

1.0 Purpose of and Need for the Action

More than 80 years of transportation, land use, and economic plans and studies for the Upper Cook Inlet region of Alaska have addressed the need to connect the Municipality of Anchorage (Anchorage) with the Matanuska-Susitna Borough (Mat-Su) by providing an efficient and ~~economically viable~~ financially feasible means to cross Knik Arm. However, the funds necessary to finance such a project have historically been beyond the financial capacity of the state's annual Federal Highway Administration (FHWA) apportionments. Recent studies (2003a) conducted by the Alaska Department of Transportation and Public Facilities (ADOT&PF) concluded that a combination of federal funds and nonfederal funds—including user fees such as tolls—would be required to successfully advance a project to cross Knik Arm.

From a historical perspective, the most comprehensive study conducted for a Knik Arm crossing project was a Draft Environmental Impact Statement (Draft EIS) prepared by ADOT&PF in 1984. Because of a lack of funding, and a dramatic statewide downturn in the economy between 1985 and 1990, the project was never advanced beyond the Draft EIS stage. With the rebound of local, state, and regional economies that diversified throughout the 1990s, the need for an efficient and ~~economically viable~~ financially feasible Knik Arm connector has grown substantially. With this renewed interest and the emergence of a specific project to cross Knik Arm, an environmental ~~assessment~~ impact statement was begun in 2005. Figure 1.1 shows a map the region of concern—the Study Area—for this environmental ~~assessment~~ impact statement.

Since 1984, considerable changes have and are projected to occur in the Study Area, including existing and planned expansion of the connecting transportation network to and from Port MacKenzie in the Mat-Su, construction of Port MacKenzie in the late 1990s, planned development of the 9,000-acre Port MacKenzie District, redevelopment and expansion plans in the Ship Creek industrial area, new security restrictions, and extensive expansion plans at the Port of Anchorage (POA), as well as a new ferry link, projected to be operational in 2008 between Port MacKenzie and the POA. These infrastructure improvements, coupled with an expanding regional population base, have created greater needs for access to developable lands; efficient movement of people, freight, and goods both within the region and to areas of the state further to the north; and an improved, reliable, and safe regional transportation system.

Understanding the geographic and transportation context of both the region and the state is important in understanding the purpose and need objectives of the subject of this Draft EIS, the proposed Knik Arm Crossing (KAC) project. The Upper Cook Inlet region of Alaska, which encompasses Cook Inlet's Turnagain and Knik Arms, is the state's commercial, industrial, financial, communications, and population center. It is also the major marine, air, rail, and road transportation hub of the state, where arriving cargo and commodities are transported throughout the Cook Inlet region and other areas of Alaska.

Figure 1.1. Vicinity map

The Upper Cook Inlet transportation system heavily depends on automobiles and trucks traveling on roads. The Glenn and Seward Highways (“Glenn-Seward Highway Corridor”) provide the sole north-south ingress and egress routes between the Mat-Su, Anchorage, and the other communities south of Anchorage to the tip of the Kenai Peninsula. The Glenn-Seward Highway Corridor is the principal north-south arterial transportation component of the National Highway System (NHS) in Upper Cook Inlet. In the event of natural disaster, fire, accidents, or man-made disruption, overland connections within and access to the region’s airports, ports, hospitals, police, fire and disaster relief services and employment and financial centers are significantly limited.

Anchorage is the primary employment and work force center for the region, and a high percentage of workers commute to Anchorage from the Mat-Su. Anchorage is also the hub for state and regional intermodal transportation facilities. The Port of Anchorage handles approximately 80 percent of the state’s container shipments, including shipments destined for the Mat-Su and Interior Alaska. As a result, the Glenn-Seward Highway Corridor is subject to both heavy commuter and commercial traffic. Increased cargo volumes at both ports are projected to further increase truck traffic within the region and to areas of Interior Alaska. Undeveloped industrial, commercial, and residential land available in Anchorage is limited and diminishing. The Mat-Su has substantial undeveloped land available, which attracts population growth north and induces increased north-south traffic to and from Anchorage over the Glenn Highway corridor.

On the eastern side of Knik Arm, the existing Anchorage road network connects the POA/Ship Creek industrial areas to the NHS at the access to the A Street-C Street couplet (A-C Couplet) and the Ingra Street-Gambell Street couplet (Ingra-Gambell Couplet). On the western side of Knik Arm, the Point MacKenzie Road connects Port MacKenzie to the Knik-Goose Bay Road, which connects directly to the Parks Highway at Wasilla. The Parks Highway is part of the NHS, connecting with the Glenn-Seward Highway Corridor near Palmer, and provides roadway access to Interior Alaska. The Point MacKenzie Road also joins Burma Road, which connects directly to the Parks Highway at Houston by way of Big Lake Road.

1.1 Description of the Study Area

The Study Area for the proposed KAC project is located within the boundaries of the Municipality of Anchorage and the Matanuska-Susitna Borough in the Upper Cook Inlet region of Southcentral Alaska (Figure 1.2). This area has a combined population of nearly 350,000, which represents over 50 percent of Alaska’s total population. Separating the Anchorage and Mat-Su portions of the study area is a 30-mile-long waterway, Knik Arm, which varies in width from 2 to 6 miles. A proposed roadway and bridge crossing of Knik Arm, which would provide a connection between Anchorage and the Mat-Su, is the focus of this study.

Figure 1.2. Study Area

Located along the eastern shore of Knik Arm, Anchorage consists of 1,961 square miles, 84 percent of which is occupied by National Forest, state parklands, and tidelands. With an additional 6 percent occupied by military reservations, only about 10 percent of the entire municipality is inhabited and available to accommodate existing and future growth. Most residents of Anchorage live in the Anchorage Bowl, the most urbanized portion of the municipality. The Anchorage Bowl occupies approximately 112 square miles and is bounded by Chugach State Park, Knik and Turnagain Arms, Elmendorf Air Force Base (Elmendorf), and Fort Richardson Military Base (Fort Richardson). Anchorage residents outside the Anchorage Bowl live either further north in the suburban community of Chugiak-Eagle River or in small residential areas along the Glenn Highway and Turnagain Arm. Also located within this portion of the Study Area are the POA, a vital intermodal facility, and the adjacent Ship Creek industrial area.

On the western shore of Knik Arm, the Mat-Su consists of an area of 24,683 square miles, which encompasses approximately 23 percent of all private land in the state. Because the Mat-Su has substantial undeveloped land available, it creates an alternative to more costly and limited residential, commercial, and industrial lands within Anchorage. This has resulted in numerous changes that were mentioned earlier that have recently or will be occurring in the Mat-Su, including construction of Port MacKenzie in the late 1990s, existing and planned expansion of the connecting transportation network to and from Port MacKenzie, and planned development of the 9,000-acre Port MacKenzie District. The Mat-Su Borough is also currently developing a ferry link between Port MacKenzie and the POA; the ferry is projected to begin operation in 2008.

Anchorage is approximately 2 miles from Port MacKenzie and its adjacent industrial Port District in the Mat-Su across Knik Arm. Although this physical separation consists of only a short span of waterway, the only surface transportation access between Anchorage and Port MacKenzie is by using 80 miles of existing roadway around the head of the 30-mile-long Knik Arm.

1.2 Proposed Action

In 2003, the Alaska Legislature established the Knik Arm Bridge and Toll Authority (KABATA) as a public corporation and an instrumentality of the State of Alaska within ADOT&PF. The specific purpose of KABATA is "... to develop, stimulate, and advance the economic welfare of the state and further the development of public transportation systems in the vicinity of the Upper Cook Inlet with construction of a bridge to span Knik Arm and connect the Municipality of Anchorage and the Matanuska-Susitna Borough" (Alaska Statutes § 19.75 [AS § 19.75]). Accordingly, the purpose of the proposed KAC project is to provide enhanced access between Anchorage and the Mat-Su through an efficient and economically viable-financially feasible crossing of Knik Arm, including adequate connections to the committed roadway network.

1.3 Purpose of and Need for the Proposed Action

The proposed project would further the development of transportation systems in the Upper Cook Inlet region by providing improved vehicular access and surface transportation

connectivity between Anchorage and the Mat-Su through the Port MacKenzie District, with a financially feasible¹ and efficient² crossing to meet the needs for:

1. Improved regional transportation infrastructure to meet existing and projected population growth and locally adopted economic development, land use, and transportation plans, and as directed by the Alaska State Legislature in AS § 19.75
2. Regional transportation connectivity for the movement of people and the movement of freight and goods to, from, and between Anchorage, the Mat-Su, and Interior Alaska
3. Safety and transportation system redundancy for alternative travel routing and access between regional airports; ports; hospitals; and fire, police, and disaster relief services for emergency response and evacuation

1.3.1 Discussion of the Purpose and Need for the Proposed Action

1. Improved regional transportation infrastructure to meet existing and projected population growth and locally adopted economic development, land use, and transportation plans, and as directed by the Alaska State Legislature in AS § 19.75.

Over half the population of the state, or approximately 350,000 residents, live either within Anchorage or the Mat-Su (principally in the Palmer-Wasilla area). Anchorage and the Mat-Su are projected to continue as the state's primary growth centers. In addition, major anticipated economic activities, such as construction of a natural gas pipeline, further development of the petroleum and natural gas industry, a projected increase in mining activities, and an expansion of air cargo activities at Ted Stevens Anchorage International Airport, will result in substantial increases in employment and population in the state. Such changes would particularly affect Anchorage, which supports approximately 42 percent of Alaska's population (277,498 people in 2004) and is the state's center of transportation and commerce.

The Mat-Su is projected to continue absorbing an increasing share of the population growth in the region. In the 14 years between 1990 and 2004, the Mat-Su population grew approximately 77 percent, from 39,683 to 70,148—a growth rate five times the state average. The borough continues to be the fastest growing location within the state. Since the 2000 Census, the Mat-Su has grown by about 11,000 people, or 15.3 percent, and now represents approximately 11 percent of the total population of Alaska. Most of that population lives in an 88-square-mile area, locally designated as the Core Area, which is the populated area between the cities of Wasilla and Palmer (Figure 1.1).

In the 14 years between 1990 and 2004, the Anchorage population grew approximately 15 percent, from 226,338 to 277,498. Since the 2000 Census, the population of Anchorage has grown by about 17,000 people, or approximately 7 percent. Population growth in the

¹ Financial feasibility is based on the ability to finance a total estimated project cost not-to-exceed \$600 million for initial construction cost of the facility, Phase 1, and does not include ultimate build-out capacity that would be funded through toll-backed financing.

² *Efficient* means a measure of traffic operating conditions that occurs when such factors as travel demand, effects on connecting transportation networks, facility length, travel time, and operating speed are collectively considered.

northern parts of Anchorage and particularly in the Mat-Su has put greater demands on the Glenn Highway, the only major highway access connecting Anchorage and the Mat-Su.

Based on the University of Alaska Anchorage's Institute for Social and Economic Research (ISER) 2025 population forecasts, population trends for 2030 indicate that the population base may expand in the Mat-Su to approximately 150,000 and in Anchorage to approximately 400,000. This represents a total regional population base increasing from approximately 350,000 at present to approximately 550,000. An increase of 200,000 residents in the region by 2030 will have significant implications on transportation, housing, utilities, infrastructure, government services, and a number of other issues in the region, with or without implementation of the proposed KAC project.

Population and employment growth in Anchorage, coupled with a limited supply of developable land, has contributed to increases in Anchorage property values and will likely continue to intensify pressure on land prices. The need to provide affordable housing to the area's labor force is an integral component of the region's economic infrastructure and welfare. During the fourth quarter of 2005, the average price for all Anchorage homes was 6 percent above the national average for a new home and 14 percent above the national average price for an existing home. According to the Alaska Housing Finance Corporation, the average sales price for a single-family home in Anchorage in the third quarter of 2005 was \$294,400. The National Association of Realtors reports average house prices for the fourth quarter of 2005 at \$264,300 for existing homes and \$285,300 for new homes. As available land for residential development becomes more limited and the price of land and homes in Anchorage continues to increase, the Mat-Su is and will continue to be an increasingly attractive housing alternative, generating more daily commuter trips to Anchorage as the primary employment center. According to the Alaska Department of Labor and Workforce Development's (ADOLWD) Alaska Affordability Index, the Mat-Su is consistently ranked as one of the state's most affordable areas to buy a home. Land costs in the Mat-Su are lower than in Anchorage, and homes are less expensive. In the third quarter of 2005, the average single-family home in the Mat-Su was \$220,272, almost \$74,128 less than in Anchorage (Alaska Housing Finance Corporation 2005). According to the Anchorage Home Builders Association, land availability in Anchorage is very limited and many homebuilders are focusing on the Mat-Su. Based on a 2005 report prepared by the ADOLWD Research and Analysis Section, new housing development in the Mat-Su grew at an extraordinarily high rate between 1996 and 2004, with an annual average growth rate of 48 percent compared with an equivalent average annual growth rate of about 5 percent in Anchorage during the same period. In the first 4 months of 2006, Matanuska Electric Association (MEA), the local electric utility, received 326 applications to provide service to new subdivisions being built in the Big Lake/Knik-Goose Bay area; total applications for 2005 were 1,594.

The Anchorage Bowl Comprehensive Plan (Municipality of Anchorage [MOA] 2001a), or Anchorage 2020, is the guiding document for land use planning in the Municipality. Other municipal plans, such as Anchorage's 2001 Long-Range Transportation Plan, becomes part of the comprehensive plan, supporting its goals and objectives. In 2002, an amendment to Anchorage's 2001 Long Range Transportation Plan was requested by the POA to authorize

the investigation of the feasibility of a possible Knik Arm crossing (KAC) in the vicinity of Cairn Point. The study was to include appropriate connections to the Anchorage and Mat-Su transportation systems. It was determined that a study of the crossing would require an environmental impact statement (EIS). On February 14, 2002, the Anchorage Metropolitan Area Transportation Solutions (AMATS) Policy Committee approved the amendment, so the State could move forward with an EIS the KAC project.

According to *Anchorage 2020*, ~~the Anchorage Bowl Comprehensive Plan (Municipality of Anchorage [MOA] 2001a) (Anchorage 2020)~~, of the 64,500 acres in the Anchorage Bowl, over 75 percent (49,400 acres) was already in use by 1998. Of the remaining undeveloped land, 6,675 acres were considered fully suitable for development and 5,050 acres were classified as marginally suitable for development because of environmental constraints. Only about one-sixth of the Anchorage Bowl's total land area was identified as vacant and suitable or marginally suitable for future community expansion.

Based on *Anchorage 2020*, 73 percent of the remaining developable vacant land in the Anchorage Bowl is zoned for residential use, 8 percent for industrial use, 7 percent for public lands and institutions, 4 percent for commercial use, and 8 percent for other uses. According to the results of a land use survey in 1998, cited for *Anchorage 2020*, the supply of land for single-family homes is 7,198 acres. This remaining acreage encompasses both developable and marginally developable parcels, with associated higher costs of development given potential physical or environmental constraints (e.g., wetlands and slope). At present zoning and density patterns, the Municipality of Anchorage calculated (in *Anchorage 2020*) that remaining vacant and underdeveloped residential land could support approximately 20,700 additional dwelling units. The forecasts for growth in the Anchorage Bowl by 2020, based on *Anchorage 2020*, indicate a need to accommodate 31,600 more households and 39,600 more employees.

To absorb this growth in excess of the potentially available units, higher average residential densities than what now prevail will be required or nonresidential land conversion to residential land will be required. *Anchorage 2020* has recommended a strategy that includes infill/redevelopment, higher residential densities, and development of town centers that meet increased population growth and housing demand within the Anchorage Bowl. It should be noted that there are lands within the Anchorage Bowl that can be redeveloped to meet housing demand. A recent study by the Municipality of Anchorage (2005b) on land availability in the Chugiak-Eagle River area indicates that that area contains roughly 7,800 acres of suitable vacant land and 11,000 acres of marginal vacant land.

However, *Anchorage 2020* states that the availability of vacant residential land for urban and rural single-family homes will decrease if the strong demand for that type of housing continues. Unless this can be remedied, the outflow of new single-family home construction to the Chugiak-Eagle River area of Anchorage and the Mat-Su will continue to increase. A recent household/commuter survey conducted for KABATA (2005a) indicated that the Point MacKenzie/Knik area is likely to receive interest from 10 percent of responding households as a new housing location. Approximately 60 percent of likely emigrants from Anchorage to the Point MacKenzie/Knik area indicate intention to leave Anchorage in their next move, and

survey results suggest that emigration to areas outside Alaska and to other areas of Alaska would decrease in volume if a connection across Knik Arm were built (Land Use and Transportation Forecast Technical Report, Appendix E, Household and Commuter Survey technical report [KABATA 2005a]). On October 18, 2005, the Anchorage Assembly resolved that “construction of a Knik Arm crossing will help sustain the quality-of-life goals of the *Anchorage Comprehensive Plan*, subject to the resolution of the required economic and environmental issues.”³

The *Anchorage Bowl Commercial and Industrial Land Use Study* (MOA 1996a) analyzed trends and estimated land requirements for future commercial and industrial development. According to the study, the Anchorage Bowl, overall, had an adequate supply of commercially zoned land and a comfortable surplus of industrially zoned land to sustain marketplace growth. At that time, roughly 10 years ago, the study concluded that 24 percent of industrial land was fully developed, while 37 percent of commercial land was fully developed. While the overall supply of commercially and industrially zoned land in the Anchorage Bowl was considered adequate to support general growth in these sectors, the study identified some site-specific challenges for industrial land supply near major transportation infrastructure. In particular, the POA is constrained by poor landside access and the Ted Stevens Anchorage International Airport is constrained by residential development, park, wetlands, and Cook Inlet. A significant amount of commercial and industrial development has occurred at both locations over the last 10 years. The Ship Creek industrial area, which serves both the POA and the Alaska Railroad, has relatively little area available for new development.

There have been marked changes in property values and development patterns in the nearly 10 years since the *Anchorage Bowl Commercial and Industrial Land Use Study* (MOA 1996a) was completed. The rise in property values is resulting in conversion or reallocation of land to higher-value uses, such as industrial and residential uses to commercial uses, and to higher densities. Anchorage’s Midtown area, for instance, has recently experienced an increase in redevelopment activities, with office building construction and higher-density residential development. Industrial activities such as warehousing, metal and module fabrication, natural resource extraction, and other land-intensive industries may find it difficult to expand or remain in Anchorage, given increasing land costs. With an efficient, economically viable financially feasible means to cross Knik Arm, the Port MacKenzie area would provide extensive undeveloped land designated for commercial and industrial development with easy access to Anchorage.

The 2000 Census found that almost 16,000 people commuted from the Mat-Su to Anchorage. This number is approximately 52 percent of the Mat-Su labor force. The Glenn Highway is currently the only north-south continuous principal arterial to accommodate those commuters. Commuters and other travelers from the Mat-Su drive approximately 100 miles round trip to Anchorage, equaling roughly two hours of driving time (median trip length and

³ Anchorage, Alaska No. AR2005–268: A resolution of the Anchorage Municipal Assembly supporting construction of the Knik Arm Crossing in furtherance of the goals of the *Anchorage Comprehensive Plan*, subject to the resolution of the required economic and environmental issues. Passed and approved by the Anchorage Assembly October 18, 2005.

median travel time; KABATA 2006a). Some commuters have substantially longer travel times. Using the Internal Revenue Service (2006) estimate of \$0.445 per mile for necessary and ordinary expenses for operating a vehicle, results in the median round trip cost of \$44.50 to Anchorage by car from the Mat-Su. Over the past two decades, improvements to the Glenn and Parks Highways to reduce congestion have resulted in Mat-Su residents being able to live at greater distances from Anchorage and still commute to jobs in Anchorage with about 2 hours of travel time per round trip. People have responded by moving further north and west along the Parks Highway and southwest along Knik-Goose Bay Road. Even with the smart growth policies envisioned in *Anchorage 2020*, this significant commuter base and continued residential expansion in the Mat-Su are evidence of the strong and growing demand for affordable single-family housing that is not being met in the Anchorage Bowl.

The proposed KAC project is being developed to further the regional transportation system by seeking to establish a connection to the existing and future vehicular transportation networks of Anchorage and the Mat-Su. In addition, the proposed crossing would also be developed to complement multimodal transportation systems such as those provided by the Alaska Railroad Corporation (ARRC) and the proposed Cook Inlet Ferry (formerly known as the Knik Arm Ferry), to the maximum extent practicable. Both Anchorage and the Mat-Su are currently updating their 2025 Long-Range Transportation Plans (LRTP), and the proposed project will be included in the plans as a means to provide regional functionality by strategically connecting into these locally adopted future transportation networks.

The need for a means to effect an efficient and ~~economically viable~~ financially feasible crossing of Knik Arm has been widely studied and discussed in recent years. Support for a formal crossing project and its identification as a priority began at the local level in Anchorage and the Mat-Su, and from there grew to become a statewide priority. A number of relatively recent local, regional, and statewide plans and actions have identified needs that can be met by an efficient and ~~economically viable~~ financially feasible Knik Arm crossing, specifically document support for a crossing, or list such a crossing as a major development to be considered for long-range planning purposes:

- ***Point MacKenzie Area Which Merits Special Attention Plan*** (Matanuska-Susitna Borough [MSB] 1995a). Produced by the Mat-Su Borough, the plan, known as an AMSA plan, details development and protection of the Point MacKenzie area within the Mat-Su Borough Coastal Management Area. The document specifies a management plan that facilitates development of a port while protecting important uses and values of the area, minimizing conflicts with port development. The AMSA plan states that if the POA and Port MacKenzie were developed on a regional basis (i.e., ports specializing in different activities rather than competing directly), access to the Anchorage port-airport transportation system may be desirable. Goal 2.5 of the AMSA plan specifies the development of a direct transportation connection between Point MacKenzie and the Anchorage urban area as the need arises.
- ***Point MacKenzie Port Master Plan*** (MSB 1999). This master plan outlines potential development activities for Port MacKenzie and develops recommendations on the use of lands in the Port MacKenzie District and the phasing of development. The plan states that Point MacKenzie is a preferred port site because of its proximity to the Anchorage port

and airport systems, to which a port could be linked through a Knik Arm crossing. It also recommends that an area in the vicinity of Cairn Point be reserved for development of alternatives for a future crossing site.

- **Regional Port of Anchorage Master Plan** (POA 1987). This regional port plan was drafted to direct port development to accommodate existing and future users through 2020. A section of this plan identifies, as a major concern, capacity deficiencies on the primary roadways carrying port traffic, and outlines the benefits of a transportation corridor north of the POA. Benefits of the northern corridor include removing truck traffic from downtown Anchorage, opening up potential sources of coal to the north, supplying the growing demand of container traffic to points north, and alleviating congestion on the Glenn Highway.
- **Anchorage 2020: Anchorage Bowl Comprehensive Plan**. This 2001 update of the *Municipality of Anchorage Comprehensive Plan* documents the addition of 30,000 to 50,000 people per decade since 1950 and forecasts continued growth for the municipality. The plan recognizes that the Anchorage Bowl physically limits Anchorage's growth, that growth has been strongest in recent years in the Chugiak-Eagle River area of Anchorage and in the Mat-Su, and that the relationship between the borough and municipality is changing because of population growth and settlement patterns. The plan describes the key existing land use issue as being that most of the suitable land in the Anchorage Bowl is already developed and much of the remaining vacant land is in areas where development is difficult and expensive. To meet projected residential demand, development within the Anchorage Bowl should focus on increasing housing density, and demand for lower density housing will continue to be met in other areas of Anchorage and the Mat-Su. The plan stated that a connection across Knik Arm between Point MacKenzie and Anchorage would open thousands of acres to development. In October 2005, the Anchorage Assembly passed a resolution supporting construction of a Knik Arm crossing because it would "help sustain the quality-of-life goals" of *Anchorage 2020*, subject to the resolution of the required economic and environmental issues.⁴
- **Freight Mobility Study** (MOA 2001b). The Municipality of Anchorage's Anchorage Metropolitan Area Transportation Study (AMATS; the name "Study" was changed to "Solutions" in 2002) prepared *Freight Mobility Study*, which characterized the movement of freight in Anchorage and addressed the physical and regulatory needs of the freight industry. The study identified constrained freight routes, including several in the POA and Ship Creek areas. Recommendations included improving access connections between the POA/Ship Creek warehouse district and the rest of Anchorage, improving roads within the Ship Creek basin that are key to the movement of freight, and investigating the need for relocation of Whitney Road and an alternative Ingra Street-Gambell Street route.
- **Economic Development Plan** (MSB 2002). This plan, prepared by the Mat-Su Borough, was designed to facilitate economic development in the Mat-Su by recommending actions for economic development planning. One of the plan's goals is for the Mat-Su Borough to work with public agencies and private sector groups to foster regional

⁴ Anchorage, Alaska No. AR 2005-268.

cooperation and promote intergovernmental problem solving. The plan states that regional cooperation will be a critical factor in improving the infrastructure for the development of Port MacKenzie, which includes the proposed ferry system and the proposed KAC project.

- **Long-Range Transportation Plan—Amendment** (MOA 2002a). The AMATS LRTP supports transportation infrastructure based on *Anchorage 2020*. In October 2001, POA requested that the 2001 LRTP be amended to authorize the investigation of the feasibility of a possible Knik Arm crossing in the vicinity of Cairn Point. POA based its request on 1) there is only one truck access road into and out of the port area; the majority of Alaska’s freight passes through the port; the port is a lifeline for the state; and it would be desirable from a security, maintenance-of-the-lifeline, and service standpoint to have a second access road to the north to the NHS and to rail systems; and 2) multimodal operations would be greatly enhanced by the Cairn Point corridor; northbound container traffic would be transported at reduced cost and reduced impact to other Anchorage-area roads; the corridor would tie the Ship Creek Transportation Corridor to the crossing; and it would complement all proposed uses of the new Intermodal Marine Facility, which is the first major dock expansion project identified in the port’s master plan. On December 10, 2001, the Municipality of Anchorage Planning and Zoning Commission passed a resolution (2001-112) recommending to AMATS that the LRTP be amended to include a Knik Arm crossing study area. On February 12, 2002, the Municipality of Anchorage Assembly passed a resolution (2002-34) recommending the same action. On February 14, 2002, the AMATS Policy Committee amended its LRTP to authorize the investigation of the feasibility of a KAC project.

As part of the update process Goals and Objectives were established for the Anchorage 2025 LRTP (MOA 2005a). Goal 5 of this plan is to improve access and mobility throughout Anchorage and the region. The plan calls for improved access to goods, jobs, services, housing, and other destinations. Mobility for people and goods throughout the region in a safe, affordable, efficient, and ~~economically viable~~ financially feasible manner is also a priority. Goal 3 of the plan is development of a transportation system that supports a thriving, sustainable, broad-based economy for Anchorage by locating and using transportation infrastructure and facilities to enhance community development. Specifically, the plan calls for optimization of the transportation system to meet the needs of the POA, the Ted Stevens Anchorage International Airport, the Alaska Railroad, and the business communities. Additionally, LRTP goals include transportation strategies that enhance the integration and connectivity of transportation systems—across and between modes—for people and freight. A Knik Arm crossing would materially support these regional mobility, access, efficiency, economic, connectivity, and transportation integration objectives. In the approved Anchorage 2025 LRTP (December 2005), the LRTP

endorses completion of ongoing environmental and engineering studies for the Knik Arm crossing concept. ... Following completion of the necessary environmental documents, the crossing can be considered for inclusion in the LRTP by amendment. This step involves thorough public review and comments on all aspects of the potential project.

- **Regional Transportation Planning Organization Resolution Supporting the Knik Arm Crossing as a Regional Transportation Priority Project** (2003). The Regional Transportation Planning Organization (RTPO) passed Resolution 1-03 on January 21, 2003, to the Alaska Congressional delegation supporting the proposed KAC project as the number one Regional Transportation Priority Project. It should be noted that a rail spur was included in the project description endorsed by RTPO. RTPO is a regional planning body established to coordinate transportation planning and project coordination in the Anchorage/Mat-Su region. The body includes representatives of the Municipality of Anchorage, Mat-Su Borough, Alaska Department of Transportation and Public Facilities, ARRC, Alaskan Command of the U.S. Department of Defense (nonvoting advisory role only), and representatives of the Alaska Legislature. RTPO evaluated and ranked regional projects from regional project lists provided by each agency; criteria were agreed upon; and a screening of 53 port, transit, trail, airport, highway, and trail projects was undertaken. Priorities were given to projects with strong regional significance and with links to other regional projects. Of the 53 regional projects, the RTPO resolution recommended three projects be presented to the Alaska Congressional delegation as the regional transportation projects for the Anchorage/Mat-Su region, in the following order:
 1. Knik Arm Crossing
 2. Long-Range Regional Transportation Plan
 3. Regional Port Development
 - Port of Anchorage Development
 - Port MacKenzie Development
- **Matanuska-Susitna Borough Assembly Resolution Adopting the Knik Arm Crossing as the Number One Regional Transportation Priority** (MSB 2003c). The Mat-Su Borough Assembly, through Resolution 03-011 on February 18, 2003, adopted the proposed KAC project as the number one Regional Transportation Priority Project. The resolution stated that to maintain a strong and growing regional economy, there is a need for additional commercial, industrial, and residential lands, and that the proposed KAC project would provide access to developable lands within the Mat-Su for such uses. The proposed KAC project would reduce travel times and lower transportation costs between Southcentral Alaska and Interior Alaska, as well as between the Mat-Su and Anchorage.
- **Matanuska-Susitna Borough Rail Corridor Study** (2003b). This study evaluated a mix of rail and highway options for surface access to Port MacKenzie that would allow for the safe and efficient movement of material into and out of the Mat-Su, Southcentral Alaska, and Interior Alaska. The study concluded with a recommendation for a new railroad/highway corridor connecting Port MacKenzie to the Parks Highway near Willow (Corridor 3) and a highway corridor connecting Port MacKenzie to the Parks Highway, roughly following the existing Point MacKenzie Road and Burma/Big Lake Road (Corridor 7). Corridor 3 was recommended primarily as a railroad corridor (i.e., it met specific railroad requirements for railbed grades and curves). The Alaska Railroad recognized Corridor 3, as also being able to accommodate the proposed KAC project. (While the Borough recommended Corridor 7 as being primarily for highway access, the

proposed KAC project has been preliminarily designed to meet railroad grade and curvature needs, whether within Corridor 3 or 7.) On February 1, 2005, the Mat-Su Borough Assembly adopted the Rail Corridor Study as part of the *Matanuska-Susitna Borough-Wide Comprehensive Plan* (2005c) (Assembly Resolution 05-011).

In 2001, the proposed KAC project was included in the 2001–2003 Statewide Transportation Improvement Program (STIP) under the National Highway System, because of the proposed project’s regional and statewide importance. In 2003, it was listed in the 2004–2006 STIP under Earmarks. The KAC project is also in the most recent 2006-2008 STIP.

In 2002 and 2003, the Commissioner of ADOT&PF sent letters requesting that the Alaska Congressional delegation include the proposed KAC project as a High Priority Transportation Project in the federal surface transportation bill TEA-21 (Transportation Equity Act for the 21st Century).⁵ During that period, ADOT&PF conducted a series of studies to reevaluate the proposed KAC project and update feasibility and cost considerations. The decision to reevaluate the proposed project was based on its emphasis in the previously referenced local and regional plans. The results were published in a series of reports: *Knik Arm Crossing Engineering Feasibility and Cost Estimate Update, Volume 1, Volume 2, and Volume 3* (ADOT&PF 2003a). These reports concluded that federal assistance would undoubtedly play a major role in future project funding, but that a myriad of other nonfederal funding sources would be required to make the proposed project a reality. Tolls were identified as a likely significant revenue generator over time. Tolls could be used in conjunction with federal credit assistance programs such as Transportation Infrastructure Finance and Innovation Act (TIFIA) and other options that could be used to fund construction.

In 2003, in response to ADOT&PF’s feasibility and cost/financial assessments and in recognition of the statewide and regional economic and transportation needs, the Alaska Legislature established KABATA within ADOT&PF to pursue the construction of a Knik Arm crossing. Specifically, AS § 19.75 directs KABATA to:

develop, stimulate, and advance the economic welfare of the state and further the development of public transportation systems in the vicinity of Upper Cook Inlet with construction of a bridge to span Knik Arm and connect the Municipality of Anchorage and the Matanuska-Susitna Borough.

The Alaska State Legislature authorized KABATA to undertake the permitting, design, financing, and construction and then to own, operate, and maintain the crossing as a toll road.

2. Efficient regional transportation connectivity for the movement of people and the movement of freight and goods to, from, and between Anchorage, the Mat-Su, and Interior Alaska.

⁵ Personal communication, Joe Perkins, Commissioner, ADOT&PF, in a letter to Senator Ted Stevens on May 31, 2002, and Mike Barton, Commissioner, ADOT&PF, in letters to Congressman Don Young on January 28 and June 23, 2003.

The POA is well established as the primary container-handling port in the state and is currently expanding its capabilities to more efficiently handle container traffic. Eighty percent of the state's consumer goods are imported through the POA. However, the POA has limited space to store bulk commodities such as timber and wood chips, sand and gravel, or coal, or to expand its current fuel storage capacity, which serves much of Southcentral Alaska and the Ted Stevens Anchorage International Airport. Limited truck access into and out of the port hinders efficient transport of freight to areas north of Anchorage. This access problem has increased with additional truck traffic and limited capacity of roads in the POA/Ship Creek industrial areas.

According to POA's Intermodal Expansion Project (2005a), the POA handles over 4.6 million metric tons annually. Approximately one-half of this tonnage is vans/flats or containers. Of this amount, containerized throughput grew to approximately 1.76 million metric tons in 2004. The port is now a five-berth terminal providing facilities for the movement of containerized freight, iron and steel products, bulk petroleum, and cement. By the end of 2005, more than 5 million tons of various commodities will be processed at the terminal, generating more than \$750 million in revenues. Containers to Fairbanks and the Mat-Su are estimated to account for approximately 25 percent of the total inbound container market. Long-line hauls to Fairbanks are more likely to entail double-trailer configurations, which have greater difficulty negotiating Anchorage streets on their way to the Glenn Highway. Direct movements of trucks between the POA and areas north of Anchorage were expected to become an increasingly larger component of the overall traffic flows, with projected annual growth at approximately 3 percent.

The POA *Master Plan* (1987) identified capacity deficiencies on the primary roadways conveying port-oriented traffic as a major concern. POA attempted to remedy the deficiency by proposing the Northern Bypass Route through Elmendorf, but the military would not permit access for this purpose. The projected growth will exacerbate existing access problems at the POA/Ship Creek industrial areas and make connections to the state transportation system less efficient. A northern access provided by the proposed KAC project would divert substantial northbound truck volumes away from the existing Downtown Anchorage transportation network.

AMATS' 2001 *Freight Mobility Study* for the Anchorage Metropolitan Area (MOA 2001b) characterized the movement of freight in Anchorage and addressed the physical and regulatory needs of the freight industry. The study identified constrained freight routes, including several in the POA/Ship Creek industrial areas. Recommendations included improving access connections between these area and the rest of Anchorage, improving those roads within the Ship Creek area-that are key to the movement of freight (2000-2005), and investigating the need for relocation of Whitney Avenue and an alternative connection to the Ingra-Gambell Couplet.

According to POA's *Road and Rail Extension Project Environmental Assessment* (2004), cargo volumes at the POA will grow up to 30 percent within the next 10 to 12 years. In response, truck traffic to and from the POA will increase by at least 50 percent. POA is in the permitting phase of a major port expansion project. POA estimated that in 2003, there were

903 one-way weekday truck trips and 1,229 peak-day, one-way truck trips to or from the port. POA also estimated that port-generated daily traffic would increase by 99 percent over the next 20 years.

Similarly, the POA has very little space for industrial manufacturing for homes, oil field equipment, or mining-support items to be shipped to rural Alaska. *Anchorage 2020* indicated that Anchorage has adequate supplies of undeveloped industrial and commercial land, although little of it is in the immediate vicinity of the waterfront. Mat-Su Borough currently is developing its Port MacKenzie in ways that are largely complementary to the POA/Ship Creek industrial areas. The Borough is making use of its relative abundance of developable land for bulk commodities and facility fabrication, without competing with the POA's efficient container handling facilities. Mat-Su Borough has plans for the adjacent 9,000-acre Port MacKenzie District to provide services for bulk commodity storage, such as fuel, timber, sand and gravel, peat, and grain, and for industrial development. Without the direct road connection to the Anchorage Bowl, the opportunity to offer these services is limited because individuals and companies based in Anchorage do not have ready access to the Port MacKenzie District, and companies that locate operations at Port MacKenzie find it difficult to attract employees from the large employee pool in Anchorage. Lack of a direct surface connection to Anchorage also limits the utility of expanded fuel storage at Port MacKenzie to meet the needs of the Ted Stevens Anchorage International Airport and other industrial users in Anchorage. The lack of an efficient road connection between Anchorage and the Port MacKenzie District may limit the long-term economic development potential of the region, although near-term needs will be met by the Mat-Su Borough's proposed Cook Inlet Ferry, which will be operational in late 2008.

Currently, the 80-mile road distance between Anchorage and the Port MacKenzie District significantly limits efficient access to users. The proposed crossing connecting the two areas would provide efficient year-round, 7-day-a-week access for port-related users and businesses that need access between Anchorage and Port MacKenzie on a timely and uninterrupted basis. The only existing connection is by use of a nearly 2-hour drive one-way, using the local road network; yet, Anchorage and Port MacKenzie are physically only 2 miles apart. Because the existing road connection between the two areas is indirect, users must undertake a time-consuming and expensive process involving a drive through Downtown Anchorage, around the head of Knik Arm, and through Wasilla, the Mat-Su's busiest city. As previously indicated, a proposed Knik Arm crossing would connect Anchorage and Port MacKenzie, improve regional transportation efficiency by providing more direct northbound access to the NHS, and increase the capacity of regional commercial and industrial marine-related activity.

Linking Port MacKenzie and the planned 9,000-acre Port MacKenzie District directly to the Anchorage Bowl road, rail, marine, and air transportation hub would improve the currently limited intermodal connections to the rest of the state and international destinations. A direct road linking Anchorage and Port MacKenzie would allow complementary growth to serve the economic and transportation needs of the state, as well as those of Anchorage and the Mat-Su. Container loads from Anchorage destined for transshipment north to the Mat-Su and to Interior Alaska could immediately deploy by truck to the Port MacKenzie District rather

than over the longer, existing route through Downtown Anchorage and the Glenn Highway. Increased commodity and fuel storage potentials at Port MacKenzie would serve Ted Stevens Anchorage International Airport and Anchorage consumer and commercial needs. A recent report published in association with the Alaska Stranded Gas Development Act (AS § 43.82.010) has indicated that additional port infrastructure will be required to meet shipping demands for pipe and other construction supplies, a need that could be met at Port MacKenzie through use of more efficient truck and rail connections.

As the Mat-Su population and economic base grows, there will be greater demand for direct access to commercial, industrial, and service-related businesses in Anchorage. As the Anchorage population and economic base grows, there will be greater demand for efficient access to the commercial and industrial land base that can be provided at the Port MacKenzie District, as well as for commuter travel related to developable residential lands north of the Port MacKenzie District. In addition, there will be greater demand for regional access and efficient travel between Anchorage, other regions of the Mat-Su, and Interior Alaska. The Mat-Su Borough is proceeding with construction of its Cook Inlet Ferry as an initial step toward providing access between Anchorage and Port MacKenzie. The ferry service is primarily designed to satisfy relatively low, rather than long-term, high-volume travel demand. Similarly, it is not intended to carry heavy truck and industrial traffic volumes, to meet future regional travel needs, or to facilitate the movement of freight and goods.

While construction of a rail crossing of Knik Arm is not part of the proposed action, the Alaska Railroad is a crucial part of the Alaska transportation system, and more efficient rail access to Interior Alaska has long been recognized as an eventual need. ARRC, POA, and Mat-Su Borough have studied the need for more efficient northern rail access. Design and construction of the proposed KAC project would be accomplished in a manner that would be complementary to a future rail crossing and would not preclude rail approach and crossing options.

3. Safety and transportation system redundancy for alternative travel routing and access between regional airports, ports, hospitals, and fire, police and disaster relief services for emergency response and evacuation.

There is currently only one principal north-south highway in the region connecting Anchorage with the Mat-Su: the Glenn Highway. In the event of a natural disaster or other emergency, interruption of this single transportation corridor would leave both Anchorage and the Mat-Su without an alternative vehicular route for travel or for emergency response and evacuation.

Knik Arm crossing would provide Alaska's most populous region with redundant routes for improved safety, alternative travel routing, disaster preparedness, and emergency response. The entire region is subject to natural disasters, such as earthquakes, volcanic eruptions, wildfires, and severe weather. A catastrophic natural event or single incident along the Glenn Highway could halt traffic for long periods of time. Even now, relatively minor automobile accidents on the Glenn Highway cause extended delays and loss of service. On the Glenn Highway, between the traffic signal at Bragaw Street in Anchorage and the Palmer-Wasilla

Interchange in the Mat-Su, for the 10-year period from 1994 to 2003, there were 3,686 auto accidents, involving 5,499 vehicles, causing 31 fatalities, 193 major injuries, and 1,658 minor injuries. This averages one accident per day, resulting in a minor injury once every 2 days, and a death or major injury every 2.3 weeks.⁶ These accidents frequently led to lane closures and traffic delays. Redundant access would help to relieve this problem by providing an alternative travel route between Anchorage and the Mat-Su and would support a more reliable emergency response system in the region.

Emergency response times between the Mat-Su and Anchorage would be greatly reduced—in some cases from 1.5 hours to 0.5 hour—with an efficient, economically viable, financially feasible Knik Arm crossing. In the event of a disaster, interruption of the Glenn Highway corridor would leave Anchorage (and communities south of Anchorage on the Kenai Peninsula) and the Mat-Su to the north without an overland route for emergency response or evacuation between the two areas. Mat-Su Borough’s proposed Cook Inlet Ferry system would provide some redundant access, but is not currently designed to handle large volumes of traffic or heavy equipment.

Emergency transportation operations involve coordination with authorities regarding the closure, reopening, configuration, and operation of the transportation system under emergency conditions. During emergencies, a Knik Arm crossing could serve as an alternative evacuation and emergency response route, should the only other route between Anchorage and the Mat-Su be rendered unusable. If the existing north-south route were to remain usable, a crossing could provide additional capacity and routing as an alternative evacuation and emergency response route. The Ted Stevens Anchorage International Airport, ARRC, and POA would play a major role in responding to regional and statewide disasters, and redundant access would contribute to prompt emergency response.

Local emergency operation and preparedness plans indicate, as assumptions in the case of disaster, that power would be out and transportation systems would be damaged. The 2005 Municipality of Anchorage *Comprehensive Emergency Operations Plan* includes annexes to provide for the safe evacuation or in-place sheltering of part or all of the population of Anchorage. The plan states, “Whenever possible, evacuation traffic will be directed north during an area-wide or mass evacuation to an assembly area in Palmer or Wasilla.” (MOA 2005c). As identified in the State of Alaska and Anchorage’s All-Hazards Mitigation Plans, Anchorage is vulnerable to many natural hazards including earthquake, wildfire, flood, volcano, avalanche, tsunami, and severe weather.

The POA and Ted Stevens Anchorage International Airport are the primary transshipment facilities for goods arriving in Anchorage and bound for distribution throughout Alaska. The transshipped goods include hazardous materials, such as petroleum, chlorine, and ammonia. Catastrophic explosions or leaks from industrial areas, the rail line, or trucking routes would warrant emergency response and/or evacuation that could be hindered under the existing transportation system.

⁶ Personal communication, Ron Martindale, ADOT&PF, e-mail of highway safety data spreadsheet specific to Glenn Highway, to John McPherson, 2005.

The Anchorage population, combined with the Mat-Su Core Area population, totals approximately 350,000 people and, by 2030, is projected to be approximately 550,000. The sole northern arterial connection—provided by the Glenn Highway—coupled with the growing Mat-Su commuter base relying on this single transportation link, presents a substantially vulnerable regional transportation system, particularly in light of growth projections. If the Glenn Highway were closed because of accident, earthquake damage, wildfire, or other disaster, regional travel could cease entirely and emergency surface response would be substantially impaired. In addition, such a closure could be expected to have negative effects on the regional economy by adversely affecting commuters' abilities to travel to and from their jobs and by reducing the movement of freight and goods between Anchorage and the Mat-Su and Interior Alaska. A Knik Arm crossing would provide redundant road transportation for continued regional traffic flow.