzie area competition between rail and road vehicle could well develop. We are not suggesting that this will be the case but do recommend these concerns be addressed in the study.

In addition, and as a final comment, we assume the Knik Arm Crossing Scoping effort will address and, as appropriate, incorporate relevant provisions from comprehensive planning efforts of the Municipality of Anchorage and the Matanuska-Susitna Borough. This would include the Anchorage Metropolitan Area Transportation Study (AMATS).

Thank you for the opportunity to review this document. I hope these concerns and information are helpful to your efforts. Please keep us informed of your progress.

Sincerely,

Mark Lewis
Commissioner

cc: Mr. Mike Meehan, Planning Director
Municipality of Anchorage

Mr. Claudio Arenas, Planning Director
Matanuska-Susitna Borough

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

SOUTHCENTRAL REGIONAL OFFICE

BILL SHEFFIELD, GOVERNOR

437 E. STREET
SECOND FLOOR
ANCHORAGE, ALASKA 99501
(907) 274-2533

P.O. BOX 615
KODIAK, ALASKA 99615
(907) 486-3350

P.O. BOX 1207
SOLDOTNA, ALASKA 99669
(907) 262-5210

P.O. BOX 1708
VALDEZ, ALASKA 99686
(907) 835-4698

P.O. BOX 1064
WASILLA, ALASKA 99687
(907) 376-5038

January 25, 1983

Mr. Terry Fleming
Environmental Coordinator
State of Alaska
Department of Transportation
and Public Facility
4111 Aviation Avenue
Pouch 6900
Anchorage, Alaska 99502

Dear Mr. Fleming:

RE: Knik Arm Crossing Scoping Document

We are responding to your letter dated December 1, 1982, requesting input to the alternative highway transportation corridor study.

The environmental considerations addressed in the Scoping Document for the Cycle I Alternatives Analysis/Environmental Investigation have been reviewed. We have the following comments concerning water and air quality.

The Anchorage urban area is now classified non-attainment for carbon monoxide ambient air quality standards. USEPA criteria for approving 1979 Non-attainment Area Implementation Plan Revisions requires an analysis of alternative sites and environmental control techniques which demonstrates that benefits of proposed project significantly outweigh the environmental and social cost imposed as a result of its location and construction. An additional requirement is the demonstration of commitment to the establishment, expansion and improvement of public transportation measures to meet basic transportation needs as expeditiously as is practicable.

Principle issues concerning water quality are impacts to fish migration and anadromous stream systems because of potential salinity changes resulting from construction of a causeway across the Knik Arm. Other impacts on freshwater stream quality, such as erosion and sedimentation, could result from construction of access roads within the proposed corridors.

Another issue not addressed in the Scoping Document is the possible impact on the Point Woronzof sewage outfall dilution and dispersal characteristics. Outfall design is based on the location and extent of gyres during the flood and ebb cycle. A Knik Arm crossing could affect tidal current patterns along with sedimentation properties, and thus sewage dilution and dispersal.

We hope the above comments prove helpful in your investigation and look forward to continued involvement throught review of the planned assessments.

Sincerely,

Bob Martin
Regional Supervisor

cc: Deena Henkins

18-001.H

B-6

MEMORANDUM

State of Alaska

TO: Terry Fleming
Environmental Coordinator
Dept. of Transportation and
Public Facilities
Central Region

DATE: December 14, 1982

FILE NO:

TELEPHONE NO. 344-0541

FROM: Philip J. Brna
Habitat Biologist
Habitat Division
Anchorage

SUBJECT Knik Arm Crossing
Scoping Document

The Alaska Department of Fish and Game has reviewed the scoping document for the Knik Arm Crossing and finds that it adequately presents issues which should be evaluated during project related studies. We will provide further input after our review of the Draft Alternatives Analysis/Environmental Investigation Report.

02-001 (Rev.10/79)

Appendix C
Local Agency Correspondence

APPENDIX C

LOCAL AGENCY CORRESPONDENCE

Matanuska-Susitna Borough
BOX B, PALMER, ALASKA 99645 • PHONE 745-4801
DEPARTMENT OF PUBLIC WORKS

December 20, 1982

Mr. Jerry Hamel
Project Manager
Knik Arm Crossing Study
Highways Design and Construction
Department of Transportation and
Public Facilities
Pouch 6900
Anchorage, Alaska 99502

Re: Knik Arm Crossing Scoping Document

Dear Mr. Hamel:

Thank you for providing this document for our review and for providing the discussion made with us in Palmer on December 15, 1982.

On page 11, item 1.C of Urban Disruption speaks of "...potential impacts on port facilities." We believe that this, as stated, is appropriate. We also believe the document, perhaps under Economic Impacts on page 13, should specifically acknowledge "potential impacts on port facilities, both existing and potential" as the importance of maintaining consideration of this characteristic relative to the proposed crossing is felt to be of critical need to this Borough. We feel the port features described are of the same critical importance to the Municipality of Anchorage and deserve continuing consideration during the study with equal import to a number of the other cited items, such as anadromous fish, historic features and recreational concepts.

Under Others on page 16 we would recommend the following additions:

1. Knikatnu (Knik Village Corp.)
2. City of Wasilla
3. City of Houston

We look forward to working with the study activity during its life and wish to express our cooperative philosophy in accomplishing its aims.

Sincerely,

Edna Armstrong
Mayor, Mat-Su Borough

Gary Thurlow
Borough Manager

Roger Wm. Lewerenz, P.E.
Borough Engineer

KAL/map

C-3

Matanuska-Susitna Borough
BOX B, PALMER, ALASKA 99645 • PHONE 745-3246
PLANNING DEPARTMENT

December 29, 1982

Mr. Warren E. Wild, P.E.
Partner
EMPS
P.O. Box 2317
Juneau, AK 99803

Dear Mr. Wild:

Enclosed is information that Gary Thurlow, Borough Manager thought you should have regarding a possible fourth corridor from the Knik Arm Crossing to the Parks Highway.

Sincerely,

Claudio Arenas
Planning Director

mw

Enclosure

Appendix D
Organization Correspondence

APPENDIX D

ORGANIZATION CORRESPONDENCE

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

JAY S. HAMMOND, GOVERNOR

4111 AVIATION AVENUE
POUCH 6900
ANCHORAGE, ALASKA 99502
TELEX 25 689

December 1, 1982

The State of Alaska Department of Transportation and Public Facilities (DOT/PF) in cooperation with the Federal Highway Administration (FHWA) is now studying alternative highway transportation corridors to accommodate future travel needs between the Municipality of Anchorage and the Matanuska-Susitna Borough. These studies are centered on the physical barrier presented by the Knik Arm of Cook Inlet. FHWA is the designated Federal Lead Agency. We would appreciate any information or input you may wish to make to this study.

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1. No Action

2. Alternate Travel Modes

3. Upgrade Existing Transportation System

4. Highway Crossing

   a. Alternate Crossing Locations
   b. Alternate Crossing Configurations
   c. Alternate Approach Locations
   d. Auxillary Crossing Facilities

It would be most helpful if we could receive your initial comments within the next 30 days.

Sincerely,

Terry Fleming
Environmental Coordinator

Enclosure
As Stated

ENSTAR

ENSTAR Natural Gas Company
3000 Spenard Road
P.O. Box 6288
Anchorage, Alaska 99502
(907) 277-5551

December 28, 1982

Mr. Terry Fleming
Environmental Coordinator
State of Alaska
Department of Transportation and Public Facilities
Pouch 6900
Anchorage, Alaska 99502

RE: Cook Inlet Crossing Scoping Document Review

Dear Mr. Fleming:

This letter is in response to your request for comments on the Knik Arm Crossing Scoping Document dated November 29, 1982. ENSTAR is interested in the possibility of installing a gas transmission line within the Right-of-Way corridor. Construction that would accommodate a pipeline is recommended.

I appreciate this opportunity to comment early in the design process, and would be pleased to discuss, in detail, design criteria or other pertinent data as the project develops. Please feel free to contact me at 264-3745 if you need additional information.

Sincerely,

David L. Sinclair
Chief Engineer

DLS/jkk

Resource Development Council
for Alaska, Inc.
444 West 7th Avenue, Anchorage, Alaska 99501
Box 516, Anchorage, Alaska 99510 - 907/278-9615

December 15, 1982

Terry Fleming, Environmental Coordinator
Department of Transportation and
Public Facilities
Pouch 6900
4111 Aviation Avenue
Anchorage, AK 99502

Dear Mr. Fleming:

The Resource Development Council has for several years been interested and active in matters dealing with a proposed Knik Arm Crossing.

We obtained a copy of your scoping document on the project and noted our organization was not listed with others receiving the material. Please make this correction so that we receive future information on a timely basis and are appropriately listed.

I am not certain we will have time to comment by December 30 but will monitor studies and be prepared to comment as they proceed.

Sincerely,

RESOURCE DEVELOPMENT COUNCIL
for Alaska, Inc.

Paula P. Easley
Executive Director

Chugach ELECTRIC ASSOCIATION, INC.
CAMBELL AT EIGHTH • P.O. BOX 3518 • Anchorage, Alaska 99501 • PHONE: (907) 276-3500
TELEX: Chugach AHG
(090) 30 205

February 16, 1983

State of Alaska
DOT/PF Central
Pouch 6900
Anchorage, Alaska 99502

Attn: T. Fleming
Enviornmental Coordinator

Re: Knik Arm Crossing
Scoping Document

Gentlemen:

We appreciate the opportunity to comment on the above referenced document. Our observations are the following:

First, there are two CEA submarine cable fields crossing the inlet; one between Pt. MacKenzie and Pt. Woronzof; the other from the west side of the Knik Arm to a terminal near Six-mile Creek.

The second is that Electrical power needed in the expected development area would be generated by Chugach Electric Association, and may be transmitted from Anchorage. The design must provide for utility rights of way. The safety concerns addressed in the document do not apply to electrical power transmission. Based on recent developments on the natural gas availability in Beluga, it would be advisable to address right of way requirements for a gas pipeline on the crossing.

We request to be retained on all distribution and developments to the crossing, since it could have a significant impact on our long range planning.

If you require any additional information or clarification on this, please do not hesitate to contact us. (907) 276-3500.

Very truly yours,

Eric Haemer

Eric Haemer
Director of Planning and Major Projects

EH/tc

D-5