

1.0 PURPOSE AND NEED FOR THE PROJECT

1.1 Project Background

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 for a Knik Arm Crossing project to connect the Municipality of Anchorage (MOA) with the Matanuska-Susitna (Mat-Su) Borough. However, the funds necessary to finance a Knik Arm Crossing project have historically been beyond the financial capacity of the state's annual Federal Highway Administration (FHWA) apportionments. Recent studies (2003) conducted by the Alaska Department of Transportation and Public Facilities (DOT&PF) conclude that a combination of federal funds, including a federal earmark grant, and non-federal funds, including user fees such as tolls, would be required to successfully advance the Knik Arm Crossing project.

From a historical perspective, the most comprehensive study conducted for the Knik Arm Crossing project was a Draft Environmental Impact Statement (DEIS) prepared by DOT&PF in 1984. Due to lack of funding, and a dramatic state-wide downturn in the economy between 1985 and 1990, the project was never advanced beyond the DEIS stage. With the rebound of local, state, and regional economies that diversified throughout the 1990s, the project needs have grown substantially. Since 1984, considerable changes have and are projected to occur in the project study area, including existing and planned expansion of the connecting transportation network to and from Port MacKenzie in the Mat-Su Borough, construction of Port MacKenzie in the late 1990s, planned development of the 10,000 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 (See Figure 1-1). The Mat-Su Borough is also currently developing a ferry link between Port MacKenzie and the Port of Anchorage, which is projected to begin operation in 2007-2008. These infrastructure improvements, coupled with an expanding regional population base, have created greater needs for access to developable lands, efficient freight and good movements 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 to understanding the purpose and need objectives of the Knik Arm Crossing project. The Upper Cook 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.

The Municipality of Anchorage comprises 1,961 square miles between northern Prince William Sound and Upper Cook Inlet. However, 84 percent of this land area is taken up by national forest or state parklands and tidelands. Six percent is occupied by military reservations. Only about ten percent of the entire Municipality is inhabited and available to accommodate existing and future growth. Most residents within the municipality live in the Anchorage Bowl, the most urbanized area of the Municipality (See Figure 1-1). The Anchorage Bowl occupies approximately 112 square miles (approximately six percent of the MOA), and is bounded by Chugach State Park, Knik and Turnagain Arms, and by Elmendorf Air Force Base and Fort Richardson Army Post. Anchorage residents outside the Anchorage Bowl either live further north in the suburban community of Eagle River/Chugiak, or in small residential areas along Glenn Highway and Turnagain Arm. Downtown Anchorage is just two to three miles across the

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Knik Arm from the rapidly developing Port MacKenzie and its adjacent industrial Port District in the Mat-Su Borough. Although separated by only a short span of waterway, the only surface transportation access between Anchorage and Port MacKenzie is by 80 miles of existing roadway around the head of Knik Arm.

The Mat-Su Borough comprises 24,683 square miles (about the size of West Virginia) and approximately 23 percent of all private land in the state of Alaska. Because the Mat-Su Borough has substantial undeveloped land available, it provides an attractive alternative to more costly and limited residential, commercial, and industrial lands within the Municipality of Anchorage. Extensive development is currently occurring in the Mat-Su Borough and in recent years it has been ranked as one of the highest growth areas in the Nation.

The Upper Cook Inlet transportation system is heavily dependent 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 Borough, the Municipality of 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 manmade 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.

The Municipality of 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 Borough. The Anchorage Bowl is also the hub for state and regional inter-modal transportation facilities. The Port of Anchorage (POA) handles approximately 80 percent of the State’s container shipments, including shipments destined for the Mat-Su Borough 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 the Municipality of Anchorage is limited and diminishing. The Mat-Su Borough 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 Port of Anchorage/Ship Creek industrial area to the NHS at the access to the A Street/C Street couplet and the Ingra Street/Gambell Street 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 via Big Lake Road (see Figure 1-1).

1.2 Purpose and Need Statement

The purpose of the Knik Arm Crossing project is to further the development of transportation systems in the Upper Cook Inlet region by providing improved vehicular access and surface transportation connectivity between the Municipality of Anchorage and the Matanuska-Susitna

(Mat-Su) Borough, 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 Alaska Statutes chapter 19.75;
2. Regional transportation connectivity for the movement of people and the movement of freight and goods to, from, and distribution between Anchorage, the Mat-Su Borough, 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.

1.2.1 Discussion of the Purpose and Need Statement

(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 Alaska Statues chapter 19.75.

Over half the population of the State of Alaska (approximately 655,000 total population), or approximately 350,000 residents, live within the Municipality of Anchorage and Mat-Su Borough, principally in the Palmer-Wasilla area. This trend has existed for over the past 20 years. The Municipality of Anchorage and the Mat-Su Borough are projected to continue as the primary growth centers in the State. In addition, major anticipated economic activities such as the 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 cause substantial economic and population multipliers to be generated in the State. Such changes would particularly affect the Municipality of 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 Borough 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 Borough 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 Borough 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

¹ Financially feasible is based upon the ability to finance a total estimated project cost not-to-exceed \$600 million, unless other yet to be identified funding sources become available.

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

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lives in an 88 square mile area, locally designated as the Core Area, which is the populated area between the cities of Wasilla to Palmer (see 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 the Municipality of Anchorage has grown by about 17,000 people, or approximately 7 percent. Population growth in the northern parts of the Municipality of Anchorage and particularly in the Mat-Su Borough has put greater demands on the Glenn Highway, the only major highway access connecting Anchorage and the Mat-Su Borough.

Based on the Institute for Social and Economic Research (ISER) 2025 population forecasts, population trends for the year 2030 indicate that the population base may expand in the Mat-Su Borough to approximately 150,000 and the MOA 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 a Knik Arm Crossing project.

Population and employment growth in the Municipality of 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. Anchorage housing expenses were 24 percent above that for the Nation in 2001-2002. According to the Alaska Housing Finance Corporation, the average sales price for a single-family home in Anchorage in the fourth quarter of 2004 was \$272,221. As the available land for residential development becomes more limited and the price of land and homes in Anchorage continue to increase, the Mat-Su Borough is and will continue to be an increasingly attractive housing alternative, generating more daily commuter trips to the Municipality of Anchorage as the primary employment center. According to Labor's Alaska Affordability's Index, the Mat-Su Borough is consistently ranked as one of the State's most affordable areas to buy a home. Land costs in the Mat-Su Borough are lower than in Anchorage, and homes are less expensive. The average single-family home in the Mat-Su Borough costs about \$203,477, almost \$69,000 less than in Anchorage in the last quarter of 2004 (Alaska Housing Finance Corporation, 2005). According to the Anchorage Home Builders Association, land availability in Anchorage is very limited and a majority of the home building industry is currently moving out to the Mat-Su Borough. Based on a 2005 report prepared by the Alaska Department of Labor and Workforce Development Research and Analysis Section, new housing development in the Mat-Su Borough grew at a tremendous pace between 1996 and 2004, with an annual average growth rate of 48 percent compared to an equivalent average annual average growth rate of about 5 percent in the Municipality of Anchorage during the same period. In the first few months of 2005 Matanuska Electric Association, the local electric utility provider, received over a dozen applications to provide service to new subdivisions being built in the Big Lake/Knik-Goose Bay area.

According to *Anchorage 2020, Anchorage Bowl Comprehensive Plan*, of the 64,500 acres in the Anchorage Bowl, over 75 percent (49,400 acres) were 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 due to environmental constraints. Only

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about one-sixth of the Anchorage Bowl 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 the Anchorage 2020 Comprehensive Plan, the current 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) (MOA 2001). At current zoning and density patterns, it is calculated 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.

In order to absorb this growth in excess of the potentially available units, higher average residential densities than what now prevail will be required or non-residential land conversion to residential land will be required. The Comprehensive Plan has recommended a strategy that includes infill/redevelopment, higher residential densities, and development of town centers that meets 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 on land availability in Chugiak-Eagle River area indicates that area contains roughly 7,800 acres of suitable vacant land and 11,000 acres of marginal vacant land.

However, the Comprehensive Plan states that the zoning of vacant residential land for urban and rural single-family homes will worsen if the strong demand for that type of housing continues. Unless this can be remedied, the outflow of new single-family home construction to Chugiak-Eagle River area of Anchorage and the Mat-Su Borough will continue to increase. A recent Household/Commuter Survey conducted for the Knik Arm Bridge and Toll Authority (Knik Arm Bridge and Toll Authority 2005) indicated that the Point MacKenzie/Knik Arm area is likely to receive interest from 10 percent of responding households as a new housing location. Approximately 60% of likely emigrants from Anchorage to the Point MacKenzie/Knik Arm 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 Knik Arm Crossing were built.

The *1996 Anchorage Bowl Commercial and Industrial Land Use Study* 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 growth in the marketplace. At that time, roughly ten 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 in proximity to major transportation infrastructure (See Figure 1-2). In particular, the Port of Anchorage is constrained by poor landside access and the Ted Stevens Anchorage International Airport is constrained by residential development, park, wetlands and

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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 Port of Anchorage and the Alaska Railroad, has relatively little area available for new development.

There have been marked changes in property values and development patterns since the *1996 Commercial and Industrial Land Use Study* 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 (see Figure 1-1), for instance, has recently experienced an increase in redevelopment activities with office building construction and higher density residential development. Currently, 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 the Knik Arm Crossing, the Port MacKenzie area would provide a large amount of 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 Borough to Anchorage. This number is approximately 52 percent of the Mat-Su Borough 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 Borough drive approximately 100 miles round trip to Anchorage, equaling roughly two hours of driving time (median trip length and median travel time; Northern Economics, Inc. 2005). Some commuters have substantially longer travel times. Using the Internal Revenue Service (2004) estimate of \$0.405 per mile for necessary and ordinary expenses for operating a vehicle, results in the median round trip cost of \$40.50 to Anchorage by car from the Mat-Su Borough. Over the past two decades, improvements to the Glenn Highway and Parks Highway 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 two 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 Borough is evidence of the strong and growing demand for affordable single-family housing that is not being met in the Anchorage Bowl.

The Knik Arm Crossing project will be developed to further the regional transportation system by connecting into the existing and future vehicular transportation networks of the MOA and Mat-Su Borough. In addition, the Crossing will also be developed to complement multimodal transportation systems such as those provided by the Alaska Railroad and Knik Arm Ferry, to the maximum extent practicable. Both the MOA and Mat-Su Borough are currently updating their 2025 Long Range Transportation Plans and the Crossing 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 the Knik Arm Crossing has been widely studied and discussed in recent years. Support for a Crossing and its identification as a priority began at the local level in Anchorage and the Mat-Su Borough, 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 a Knik Arm Crossing, specifically document support for a Crossing, or consider it a major development to be considered for long-range planning purposes:

- **Point MacKenzie Area Which Merits Special Attention (AMSA) Plan, 1993.** Produced by the Mat-Su Borough, the 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 Port of Anchorage (POA) and the Point MacKenzie Port are developed on a regional basis (e.g. 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. The plan underwent state and federal agency reviews as required by the Alaska Coastal Management Act.
- **Point MacKenzie Port Master Plan, 1998.** The Master Plan outlines potential development activities for the Point MacKenzie Port and develops recommendations on the use of lands in the port district and the phasing of development. The Plan states that Point MacKenzie is a preferred port site due to its close proximity to the Anchorage port and airport systems, to which a port could be linked through a Knik Arm Crossing. It also recommends an area in the vicinity of Cairn Point be reserved for development of alternatives for the future crossing site.
- **Regional Port of Anchorage Master Plan, 1999.** The Regional Port Plan was drafted to direct port development to accommodate existing and future users through the year 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 to the north of the Port of Anchorage. 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 Plan, 2001.** The recent 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 Anchorage is physically limited by growth within the Anchorage Bowl, that growth has been strongest in recent years in the Eagle River/Chugiak area of Anchorage and in the Mat-Su Borough, 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 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. In order to meet projected residential demand, development within the Anchorage Bowl should focus on increasing housing density, and that demand for lower density housing will continue to be met in other areas of the Municipality and Mat-Su Borough. The Plan stated that a connection across Knik Arm between Point MacKenzie and Anchorage would open thousands of acres to development.

- **Anchorage Metropolitan Area Transportation Solutions Freight Mobility Study, 2001.** The Anchorage Metropolitan Area Transportation Solutions (AMATS) prepared a Freight Mobility Study for the Anchorage Metropolitan Area that 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 Port of Anchorage and Ship Creek areas. Recommendations included: improving access connections between the Port of Anchorage/Ship Creek warehouse district and the rest of Anchorage, and 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.
- **Matanuska-Susitna Borough Economic Development Plan, 2002.** This plan was prepared to facilitate economic development in the Mat-Su Borough 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 in order to foster regional cooperation and promote intergovernmental problem solving. The plan states that regional cooperation will be a key aspect in improving the infrastructure for the development of Port MacKenzie, which includes the proposed ferry system and the Knik Arm Crossing.
- **Anchorage Metropolitan Area Transportation Solutions (AMATS) Long Range Transportation Plan (LRTP) Amendment, 2002.** The LRTP supports transportation infrastructure based on the Anchorage Bowl 2020 Comprehensive Plan adopted in 2001. In October 2001, the Port of Anchorage 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. The POA based their request on: (a) there is only one truck access 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 to the north to the NHS and to rail systems; and (b) multi-modal 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...it would compliment 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 MOA 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 MOA Assembly passed a resolution (2002-34) recommending the same action. On February 14, 2002, the AMATS Policy Committee amended their LRTP to authorize the investigation of the feasibility of a Knik Arm Crossing project.

As part of the current update process to the 2025 LRTP, AMATS prepared the *Draft Long Range Transportation Plan: Goals and Objectives, 2004*. Goal 2 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 convenient manner is also a priority. Goal 7 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 Port of Anchorage, 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. The Knik Arm Crossing project would materially support these regional mobility, access, efficiency, economic, connectivity, and transportation integration objectives.

- **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 Knik Arm Crossing as the number one Regional Transportation Priority Project. The 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, Alaska Railroad Corporation, Alaskan Command of the U.S. Department of Defense (non-voting advisory role only), and representatives of the Alaska Legislature. The RTPO evaluated and ranked regional projects from regional project lists provided by each agency, criteria was agreed upon, and a screening of 53 port, transit, trail, airport, highway and trail projects were 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/Matanuska Susitna region in the following priority 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, 2003.** The Mat-Su Borough Assembly, through Resolution 03-011 on February 18, 2003, adopted the Knik Arm Crossing as the Number One Regional Transportation Priority Project. The resolution stated that in order to maintain a strong and growing regional economy there is a need for additional commercial, industrial, and residential lands, and the Knik Arm Crossing will provide access to developable lands within the Mat-Su Borough for such uses. The Knik Arm Crossing would reduce travel times and lower transportation costs between South-central Alaska and Interior Alaska, as well as between the Mat-Su Borough and Anchorage.
- **Matanuska-Susitna Borough Rail Corridor Study, June 2003.** The Mat-Su Borough Rail Corridor 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

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and out of the Mat-Su Borough and the rest of Alaska. The Study concluded with a recommendation for a new alignment 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 identified as accommodating the future Knik Arm Crossing project. On February 1, 2005, The Mat-Su Borough Assembly adopted the Rail Corridor Study as part of the Borough Comprehensive Plan.

In 2001, the Knik Arm Crossing was included in the 2001-2003 Statewide Transportation Improvement Program (STIP) due to its regional and statewide importance. In 2003, it was listed in the 2004-2006 STIP as an "A" rank Alaska Priority Community Access Project. "A" rank projects are given highest priority for Congressional earmarks and other non-routine funding sources. The project scope was revised as an Earmarked Project with specific federal funds and the description was broadened in 2005:

STIP Amendment #8 (FHWA/FTA approved February 16, 2005):
Page Earmark 6; Need ID 16543 "Knik Arm Crossing - Design and construct a toll bridge to span Knik Arm between the Municipality of Anchorage and the Matanuska-Susitna Borough, utilizing a combination of federal, state, and local funds, for a facility that will be eligible to be part of the federal National Highway System. The Knik Arm Toll Bridge Project expects nomination as a High Priority Infrastructure Project that will seek priority earmark funding through the federal transportation reauthorization legislation (replacement of TEA-21) federal fiscal year 2005 or later."

In 2002 and 2003, the Commissioner of DOT&PF sent letters requesting that the Alaska Congressional Delegation include the Knik Arm Crossing as a High Priority Transportation Project in the federal surface transportation bill TEA-21. During that period, the DOT&PF conducted a series of studies to reevaluate the Knik Arm Crossing project and update feasibility and cost considerations. The decision to reevaluate the project was based on its emphasis in the previously referenced local and regional plans. The results were published in a series of reports entitled *Knik Arm Crossing Engineering Feasibility and Cost Estimate Update, Volume 1, Volume 2 and Volume 3, January 2003*. These reports concluded that federal funding assistance would undoubtedly play a major role in future project funding, but that a myriad of other non-federal funding sources would be required to make the 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 DOT&PF's feasibility and cost/financial assessments and in recognition of the statewide and regional economic and transportation needs, the Alaska Legislature established the Knik Arm Bridge and Toll Authority (KABATA) within the DOT&PF to pursue the construction of a Knik Arm Crossing. Specifically, Alaska Statutes Chapter 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

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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. Preliminary capital costs are estimated to range from \$400 to \$600 million. The Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users, or “SAFETEA-LU” was signed by the President on August 10, 2005. The bill includes the Knik Arm Crossing project as a high priority project and allocates a total amount of \$229 million for “Planning, design, and construction of Knik Arm Bridge” for fiscal years 2005 through 2009 to carry out the project.

(2) Efficient regional transportation connectivity for the movement of people and the movement of freight and goods to, from, and distribution between Anchorage, the Mat-Su Borough, and interior Alaska.

The Port of Anchorage (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 Port of Anchorage. However, the Port of Anchorage 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. There is limited truck access in and out of the Port that hinders efficient transport of freight to areas north of Anchorage. This access problem has been increasing with additional truck traffic and limited capacity of roads within the Port of Anchorage and Ship Creek industrial areas.

According to the *Port of Anchorage Northern Corridor Feasibility Study, 1997*, the Port of Anchorage handles over 3,000,000 metric tons annually. Approximately one-half of this tonnage is vans/flats or containers. Of this amount, containerized throughput grew approximately 1,370,300 metric tons in 1996. Based on the *POA Northern Access Corridor Reconnaissance Study, 1999*, container-oriented trips into the POA area should continue to increase through the year 2020, growing from 165,533 total truck trips in 1995 to 326,099 total truck trips in 2020, assuming the base case scenario. Containers to Fairbanks and the Mat-Su Borough were estimated to account for approximately 25 percent of the total inbound container market in 1995. 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 the Municipality of Anchorage were expected to become an increasingly larger component of the overall traffic flows, with projected annual growth at approximately 3 percent under the base case scenario.

The *1999 Port of Anchorage Master Plan* identified capacity deficiencies on the primary roadways conveying port-oriented traffic as a major concern. The projected growth will exacerbate the existing access problems at the Port of Anchorage and Ship Creek industrial area and make connections to the state transportation system more inefficient. A northern access provided by the Knik Arm Crossing project would divert substantial northbound truck volumes away from the existing Downtown Anchorage transportation network.

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In 2001, AMATS released a Freight Mobility Study for the Anchorage Metropolitan Area (Anchorage Metropolitan Area Transportation Solutions Freight Mobility Study, 2001), that 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 Port of Anchorage and Ship Creek areas. Recommendations included improving access connections between the Port of Anchorage and Ship Creek warehouse district and the rest of Anchorage, improving roads within the Ship Creek Basin that are key to the movement of freight (2000-2005); and investigate the need for relocation of Whitney Avenue and an alternative connection to the Ingra/Gambell couplet.

According to the *Port of Anchorage Road and Rail Extension Project Environmental Assessment, January 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 at the POA will increase by at least 50 percent. The Port is currently (2005) in the permitting phase of a major port expansion project. The 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. The POA also estimated that port-generated daily traffic would increase by 99 percent over the next 20 years.

Similarly, the Port of Anchorage has very little space for industrial manufacturing for homes, oil field equipment, or mining support items to be barged to rural Alaska. The *Anchorage 2020* plan indicated that Anchorage has adequate supplies of undeveloped industrial and commercial land, but little of it is in the immediate vicinity of the waterfront (See Figure 1-2). The Mat-Su Borough currently is developing its Port MacKenzie in ways that are largely complementary to the Port of Anchorage and the Ship Creek industrial area. The Borough is making use of its relative abundance of developable land for bulk commodities and facility fabrication, without competing with the Port of Anchorage's efficient container handling facilities. The Mat-Su Borough has plans for the adjacent 10,000-acre Port MacKenzie District to provide services for bulk commodity storage, such as fuel, timber, sand and gravel, peat, grain, and 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 Point 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 Cook Inlet Ferry, which will be operational in late 2007.

Currently, the 80-mile road distance between Anchorage and the Port MacKenzie District significantly limits efficient access to users. A Crossing connecting the two areas will provide efficient year-round, seven-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 current connection is by a two-hour drive one-way via the local roadway network, yet Anchorage and Port MacKenzie are physically only two 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 Borough's busiest city. As previously indicated, a Knik Arm Crossing

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would connect Anchorage and Port MacKenzie, improve regional transportation efficiency by providing more direct northbound access to the National Highway System, and increase the capacity of regional commercial and industrial marine-related activity.

Linking Port MacKenzie and the planned 10,000-acre Port MacKenzie District directly to the Anchorage Bowl road, rail, marine, and air transportation hub would improve the currently limited inter-modal connections to the rest of the State and international destinations. Connection of Anchorage and Port MacKenzie with a direct road link would allow for complementary growth in serving the economic and transportation needs of the State, as well as those of the Mat-Su Borough and Municipality of Anchorage. Container loads from Anchorage destined for transshipment north to the Mat-Su Borough and interior of 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 Point MacKenzie will serve Ted Stevens Anchorage International Airport and Anchorage consumer and commercial needs. A recent report published in association with the Stranded Gas Act 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 Point MacKenzie with more efficient truck and rail connections.

As the Mat-Su Borough 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 Borough, and interior Alaska. The Mat-Su Borough is currently proceeding with construction of a Knik Arm ferry as an initial step to provide access between Anchorage and Port MacKenzie. It is primarily designed for relatively low travel demand and is not intended to meet long-term, high-volume travel demand, nor heavy truck and industrial traffic volumes, to meet future regional travel needs and freight and goods movement needs.

While construction of a rail crossing of Knik Arm is not part of the current proposal, 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. The Alaska Railroad Corporation (ARRC), the Port of Anchorage, and the Mat-Su Borough have studied the need for more efficient northern rail access. Design and construction of a vehicular Knik Arm Crossing will be accomplished in a manner that is complementary to a future rail crossing and does 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 corridor in the region connecting Anchorage with the Mat-Su Borough, the Glenn Highway. In the event of a natural disaster or other emergency, interruption of this single transportation corridor would leave both Anchorage

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and the Mat-Su Borough without an alternate vehicular route for travel or for emergency response and evacuation.

The Knik Arm Crossing would provide Alaska's most populous region with redundant routes for improved safety, alternate 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 stoplight at Bragaw Street in Anchorage and the Palmer-Wasilla Interchange in the Mat-Su Borough, for the ten-year period from 1994 to 2003, there were 3686 auto accidents, involving 5499 vehicles, causing 31 fatalities, 193 major injuries, and 1658 minor injuries. This comes out to an average of one accident per day, resulting in a minor injury once every two days, and a death or major injury every 2.3 weeks. 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 Borough, and would support a more reliable emergency response system in the region.

Emergency response times between the Mat-Su Borough and Anchorage would be greatly reduced, in some cases from an hour and a half to one half an hour with a 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 Borough to the north without an overland route for emergency response or evacuation between the two areas. The proposed Mat-Su Borough 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, re-opening, configuration and operation of the transportation system under emergency conditions. During emergencies, a Knik Arm Crossing would serve as an alternate evacuation and emergency response route should the only other route between Anchorage and the Mat-Su Borough be rendered unusable. If the existing north-south route remained usable, the Crossing would provide additional capacity and routing as an alternative evacuation and emergency response route. The Ted Stevens Anchorage International Airport, Alaska Railroad Corporation, and the Port of Anchorage 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 1994 Municipality of Anchorage (MOA) Comprehensive Emergency Management Plan (CEMP) includes annexes to provide for the safe evacuation or in-place shelter of part or all of the population of the MOA. The MOA Office of Emergency Management stated that should a major evacuation be necessary, the population would be evacuated north on the Glenn Highway. While the CEMP is currently being updated and is scheduled for release in late 2005, this assumption still applies. As identified in the State of Alaska and Anchorage All-Hazards Mitigation Plans, Anchorage is vulnerable to many natural hazards including earthquake, wildfire, flood, volcano, avalanche, tsunami, and severe weather.

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The Port of Anchorage and Anchorage International Airport are the primary transshipment facilities for goods arriving in Anchorage and bound for distribution throughout Alaska. The trans-shipped goods include hazardous materials such as petroleum, chlorine and ammonia. Catastrophic explosion or leaks from industrial areas, the rail line, or trucking routes would warrant emergency response and/or evacuation that could be hindered with the current transportation system.

The Anchorage population, combined with the Mat-Su Borough core area population, currently totals approximately 350,000 people and by 2030 is projected to be approximately 550,000. The sole arterial connection provided by the Glenn Highway, coupled with the significant Mat-Su Borough commuter base relying on this single transportation link, presents a substantially vulnerable regional transportation system, particularly in light of future growth conditions. 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 impacting commuters' abilities to travel to and from their jobs, and by reducing the movement of freight and goods between Anchorage and the Mat-Su Borough, and interior Alaska. A Knik Arm Crossing would provide redundant road transportation to ensure that regional traffic flow could continue.

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