

MATANUSKA-SUSITNA BOROUGH

Regional Aviation System Plan and Location Study

APPENDICES

August 2008



APPENDIX A

Forecast Details

Forecast of Aviation Activity in the Matanuska-Susitna Borough

Socioeconomic Profile of Matanuska Susitna Borough

The Matanuska Susitna Borough (MSB) incorporates 24,683 square miles in Southcentral Alaska, north of the Municipality of Anchorage, south of the Denali Borough, and follows the Glenn Highway east to Lake Louise, nearly reaching the Valdez-Cordova Census Area. The area includes the Alaska, Chugach, and Talkeetna mountain ranges, valleys of the Matanuska and Susitna watersheds, and the major drainages of the Susitna, Matanuska, Knik, and Talkeetna Rivers. Incorporated in 1964 as a Second Class Borough, the borough's 2005 estimated population was 74,041. At this time, only three communities in the MSB are incorporated – Houston, Palmer and Wasilla. In addition, 25 community councils are currently recognized by the MSB.

Transportation infrastructure within the borough includes state highways, the Alaska Railroad, and public and privately owned aviation facilities. Two major highways connect the MSB to Anchorage (about 35 miles away), the Parks Highway to the west and the Glenn Highway to the east. The Alaska Railroad links Anchorage to Fairbanks. Most of the 356-mile route crosses the borough, stopping at the South Palmer, Wasilla, and Talkeetna depots, with flag stops at Chase, Curry, Sherman, Gold Creek, Canyon/Indian River, Chulitna, and Hurricane. Of the publicly-owned and operated airports, eight are state owned, and two are municipal owned. Over 200 private airstrips and floatplane facilities are located in the borough.

The area first attracted outside laborers and workers to engage in coal and gold mining, and the construction of the Alaska railroad in the 1920s. Homesteaders and farmers also came to the area in the 1930s boosting the region's population. Expanded farming and the connection to Anchorage, along with the continental road system fueled further expansion. As the economy of the state and especially of Anchorage has grown, so has the population of the borough, which is only about an hour's drive from Anchorage. Because of diverse housing options and available land, the borough is experiencing continued population growth.

While there is still some mining and agriculture activity in the borough, most of the economy is based on supporting the resident population. Only about 55% of the workers residing in the borough also work in the borough. About 34% of borough residents working are employed in Anchorage. Recreation and tourism is also a strong economic sector in the area.

Population

The estimated 2005 population of the borough was 74,041, nearly 88% of which was white. In 2005, the median age of borough residents was 34.6 years, and 22,221 residents (about 30%) were under 18 years old. About 7% of borough residents (4,982) were aged 65 and older in 2005. The average household size for borough residents in 2000 was 2.84 persons.

The annual per capita personal income for borough residents in 2004 was \$29,376. The borough ranked 16th in the state for per capita personal income, and that income was 86% of the statewide average of \$34,000 and 89% of the national average of \$33,050 in that year.

The borough has one of the fastest growing populations in the state, showing an annual average growth rate of 4.3% between 2000 and 2005 compared to a 1.1% growth rate state wide. Between 2000 and 2005, the borough gained 14,719 residents, more than the population of most communities in the state. Over 80% of that increase was due to net migration (immigration minus out migration), and less than 20% was due to natural increase (births minus deaths). Net migration for the entire state was negative over the same time period. The following table presents population change in the borough from 1960 to 2005. The rate of population growth has slowed over time compared to the rapid pace in the 1970s and 1980s, but the borough is still one of the fastest growing areas of the state.

Table 1
Matanuska-Susitna Borough Population Growth
1960 to 2005

Year	Population	Annual Growth Rate
1960	5,188	
1970	6,509	2.5%
1980	17,816	17.4%
1990	39,683	12.3%
2000	59,322	4.9%
2001	61,737	4.1%
2002	64,329	4.2%
2003	67,841	5.5%
2004	70,482	3.9%
2005	74,041	5.0%
Average 1960 to 2005		6.6%
Average 2000 to 2005		4.5%

Sources: Alaska Department of Labor and Workforce
Development, and U.S. Bureau of Census

The MSB contains 28 officially recognized communities, three of which are incorporated. The following table presents population by Census Designated Place (CDP) in the borough for 2000 to 2005. A CDP can contain one or more communities.

Table 2
Matanuska-Susitna Borough Population by Place
2000 to 2005

							Change	
	2005	2004	2003	2002	2001	2000	2004-05	2000-05
Mat-Su Borough	74,041	70,482	67,841	64,329	61,737	59,322	5.0%	4.1%
Big Lake CDP	2,982	2,929	2,925	2,706	2,616	2,635	1.8%	2.2%
Butte CDP	3,101	2,979	2,470	2,785	2,736	2,561	4.1%	3.5%
Farm Loop CDP	1,193	1,145	1,175	1,165	1,083	1,067	4.2%	2.0%
Fishhook CDP	2,784	2,645	2,379	2,243	2,191	2,030	5.3%	6.2%
Gateway CDP	3,682	3,572	3,339	3,215	3,118	2,952	3.1%	4.1%
Houston city	1,447	1,374	1,367	1,262	1,160	1,202	5.3%	3.4%
Knik-Fairview CDP	10,271	9,268	8,665	8,002	7,639	7,049	10.8%	7.6%
Lakes CDP	7,773	7,484	7,129	6,928	6,816	6,706	3.9%	2.7%
Lazy Mountain CDP	1,238	1,232	1,216	1,192	1,178	1,158	0.5%	1.2%
Meadow Lakes CDP	6,332	5,957	5,645	5,281	5,041	4,819	6.3%	5.2%
Palmer city	5,382	5,226	5,321	4,838	4,583	4,533	3.0%	3.1%
Sutton-Alpine CDP	1,265	1,164	1,172	1,142	1,111	1,080	8.7%	2.9%
Tanaina CDP	6,622	6,301	5,933	5,601	5,264	4,993	5.1%	5.4%
Wasilla city	6,413	6,148	6,460	5,949	5,517	5,469	4.3%	2.9%
Willow CDP	1,932	1,863	1,834	1,718	1,666	1,658	3.7%	2.8%
Y CDP	1,063	1,078	1,051	994	998	956	-1.4%	1.9%
Remainder	9,498	9,039	8,709	8,314	8,022	7,498	5.1%	4.4%

Source: Alaska Department of Labor and Workforce Development.
 CDP = Census Designated Place. A CDP can contain one or more communities.

Table 2 shows the average annual rates of growth in the cities and CDPs within the borough between 2000 and 2005. Between 2004 and 2005, the fastest growing areas were Knik-Fairview CDP (10.8% annual growth), Sutton-Alpine CDP (8.7% annual growth), and Meadow Lakes (6.3% annual growth).

Economic Activity

The economy of the borough is somewhat defined by the fact that the area is close to Anchorage, yet has more available land for housing, and lower housing prices. In 2003 (the latest full year for which data is available), only 55% of the workers who lived in the borough worked in the borough. About 34% of those borough residents worked in Anchorage, while the other 11% of employed borough residents worked in places such as the North Slope and the Fairbanks North Star Boroughs in that year.

The following table presents number of businesses, average annual employment and earnings by industry for the borough in 2004. The majority of the jobs are within the service producing industries, some of the largest industries being retail sales and health

care. These support industries serve an existing resident population, and create limited revenue and business from outside the local areas.

**Table 3
Employment and Earnings in the Matanuska-Susitna Borough
by Industry for 2004**

Industry	Number of Businesses	Average Annual Employment	Total Wages	Average Monthly Wages
Total Industries	1,644	16,087	\$498,871,825	\$2,584
Total Government	82	3,426	\$134,537,191	\$3,272
Federal Government	19	192	\$10,743,301	\$4,673
State Government	52	963	\$36,291,399	\$3,141
Local Government	11	2,272	\$87,502,491	\$3,209
Total Private Industry	1,562	12,660	\$364,334,634	\$2,398
Goods Producing	459	2,067	\$77,231,969	\$3,114
Natural Resources & Mining	19	117	\$4,263,830	\$3,050
Agriculture	11	69	\$1,002,680	\$1,220
Mining	8	48	\$3,261,150	\$5,662
Construction	399	1,736	\$65,668,127	\$3,153
Manufacturing	41	214	\$7,300,013	\$2,839
Service Providing	1,103	10,594	\$287,102,664	\$2,259
Trade, Transportation and Utilities	283	3,728	\$101,412,191	\$2,267
Wholesale Trade	27	108	NA	NA
Retail Trade	194	2,928	\$73,678,800	\$2,097
Transportation and Warehousing	58	543	\$14,223,797	\$2,183
Utilities	4	148	NA	NA
Information	24	520	\$27,492,487	\$4,404
Financial Activities	95	551	\$17,833,922	\$2,698
Professional and Business Services	176	894	\$28,063,001	\$2,616
Education and Health Services	171	2,424	\$74,649,771	\$2,566
Education Services	14	263	\$9,562,524	\$3,031
Health Care and Social Assistance	157	2,161	\$65,087,247	\$2,510
Leisure and Hospitality	216	1,917	\$26,721,443	\$1,161
Arts, Entertainment and Recreation	46	272	\$4,391,909	\$1,345
Accommodation and Food Services	170	1,645	\$22,329,534	\$1,131
Accommodation	46	447	\$8,324,529	\$1,551
Food Services and Drinking Places	124	1,198	\$14,005,005	\$975
Other Services	130	550	\$10,742,647	\$1,628

Source: Alaska Department of Labor and Workforce Development.

industries in the borough are those that support the resident population. Only three of the fastest growing industries receive most of their revenue from outside of the borough (Leisure and Hospitality, Manufacturing, and Natural Resources & Mining) and will be addressed later in this report.

Table 4
Job Growth in the Matanuska-Susitna Borough
between 2000 and 2004

Industry	New Jobs
Health Care and Social Assistance	594
Leisure and Hospitality	594
Construction	573
Retail Trade	534
Government	384
Transportation and Warehousing	284
Professional Services	191
Financial Activities	183
Information	115
Manufacturing	96
Other Services	73
Natural Resources and Mining	48

Source: Mat-Su Comprehensive Economic Development Strategy,
 June 2006 update.

The fastest growing support industry sector in the borough is Health Care and Social Assistance. This industry is showing strong growth statewide as the industry matures and as the population of Alaska ages. As more medical care for borough residents is being provided locally, additional economic growth has occurred in this sector. Since these job growth figures were reported, a new medical facility (Matanuska-Susitna Regional Medical Center) and other medical facilities were built and opened. These facilities and others in the borough will continue to grow in the future.

Construction is another support sector showing strong growth in the borough. With continued housing development, public facilities construction, major commercial development, and upcoming road work within the borough, that sector will remain strong for years to come. Future projects include construction of new schools and renovation of existing ones, a new prison, recreation facilities at Hatcher Pass, visitor facilities at South Denali State Park, and a possible Knik Arm Crossing Bridge.

Recreation and Tourism

One of the fastest growing basic industries in the borough is recreation and tourism (called Leisure and Hospitality by Alaska Department of Labor and Workforce Development). The borough has abundant recreational opportunities, and is located between the two most populous areas of the state. Anchorage and Fairbanks area

residents travel to the borough year-round for recreation. In addition, the area is visited by travelers from out of state in group tours or traveling independently. Many visitors travel through the borough to reach Denali National Park, one of the most popular attractions in Alaska. In fact, the southern portion of Denali National Park and all of Denali State Park are within the borough boundaries. Many opportunities for sport fishing and hunting, cultural/historical experiences, and other recreational activities are found within the borough. Access to and through the borough is primarily via major roadways and rail facilities. Remote areas are accessible only via riverboat or air, and many visitors use those transportation services to reach remote recreation areas and lodges.

Winter tourism is more prevalent in the borough than in most places in Alaska due to the large population centers on either side of the borough, and the major winter draw of the Iditarod sled dog race, which has its restart in Wasilla or Willow (depending on weather). The Hatcher Pass area already draws winter recreation enthusiasts, and a major development (\$41 million) is being planned for that area that will encompass about 11,000 acres and will include nordic and alpine ski areas.

Summer visitation continues to grow, as evidenced by the recent addition of about 100 rooms in a major hotel south of Denali National Park. The Denali State Park (south of the National Park) has significant recreational developments planned, including a new visitor center on the west side of Curry Ridge. Although visitor counts in the borough are not available, the following table reflects the growth in visitation through growth in bed tax revenues to the MSB. The Matanuska-Susitna Visitor's Bureau estimates that there are about 1,500 rooms available to accommodate visitors in the borough in 2006. The bed tax of 5% has remained unchanged since it was implemented in 1990.

Table 5
Bed Taxes Collected
Mat-Su Borough, 1990 to 2005

Year	Taxes	% Change
1990	\$46,551	
1991	\$35,915	-22.8%
1992	\$55,345	54.1%
1993	\$72,055	30.2%
1994	\$93,345	29.5%
1995	\$121,778	30.5%
1996	\$171,899	41.2%
1997	\$242,835	41.3%
1998	\$291,021	19.8%
1999	\$349,119	20.0%
2000	\$481,776	38.0%
2001	\$542,345	12.6%
2002	\$645,423	19.0%
2003	\$684,615	6.1%
2004	\$767,579	12.1%
2005	\$829,545	8.1%

Source: Matanuska-Susitna Borough, 2006.

The community of Talkeetna has the closest public airport to Mt. McKinley (Denali). As one of the busiest airports in the region, the Talkeetna Airport hosts flightseeing tours, glacier landings, and mountaineering support and rescue operations. In addition, popular air tour destinations and custom air charters include area glaciers, remote fly-in hunting and fishing packages (into areas off the road system), especially at the Willow Airport.

Transportation and Industrial Development

The nearly 9,000-acre industrial and commercial port district at Point MacKenzie (across the Knik Arm north from the Port of Anchorage) continues to be developed. The Port MacKenzie District currently supports a large wood chipping and exporting operation, construction of remote housing modules, and pipeline pump station and electrical modules. Port development includes infrastructure to accommodate Panamax sized vessels to load and unload bulk materials and complement the containerized port facility at Anchorage. Access road and utilities upgrades, and the barge dock expansion at the port are also planned. Although full funding has not been obtained, the Knik Arm Bridge crossing proposal would span the Knik Arm from Point MacKenzie to Anchorage. This concept is currently being developed. In addition, a 120-passenger, 25-vehicle fast ferry is being built to cross the Knik Arm and land potentially near Ship Creek. Year-round operations are expected to begin during the summer of 2008. The Federal Transit Administration is providing about \$17 million for the ferry terminal buildings, the Anchorage and Mat-Su landings, and the engineering, design, and furnishings aboard the ferry.

In addition to the facility improvements at Point MacKenzie, transportation projects include upgrade and expansion of both road and rail systems within the borough. With a generous amount of available land that is accessible to major road systems, the area is attractive for commercial and infrastructure development. Currently, sites are being sought within the borough for a major state prison.

Natural Resources

Although agricultural production and mining activities occur at lower levels than in the past, they still contribute to the economy of the borough. In addition, timber harvest and production occurs within the borough. While there are no fishing ports within borough boundaries, many borough residents participate in and benefit from fish harvest and processing.

Agriculture

Agricultural production in the borough has declined over time, yet the Matanuska Susitna region still produces about two-thirds of the agricultural value in the state. The value of agricultural production in the Matanuska Valley in 2004 was \$11.7 million, and includes production of crops and livestock (including dairy products). Some value-added processing of agricultural products occurs now, and the MSB is planning an agricultural processing and product development center. The University of Alaska has an experimental farm in the borough.

Mining

Mining activity in the borough has also declined, and current activity in the industry is mostly restricted to sand and gravel extraction. Some gravel deposits are located near the rail lines, and materials are shipped by rail to Anchorage for construction projects there. With the development of bulk shipment infrastructure at Point MacKenzie, even more sand and gravel is being shipped to the Anchorage area.

The borough has both hard rock and placer deposits of gold and associated metals, and large coal fields exist within borough boundaries. In addition, there has been interest in methane gas exploration and extraction in the borough, and natural gas pipelines are being considered. Increased prices of these raw materials could spur renewed exploration and production.

Timber Harvest and Processing

Harvestable timber within the borough is located mostly on MSB lands, State lands (including University of Alaska and Mental Health Trust lands), Native corporation lands and private lands. According to Alaska Department of Natural Resources' forest management plans, 11,250 acres of State forest land will be available for harvest between now and 2009. University of Alaska and Mental Health Trust lands are managed for revenue generation on a parcel by parcel basis, and could also be available for timber harvest at any time. The MSB has land suitable for timber harvest, but road access to the

areas would need to be developed. Clearing timber from these lands will make them available for further development.

While there is a large amount of timberland in the borough, the wood quality is generally low, and most suited for wood chips. One company began providing wood chips for export in 2005. Potential exists for added-value processing of chips locally into ethanol or other biomass fuels, or types of laminate or pressboard products. Demand for rough cut lumber for small local mills has decreased over time, although some is still being produced.

Fish Harvest and Processing

Although borough boundaries do not encompass any fishing ports, some of its residents travel outside the area to fish commercially. In 2004 (the latest year of information available), 254 borough residents held state commercial fishery permits, and 286 residents held fishing crew licenses. During that year, 171 borough residents fished 212 state permits, and caught 15,750,653 pounds of fish for a gross value of \$8,211,716. It is likely that borough residents also engage in fisheries that occur in Federal waters, and are licensed by the Federal government, such as Federal halibut, sablefish and crab fisheries.

In addition to commercial fishing activity, 14 salt water fishing charter vessels, and 139 fresh water charter fishing vessels were licensed to operate in the borough in 2005. Three small fish processors are licensed to operate within the borough in 2006 – one each in Talkeetna, Wasilla, and Big Lake.

As long as the borough is a desirable place to live, commercial fishers will likely continue to live there and bring their fishery earnings back to the borough. The market for Alaska fish is strong, and it is likely that a commercial fishing contribution to the borough economy will continue. Changes in federal fisheries management in the Bering Sea and the Gulf of Alaska could have negative impacts on borough residents who commercial fish as consolidation in the industry occurs and fewer boats and fewer crew are required to harvest the allowable catch.

Government

The government sector employed nearly 3,500 people in the borough in 2004. The majority of those jobs are with local Borough or city governments (including school districts). State employment includes employment at the Denali State Park and the University of Alaska Mat-Su College campus, and Alaska Railroad employment in the borough. State government also includes the Department of Natural Resources Division of Forestry's firefighting operations for southern half of Alaska, located at the Palmer Airport. Firefighting flights at the Palmer Airport average about five flights per day for the 120 day fire season. Federal agencies include the US Park Service's Denali National Park, the main Alaska offices of US Department of Agriculture Rural Development and the National Resource Conservation Service, the Alaska Tsunami Warning Center, and FAA Flight Service Stations. State government employment will expand significantly with the development of a State prison in the borough.

Matanuska-Susitna Borough Air Traffic Forecast

Following is a forecast of aviation activity in the borough. It incorporates both a forecast of activity at public airports in the borough, and a forecast of all aviation activity in the borough, including activity at both public and private landing areas.

Existing Air Traffic

The Matanuska-Susitna Borough encompasses about 24,683 square miles, and accommodates 10 public airports and over 200 private airstrips and floatplane landing areas. FAA Flight Service monitoring occurs at Talkeetna and Palmer airports, and is supervised from the regional Flight Service office in Kenai. Scheduled air service is not available to any of the airports in the borough, likely because most airports are on the statewide road system and relatively close to Ted Stevens Anchorage International Airport (ANC). Charter service is available at most public and several private landing areas (wheel, ski, and floatplane charter service). Following is a brief description of air traffic at the public airports in the borough.

- Palmer Airport: Public airport owned and managed by the City of Palmer. This airport has very little commercial aviation activity. A State Division of Forestry Aviation fire center is located on the airport, and has seasonal operations between March (training) and August. Firefighting activity varies with the season, but generally includes three based aircraft and activity by several DC6 air tankers and helicopters. A small cargo operation is based at the airport, and other companies have enquired about moving their operations from Anchorage to Palmer. Other traffic is private General Aviation (GA) including students, helicopters, other government aircraft, medivac aircraft, and the occasional small private jet. Commercial operators from Anchorage sometimes train at this airport (fixed wing and helicopters). Military traffic is frequent and includes planes and helicopters, which sometimes stop for fuel. During the summer fire season, this airport can have peak traffic of more than 20 operations per hour.
- Wasilla Airport: Public airport owned and managed by the City of Wasilla. This airport accommodates some charter traffic, but most of the traffic is from GA aircraft. Some local GA flight instruction occurs, and companies, schools, and military from outside Wasilla sometimes train there. Private twin engine planes such as King Airs and Aztecs frequent the airport in summer (one or more per week). GA traffic is increasing at the airport. Peak traffic at this airport during the summer season is about six operations per hour.
- Talkeetna Airport: Public airport owned and managed by the Alaska Department of Transportation and Public Facilities (DOT&PF). The Talkeetna Airport is the busiest of all public airports in the borough. While there is no scheduled service, there is a good deal of flightseeing activity and charter traffic associated with the mountain climbing season, such as flying climbers and gear to and from base camps. The U.S. Park Service and military engage in search and rescue flights using the Talkeetna Airport. This airport sees more medivac flights than most airports in the borough. Military flights by both planes and helicopters fuel at Talkeetna. Talkeetna is often visited by small private jets in summer. Charter companies frequenting this airport have recently changed their fleet mix to larger aircraft (Navajos, Beavers and single-

engine Otters). Peak traffic at this airport in the summer season can reach 60 operations per hour.

- Willow Airport: Public airport owned and managed by DOT&PF. This airport has no scheduled service, but charter and tour activity is growing. Willow Airport is sometimes used by firefighting aircraft in the summer. A floatplane lake is located south across the highway from the runway, and is one of the few areas where commercial float plane maintenance is available in the borough.
- Big Lake Airport: Public airport owned and managed by DOT&PF. This airport has no scheduled service, but charter and tour activity is growing. Much of the traffic at this airport is from local-based private aircraft.
- Skwentna Airport: Public airport owned and managed by DOT&PF. This is the only public airport in the borough off the road system, and is mainly used for mail, cargo (including fuel) and passenger transport for the community of about 75 people. Some cargo operations are hubbed out of Skwentna to surrounding areas. Summer traffic includes hunting and fishing charters, and the runway is used for training by student pilots. The Alaska Department of Fish and Game bases planes and helicopters at the Skwentna Airport in summer. Skwentna is a checkpoint in the Iditarod sled dog race, and receives considerable winter air traffic for that event.
- Summit, Goose Bay, and Sheep Mountain Airports: Public airports owned and managed by DOT&PF. The Goose Bay Airport is used for pilot training flights for pilots based in Anchorage and the Mat-Su. These airports receive little traffic, and have few or no based aircraft. Because of its location close to Point MacKenzie on the west side of Knik Arm, the Goose Bay Airport could experience growth in traffic if a Knik Arm bridge is built.
- Lake Louise Airport: Public airport owned and managed by DOT&PF. The airport is currently closed due to the poor surface condition of the runway. Runway repairs are scheduled for an uncertain future date.

Air Traffic Forecast

In this section, we present two air traffic forecasts for the Matanuska-Susitna Borough. The first forecast is for aviation activity on public airports, and is a consolidation of existing air traffic forecasts for those airports. The second forecast represents air traffic for the entire borough, regardless of whether the aircraft are using public or private landing areas. The second forecast does not indicate where within the borough this activity takes place, but it does forecast activity by local (based) and visiting (itinerant) traffic, and by aircraft equipped with floats and wheels. Due to data limitations, we have not attempted to forecast commercial traffic separate from GA traffic in this report.

Sources used to develop the following air traffic forecasts include existing forecasts for public airports in the borough, forecasts from adjacent regions, pilot certification statistics from federal databases, aircraft counts from MSB property tax rolls, and existing population forecasts for the borough. In addition, we performed interviews with local pilots, aircraft repair businesses, air carriers, airport management and other knowledgeable parties. Much of the aviation activity within the borough occurs on private land, and historic data is not available for that traffic. Therefore, portions of the following forecasts were developed from best estimates of local and regional knowledgeable parties, and from the judgment of the forecasters.

Local Significant Conditions Affecting Air Traffic

Several local and regional significant conditions affecting air traffic in the borough were used to develop aviation forecasts presented in this section. Some factors tend to increase demand for air travel, and some tend to dampen that demand.

Trends Encouraging MSB Aviation Growth

The following factors could lead to an increase in aviation activity in the borough. While some factors impact the borough directly, other factors impact areas adjacent to the borough or aviation in general, and indirectly affect air traffic in the borough.

- The borough has and should continue to experience rapid population growth. Population in the borough grew about 5.0% between 2004 and 2005.
- The tourism and outdoor recreation sector in Alaska is strong and growing. Air activity associated with tours and fishing, hunting and guiding activities have shown strong growth in recent years, and could impact air traffic in the borough in the future.
- Oil and gas, and other resource development in Alaska will improve the economy of the state as a whole and its communities. A proposed natural gas pipeline could be constructed through the Mat-Su to serve southcentral Alaska. The resulting increased economic activity will likely increase recreational air travel, and possibly air transport of goods within the borough (especially to communities off the road system) in the future.
- Military activity has increased across the nation, especially training activity. There are several military air bases close to the borough, and increased aviation training activity has been apparent at some of the public airports within the borough. This increased activity is likely to continue for at least the next several years.
- Demand is high for aircraft tie downs and hangars in the Anchorage area, and most airports are running out of space. At Lake Hood, there are 250 names on the waiting list for a seaplane float. As this demand increases, it will expand beyond the Anchorage bowl into adjacent areas, such as the Matanuska-Susitna Borough.
- Demand for additional space for commercial operations at the Ted Stevens Anchorage International Airport (ANC) could move a limited portion of those operations (such as portions of international cargo and GA operations) into the borough in the future.
- As transportation options to reach the borough improve (highway upgrades, Knik Arm ferry and/or bridge, etc.), more non-borough resident pilots may consider basing their aircraft in the borough.
- The borough has large amounts of land available for development, and aviation enthusiasts look toward the borough as a place to build or locate on private air parks, landing strips and lakes.

Trends Discouraging MSB Aviation Growth

Factors that could lead to a decrease in aviation activity in the borough include:

- Air traffic in general across the nation has been decreasing. Ratios of pilots and based aircraft to the population have decreased consistently for many years, and will likely continue to decline.
- Results of September 11 events have made commercial air travel in general more difficult, and complications such as increased insurance rates have put pressure on commercial air carriers to consolidate or leave the industry.
- High fuel, insurance, and security costs tend to increase the cost of commercial and recreational air travel.
- Increasing competition for land in the borough will likely mean less land available for landing strips in the more developed areas.
- Disposable incomes are decreasing due to high energy, housing, and other costs, and people will make less costly substitutions for expensive air travel and recreational activities.
- Surface transportation improvements (land and sea) may reduce demand for more expensive commercial air travel, and air transportation of freight and mail.
- Decreases in aviation subsidies (Essential Air Service, Bypass Mail, etc.) may reduce demand for commercial air transportation of freight.
- Commercial air carrier fleet mix changes to larger aircraft at some borough airports means more passengers per flight, resulting in fewer flights.

The question of whether scheduled air carrier and/or air cargo services would occur at borough airports on the road system in the future was examined. The question was presented to regional air carriers, air cargo carriers, and other knowledgeable parties, and several previous studies were examined. In general, it is believed that scheduled air service to airports on the road system within the borough is not economically feasible because ANC is located a short distance away by road. Similarly, cargo shipments destined for areas on the road system within the borough are less expensive to move via highway or rail than via air.

There is currently some air shipment of goods to and from the borough in areas not on the road system, and that activity is expected to continue, although possibly at a declining rate due to possible decreases in subsidies for such services (i.e., Essential Air Service and Bypass Mail subsidies). Increased economic activity such as natural resource exploration and extraction could increase aviation activity in off-road areas of the borough.

The 2002 Anchorage Ted Stevens International Airport Master Plan update included two alternatives which relocated the entire airport or only the international cargo and some limited GA/air taxi operations from ANC to a new airport in the Point MacKenzie area. Due mainly to high cost, inconvenience for passengers and business users, the impracticality of splitting passenger and cargo operations, potential environmental impacts, and the risk of losing international airline customers, these alternatives were not pursued. However, the study did not address the feasibility of an airport solely to serve general aviation and air taxi operations, so the possible relocation of some of these operations from ANC, Lake Hood and other general aviation airports in the future was considered and is included in the trends listed above.

Existing Forecasts for Public Airports

The following forecast is a compilation of existing forecasts developed for publicly-owned airports in the Matanuska-Susitna Borough. Several sources exist for this public airport traffic forecast information. They include:

- Airport Master Plans: Forecasting is routinely done in conjunction with public airport master plan studies.
- Alaska Aviation System Plan: The DOT&PF developed a statewide aviation system plan in 1996 that contained forecast information for selected airports in various Alaska regions.
- Airport Layout Plans: Occasionally, air traffic forecasts are developed in conjunction with the updating of Airport Layout Plan (ALP) documents.
- Terminal Area Forecasts: The FAA Terminal Area Forecasting system (TAF) develops forecasts of aviation activity at many Alaska airports and landing areas. The TAF system uses a model and updates historic traffic frequently. However, for smaller airports, the model seems to forecast only the latest historic data into the future with zero growth.

Unfortunately, there is no one forecasting method in common for all the public airports in the borough. Therefore, the most recent and thorough forecasts available for each airport were chosen for this study. The best source of information was individual forecasts from Master Plans or ALPs. Forecasts included in the Alaska Aviation System Plan is the next best source, and where no other data was available, forecasts from FAA's TAF system were used, and adjusted slightly to consider growth in activity over time. Timeframes were made consistent across all airport forecasts so that they could be compared and combined.

The Palmer, Wasilla and Talkeetna Airports have recently completed air traffic forecasts for their airport master plan updates. The Palmer study was done in 2001, the Wasilla study in 2003, and the Talkeetna study in 2001 with a minor update and adjustment in 2006. The Willow Airport forecast was developed for the most recent ALP update in 2003. The Big Lake Airport forecast was taken from the 1996 Aviation System Plan. Since the only forecasts available for Skwentna, Summit, Goose Bay and Sheep Mountain airports were from the TAF system, and TAF does not forecast growth for small airports in Alaska, it is likely that additional growth in those small airports could occur that was not reflected in the TAF. For that reason, we adjusted the TAF forecasts to show a 1% growth per year.

Table 6 presents the forecasts for the public airports in the borough. The largest growth is anticipated at Willow Airport, with a more than tripling of operations over 25 years. Operations at Talkeetna Airport are expected to nearly triple also. Palmer and Wasilla Airports anticipate a more than doubling of their operations, and Big Lake expects a nearly doubling of their operations over the same period of time. The smaller airports will see an increase of about 1.3 times their current traffic.

Table 6
Existing Forecasts for Matanuska-Susitna Borough Public Airports

	2005	2010	2015	2020	2025	2030
Palmer (2001 Master Plan)						
Based Aircraft	161	192	228	270	326	388
Commercial Operations	0	0	0	0	0	0
Military Operations	187	187	187	187	187	187
GA Operations	28,299	33,521	39,818	47,335	57,039	67,876
Total Operations	28,486	33,708	40,005	47,522	57,226	68,063
Wasilla (2003 Master Plan)						
Based Aircraft	127	154	188	229	279	340
Commercial Operations	3,591	4,953	6,239	7,244	8,412	9,800
Military Operations	145	182	211	245	285	331
GA Operations	22,223	25,762	29,866	34,622	40,137	46,559
Total Operations	25,959	30,897	36,316	42,111	48,834	56,690
Talkeetna (2001 Master Plan, adj. 2006)						
Based Aircraft	96	118	142	174	213	257
Commercial Operations	23,418	29,707	37,530	47,916	61,433	78,020
Military Operations	500	500	500	500	500	500
GA Operations	8,000	8,900	9,900	11,038	12,307	13,661
Total Operations	31,918	39,107	47,930	59,454	74,240	92,181
Willow (2003 Airport Layout Plan)						
Based Aircraft	89	108	135	171	221	286
Commercial Operations	2,259	2,754	3,445	4,360	5,645	7,310
Military Operations	0	0	0	0	0	0
GA Operations	7,961	9,688	12,132	15,370	19,934	25,853
Total Operations	10,220	12,442	15,577	19,730	25,579	33,163
Big Lake (1996 AK Aviation System Plan)						
Based Aircraft	112	123	135	147	161	177
Commercial Operations	0	0	0	0	0	0
Military Operations	0	0	0	0	0	0
GA Operations	28,300	32,000	36,000	40,500	45,563	51,258
Total Operations	28,300	32,000	36,000	40,500	45,563	51,258
Skwentna, Goose Bay, Summit, Sheep Mountain (Terminal Area Forecast + 1%)						
Based Aircraft	8	8	9	9	10	10
Commercial Operations	1,065	1,118	1,174	1,233	1,295	1,359
Military Operations	0	0	0	0	0	0
GA Operations	8,490	8,915	9,360	9,828	10,320	10,836
Total Operations	9,555	10,033	10,534	11,061	11,614	12,195

Sources: Wasilla (2003), Palmer (2001) and Talkeetna (2001) Airport Master Plans, Talkeetna Airport Improvements EA (2006), Alaska Aviation System Plan (1996), Willow Airport Layout Plan (2003), and FAA's Terminal Area Forecasts (2006).

Table 7 presents the consolidation of the forecasts for all public airports in the borough. This consolidated forecast shows a more than doubling of operations in 25 years, and a 2.5 fold increase in based aircraft. Commercial enplanements and operations are expected to more than triple over the same time period. Growth in GA operations is expected to double, while military operations are expected to increase only slightly.

Table 7
Consolidated Public Airport Forecast
Matanuska-Susitna Borough, 2005 to 2030

	2005	2010	2015	2020	2025	2030
Based Aircraft	593	703	837	1,001	1,210	1,458
Commercial Enplanements	32,490	41,215	52,352	68,068	88,660	112,917
Commercial Operations	30,333	38,532	48,388	60,753	76,785	96,489
Military Operations	832	869	898	932	972	1,018
Local GA Operations	44,768	51,416	59,267	68,453	79,538	92,245
Itinerant GA Operations	58,505	67,370	77,809	90,240	105,761	123,797
Total Operations	134,438	158,187	186,362	220,378	263,056	313,549

Sources: Wasilla (2003), Palmer (2001) and Talkeetna (2001) Airport Master Plans, Talkeetna Airport Improvements EA (2006), Alaska Aviation System Plan (1996), Willow Airport Layout Plan (2003), and FAA's Terminal Area Forecasts (2006).

General Forecast

The following forecast estimates all aviation activity in the borough, whether that activity takes place on public or private landing areas. It was developed independent of the public airport forecasts presented previously. This forecast uses the same growth patterns used for the population forecasts in the 2005 Matanuska-Susitna Borough Long Range Transportation Plan (LRTP).

LRTP Population Forecast

The population forecasts used in the LRTP were originally developed by the University of Alaska's Institute of Social and Economic Research (ISER) for the Knik Arm Bridge and Toll Authority (KABATA), and include scenarios for growth of population to 2030 with and without the building of a Knik Arm Bridge. ISER developed Matanuska-Susitna Borough population growth estimates using their Man-in-the-Arctic Program (MAP) econometric modeling system. That model included statewide economic and fiscal assumptions, and the following regional assumptions (taken directly from the ISER publication):

Regional Assumptions

- Employment – No significant shifts in location of basic industries except from Anchorage. Basic employment currently in Anchorage begins to shift to Mat-Su Borough at a rate of 75 employees per year beginning in 2012.

- Commuting – Share of basic sector workers who commute between census areas constant except for Anchorage where the share commuting to Mat-Su Borough increases .008 annually. Share grows from 45% to 67.4%.
- Pt. MacKenzie Ferry – Pt. MacKenzie ferry results in shift of 1,200 population from Anchorage to Mat-Su by 2010, growing to 2,400 by 2030.

Knik Arm Crossing

- Construction – Employment impact begins in 2007 and peaks at 1,459 average annual construction jobs in 2010 and 2011. 75% of workers live in Anchorage and 25% live in Mat-Su.
- Basic Employment – Additional 50 basic sector jobs shift from Mat-Su annually from Anchorage starting in 2012.
- Commuters – Share of basic jobs in Anchorage taken by commuters from Mat-Su grows to 78.4%.

The base growth rate from the ISER analysis was used for the LRTP, and adjusted for individual Transportation Analysis Zones (TAZs) according to local and professional knowledge of development patterns within the borough. While growth rates are higher in core and other areas of expected development, and lower in more remote areas, the average growth for the borough as a whole is equal to the ISER estimates. The scenario that includes the building of a Knik Arm Bridge does not result in additional statewide population over the scenario without that bridge, but assumes that resident populations will shift slightly away from Anchorage and toward the Matanuska-Susitna Borough with a building of the bridge.

Forecast Development

Table 8 presents historic numbers of registered pilots per 1,000 residents in the U.S., Alaska, Anchorage, and the Matanuska-Susitna Borough. The table shows that a higher proportion of borough residents are pilots compared to Alaska and even compared to Anchorage. In 2005, there was one certified pilot in every 526 U.S. residents, one certified pilot in every 78 Alaska residents, and one certified pilot in every 65 Matanuska-Susitna Borough residents.

Table 8
Registered Pilots per 1,000 Residents
1998 to 2005

Year	U.S. Pilots per 1,000 Residents	Alaska Pilots per 1,000 Residents	Anchorage Pilots per 1,000 Residents	Mat-Su Pilots per 1,000 Residents
1998	2.1	14.1	16.0	17.2
1999	2.3	14.1	16.1	17.1
2000	2.1	13.6	15.6	17.0
2001	2.0	13.2	15.2	15.9
2002	2.1	13.4	15.6	15.9
2003	2.0	13.4	15.4	16.2
2004	2.0	13.1	14.8	15.7
2005	1.9	12.9	14.7	15.6

Sources: U.S. Census Data, Alaska Department of Labor and Workforce Development, and Federal Aviation Administration.

According to FAA records, in 2005, 1,133 borough residents held aircraft pilot’s licenses, 621 of which were private pilot’s licenses. Licensed pilots include pilots with air transport, commercial, private, recreational, sport, and student licenses. Private pilots exclude those pilots with air transport and commercial licenses. According to MSB property tax rolls, 1,024 airworthy aircraft (13.2 per 1,000 residents) were based in the borough in 2006. Some types of recreational and sport aircraft (such as gliders) are not counted in that count.

Table 9 presents a forecast of based aircraft and pilots in the borough to 2030. It was developed by applying the 2005 ratio of based aircraft and pilots to the borough population, to the forecasted population growth for with and without the Knik Arm Bridge scenarios from ISER and the LRTP. While this forecast includes all aircraft based in the borough and pilots residing in the borough regardless of whether they are based at or use public or private landing areas, it was developed independent of the public airports forecast presented previously.

Table 9 shows that the Matanuska-Susitna Borough population will increase about 2.6 times without a Knik Arm Bridge to 187,530 by 2030. For the scenario with a Knik Arm Bridge, the population will increase about 2.8 times to 203,755 over the same time period. Pilots and based aircraft are expected to grow at the same rate as population. Under the scenario without a bridge, by 2030, about 2,925 pilots will reside in the borough and 2,475 aircraft will be based there. Under the scenario which includes building a Knik Arm Bridge, those numbers increase to 3,179 for pilots and 2,690 for based aircraft.

Table 9
Forecast of Based Aircraft and Pilots in the Matanuska-Susitna Borough
With and Without the Knik Arm Bridge
2005 to 2030

	2005	2010	2015	2020	2025	2030
Population						
Without Bridge	72,700	92,080	118,990	136,860	161,870	187,530
With Bridge	72,700	96,040	125,560	144,438	173,505	203,755
All Pilots						
Without Bridge	1,134	1,436	1,856	2,135	2,525	2,925
With Bridge	1,134	1,498	1,959	2,253	2,707	3,179
Private Pilots						
Without Bridge	618	783	1,011	1,163	1,376	1,594
With Bridge	618	816	1,067	1,228	1,475	1,732
Based Aircraft						
Without Bridge	973	1,215	1,571	1,807	2,137	2,475
With Bridge	973	1,268	1,657	1,907	2,290	2,690

Source: Southeast Strategies, 2006.

Base Year (2005) Estimates

To estimate current non-resident (itinerant) aviation activity in the borough, we examined studies of air traffic activities in adjacent areas of the state. The 2004 Anchorage Area General Aviation System Plan (Anchorage GA Plan) forecasted both GA and air taxi activity in the Anchorage bowl. The Anchorage GA Plan also estimated and forecasted the number of wheeled aircraft vs. float aircraft based in the Anchorage area. Interviews with management at major Anchorage area airports where most GA and air taxis are based, and with FAA Flight Service personnel provided estimates for what portion of the Anchorage area-based fleet of GA and air taxi aircraft traveled to the Matanuska-Susitna Borough. For this forecast, we estimate that in 2005, 85% of GA and air taxi flights from Anchorage equipped with floats traveled to the borough, and 60% of GA and air taxi flights equipped with wheels or skis traveled to the borough.

Interviews with local pilots and mechanics who install floats on aircraft in the borough lead to an estimate that about one fourth to one half of aircraft based in the borough are equipped with floats during the summer season. For this forecast, we used the estimate that one third of the aircraft based in the borough are on floats during the summer. While this estimate is based on anecdotal information, no other information was available with which to refine the estimate. There were about 973 aircraft based in the borough in 2005. About 324 of those are estimated to be on floats in the summer. The rest (649) are estimated to be on wheels.

Table 10 presents base year (2005) estimates of GA and air taxi traffic in the borough, separated by local and visiting (itinerant) traffic, and by aircraft equipped with wheels, and those equipped with floats. Data was not available to estimate the number of GA vs.

air taxi aircraft or traffic in the borough. This analysis includes all aviation traffic in the borough, regardless of whether they use public or private facilities, and was developed independently from the public airports forecast presented previously.

Itinerant traffic was estimated using the percent of Anchorage-based aircraft traveling to the borough, plus 100 additional float aircraft and 200 additional wheeled aircraft traveling to the borough from places other than the Anchorage area. Operations were estimated for local aircraft by using the average number of annual operations for based aircraft at public airports in the borough as determined by the public airport forecast in Table 7 (about 75.5 annual operations per aircraft). Operations for itinerant aircraft (about 73.4 annual operations per aircraft) were estimated using annual operations per based aircraft in the Anchorage area from the Anchorage GA Plan, and adjusting that figure for the estimated percent of flights to the Matanuska Susitna Borough by Anchorage-based aircraft. That estimate was also adjusted to account for the fact that charter air taxi traffic accounts for more operations per aircraft than GA traffic.

Table 10
2005 General Aviation and Air Taxi Traffic in the MSB

	Anchorage- Based Aircraft	Itinerant Mat-Su Traffic	Local Mat-Su Traffic	Total Mat-Su Traffic
Aircraft				
On Float	775	759	324	1,083
On Wheels	2,395	1,637	649	2,286
All	3,170	2,396	973	3,369
Operations				
On Float	58,508	55,725	24,485	80,210
On Wheels	180,808	120,226	48,971	169,197
All	239,316	175,951	73,456	249,407

Sources: Matanuska-Susitna Borough property tax information, Anchorage Area General Aviation System Plan (2004), and Southeast Strategies.

Note: Itinerant traffic is activity in the borough by aircraft based outside of the borough.

Table 10 shows that about 32% of all operations in the borough in the summer season are estimated to be by aircraft equipped with floats, whether those aircraft are based in the borough or visiting from outside the borough. These base year estimates are used to develop the forecast presented below. Comparison of the 2005 estimates in Table 13 with the public airports 2005 estimates in Table 7 shows that about 56% of the aircraft operations within the borough in that year took place at public airports. This estimate corresponds generally with the estimate that about 61% of aircraft based in the borough are located at public airports.

General Forecast Summary

The following two tables (Tables 11 and 12) present the general air traffic forecast for the Matanuska-Susitna Borough from 2005 to 2030 for two scenarios – without a Knik Arm

Bridge and with a Knik Arm Bridge. These forecasts use the same growth rates as the LRTP population forecasts. While these forecasts include aviation activity at both public and private airports within the borough, they were developed independent of the public airports forecast presented earlier.

The forecast without development of a Knik Arm Bridge (Table 11) shows that by 2030, all air traffic in the borough will increase about 146% to 8,292 aircraft and 614,042 operations. Local traffic will increase by 154% to 2,475 based aircraft and 186,878 operations, and itinerant traffic will increase by about 142% to 5,816 aircraft and 427,164 operations by 2030. Aircraft on floats are estimated to make up about 32% of all aircraft operating in borough airspace.

Table 11
Forecast of Air Traffic in Matanuska-Susitna Borough Without Knik Arm Bridge
2005 to 2030

	2005	2010	2015	2020	2025	2030
Aircraft	3,369	4,076	4,987	5,886	7,008	8,292
Based	973	1,215	1,571	1,807	2,137	2,475
On Floats	324	405	524	602	712	825
On Wheels	649	810	1,047	1,204	1,424	1,650
Itinerant	2,396	2,861	3,416	4,079	4,871	5,816
On Floats	759	906	1,082	1,292	1,543	1,842
On Wheels	1,637	1,955	2,334	2,787	3,328	3,974
All Aircraft	3,369	4,076	4,987	5,886	7,008	8,292
On Floats	1,083	1,311	1,605	1,894	2,255	2,667
On Wheels	2,286	2,765	3,381	3,992	4,753	5,624
Operations	249,407	301,863	369,460	435,964	519,036	614,042
Based	73,456	91,760	118,576	136,384	161,307	186,878
On Floats	24,485	30,587	39,525	45,461	53,769	62,293
On Wheels	48,971	61,173	79,051	90,923	107,538	124,585
Itinerant	175,951	210,103	250,884	299,580	357,729	427,164
On Floats	55,725	66,541	79,457	94,879	113,295	135,286
On Wheels	120,226	143,562	171,427	204,701	244,434	291,878
All Operations	249,407	301,863	369,460	435,964	519,036	614,042
On Floats	80,210	97,128	118,982	140,340	167,064	197,578
On Wheels	169,197	204,735	250,478	295,624	351,972	416,464

Source: Southeast Strategies, 2006.

Note: Itinerant aircraft are aircraft based outside of the borough that travel to the borough.

Comparison between the public airports forecast in Table 7 and the air traffic forecast for the no-bridge scenario presented in Table 11 reveals that about 50% of the aircraft operations in the borough occur on existing public airports by 2030. This forecast does not speculate about additional public airports/floatplane facilities being developed by 2030, but that is a distinct possibility.

The forecast with development of a Knik Arm Bridge (Table 12) shows a higher rate of growth in air traffic by 2030. That forecast shows similar relationships between based and itinerant traffic, and between wheel and float aircraft traffic, but with larger increases of aircraft and operations in borough airspace overall. This forecast estimates that by 2030, there will be an additional 631 aircraft using borough airspace (215 of which will be based in the borough) over the scenario without a Knik Arm Bridge. An additional 46,792 operations are estimated by 2030 under this forecast, with 16,168 operations by based aircraft and 30,623 operations by itinerant aircraft.

Comparison of the forecast in Table 12 (scenario with a Knik Arm Bridge) with the public airports forecast in Table 7 shows that about 47% of the aircraft operations in the borough occur on existing public airports by 2030. This forecast does not speculate about additional public airports/floatplane facilities being developed by 2030, but that is a distinct possibility.

Table 12
Forecast of Air Traffic in Matanuska-Susitna Borough with Knik Arm Bridge
2005 to 2030

	2005	2010	2015	2020	2025	2030
Aircraft	3,369	4,168	5,169	6,159	7,439	8,923
Based	973	1,268	1,657	1,907	2,290	2,690
On Floats	324	423	552	636	763	897
On Wheels	649	845	1,105	1,271	1,527	1,793
Itinerant	2,396	2,901	3,512	4,252	5,148	6,233
On Floats	759	919	1,112	1,347	1,630	1,974
On Wheels	1,637	1,982	2,400	2,905	3,518	4,259
All Aircraft	3,369	4,168	5,169	6,159	7,439	8,923
On Floats	1,083	1,341	1,665	1,982	2,394	2,871
On Wheels	2,286	2,827	3,505	4,176	5,045	6,052
Operations	249,407	308,738	383,052	456,223	551,004	660,834
Based	73,456	95,706	125,123	143,936	172,902	203,046
On Floats	24,485	31,902	41,708	47,979	57,634	67,682
On Wheels	48,971	63,804	83,416	95,957	115,268	135,364
Itinerant	175,951	213,032	257,929	312,288	378,102	457,787
On Floats	55,725	67,469	81,688	98,904	119,747	144,984
On Wheels	120,226	145,564	176,241	213,384	258,355	312,803
All Operations	249,407	308,738	383,052	456,223	551,004	660,834
On Floats	80,210	99,371	123,396	146,882	177,381	212,666
On Wheels	169,197	209,368	259,657	309,341	373,622	448,167

Source: Southeast Strategies, 2006.

Note: Itinerant aircraft are aircraft based outside of the borough that travel to the borough.

Forecast of Aviation Activity by Census Designated Place

The following analysis of aviation growth by Census Designated Place (CDP) is directly connected to population growth, and not very sensitive to variables affecting aviation. In order to examine areas of increased aviation activity within the borough, the following analysis uses growth by CDP within the borough to 2025 developed for the LRTP under two scenarios – with and without construction of a Knik Arm Bridge.

The LRTP provided population growth estimates by CDP for 2025 only, and no information is available for interim or later years by CDP. Table 13 presents the LRTP forecast of population growth by CDP to 2025.

Table 13
2025 Population Forecast
With and Without Knik Arm Bridge

Census-Designated Place	Adjusted 2000 Population (Base Year)	2025 Population without Bridge	2025 Population with Bridge
Big Lake	2,688	7,036	11,982
Knik-Fairview	6,661	18,882	29,801
Houston	1,352	4,504	5,050
Willow	1,039	2,461	2,337
Meadow Lakes	4,760	14,114	14,959
Tanaina	4,435	8,492	7,590
Fishhook	1,856	5,876	4,460
Wasilla	5,206	14,202	14,503
Seldon	2,377	5,467	4,940
Lakes	6,390	12,377	10,980
Gateway	2,604	11,087	10,053
Glenn	2,030	12,663	10,793
Palmer	3,744	9,804	8,566
Farm Loop	1,372	6,156	5,369
Lazy Mountain	1,148	2,303	1,686
Butte	2,475	6,404	4,809
Knik River	605	1,028	756
Colony	924	2,310	3,645
Buffalo-Soapstone	652	1,925	1,696
Sutton-Alpine	398	1,352	1,233
Point MacKenzie	98	1,352	8,903
Remainder of Borough	6,508	10,863	9,394
Borough Totals	59,322	161,870	173,505

Source: Matanuska Susitna Borough Long Range Transportation Plan, 2006.

Note: The scenario that includes the building of a Knik Arm bridge does not result in additional statewide population over the scenario without that bridge, but assumes that resident populations will shift slightly away from Anchorage and toward Mat-Su with a building of the bridge.

Table 14 presents a forecast of pilots, based aircraft and operations in the borough by CDP for 2025 for two scenarios – with and without a Knik Arm Bridge. Since many of these CDPs are adjacent to each other and easily accessed by major road systems, it would be difficult to predict exactly where these pilots will reside in the borough, and where these aircraft will actually be based. Therefore, this analysis assumes that growth of based aircraft and pilots will occur where population growth is predicted to occur. For this analysis, we apportioned pilots and based aircraft to CDPs by using the borough-wide ratio of pilots and based aircraft to population, and applying that ratio to the

estimated future population of each CDP. Operations per CDP were estimated by applying the borough-wide ratio of operations per based aircraft to the number of based aircraft estimated to be in each CDP in 2025.

Table 14
2025 Forecast of Based Aircraft, Pilots and Operations by CDP
With and Without the Knik Arm Bridge

CDP	Without Knik Arm Bridge				With Knik Arm Bridge			
	2025 Population	Local Pilots	Based Aircraft	All Operations	2025 Population	Local Pilots	Based Aircraft	All Operations
Big Lake	7,036	108	93	22,562	11,982	183	158	38,053
Knik-Fairview	18,882	289	249	60,546	29,801	456	393	94,640
Houston	4,504	69	59	14,441	5,050	77	67	16,039
Willow	2,461	38	32	7,890	2,337	36	31	7,422
Meadow Lakes	14,114	216	186	45,256	14,959	229	197	47,505
Tanaina	8,492	130	112	27,229	7,590	116	100	24,104
Fishhook	5,876	90	78	18,842	4,460	68	59	14,165
Wasilla	14,202	217	187	45,537	14,503	222	191	46,058
Seldon (A)	5,467	84	72	17,529	4,940	76	65	15,689
Lakes	12,377	189	163	39,687	10,980	168	145	34,868
Gateway	11,087	170	146	35,551	10,053	154	133	31,925
Glenn (C)	12,663	194	167	40,604	10,793	165	142	34,274
Palmer	9,804	150	129	31,436	8,566	131	113	27,203
Farm Loop	6,156	94	81	19,739	5,369	82	71	17,050
Lazy Mountain	2,303	35	30	7,386	1,686	26	22	5,355
Butte	6,404	98	85	20,534	4,809	74	63	15,272
Knik River	1,028	16	14	3,297	756	12	10	2,401
Colony (B)	2,310	35	30	7,407	3,645	56	48	11,576
Buffalo-Soap	1,925	29	25	6,171	1,696	26	22	5,387
Sutton-Alpine	1,352	21	18	4,335	1,233	19	16	3,914
Point MacKenzie	2,565	39	34	8,224	8,903	136	118	28,272
Remainder	10,863	166	143	34,832	9,394	144	124	29,833
Borough Totals	161,870	2,477	2,137	519,036	173,505	2,655	2,290	551,004

Source: Southeast Strategies, 2006.

Additional factors affecting growth in aviation activity were considered, although impacts by area were not fully quantified. The greatest growth in aviation activity is expected to occur in the following areas in no particular order:

- At existing public airports where capacity allows;
- At the periphery of populated areas, especially areas of strong population growth;
- Where there is affordable, flat land on the road system available for development of airstrips;

- On lakes with room to land where there is affordable land available around them (especially on the road system);
- In areas with strong recreation and tourist attractions;
- In areas on the road system closest to Anchorage (overflow from the Anchorage area);
- On the west side of Knik Arm, especially if a Knik Arm Bridge is built; and
- With a Knik Arm Bridge, Goose Bay Airport will likely experience strong growth.

The 2002 ANC Master Plan Update considered two alternatives that included partial or complete relocation of ANC airport operations to the Matanuska-Susitna Borough. These alternates were not deemed feasible in 2002, but are being revalidated in the upcoming Master Plan Update. Relocation of some general aviation/air taxi operations appears to be the most feasible if the Knik Arm Bridge is built.

Fleet Mix

Little information is available regarding fleet mix of aircraft based in or operating in the borough. During the summer season, it is estimated that one third of all aircraft based in the borough are equipped with floats. In addition, the MSB differentiates between single-engine and multi-engine aircraft for purposes of charging property taxes on those aircraft. In 2006, the MSB reported 996 single-engine and 28 multi-engine airworthy aircraft based in the borough.

Economic Impact of Aviation Activity in the Borough

Due to the limited economic data and research resources available to estimate the economic impact of aviation activity in the borough, it is not possible to fully quantify the potential economic impacts generated from aviation activity. As a result, the very narrowly-defined Alaska Department of Labor and Workforce Development industry category of Air Transportation was used to estimate indirect impacts, to show how impacts are multiplied in an economy. The following estimates in no way account for all economic impacts to the borough from aviation activity.

According to the Alaska Department of Labor and Workforce Development, the industry category of Air Transportation employed 46 full-time equivalent workers (FTEs) in the Matanuska-Susitna Borough in 2005. This specific industry category includes only companies whose primary business is transporting passengers and cargo by air, such as Talkeetna Air Taxi. It does not include workers on public airports, such as the Cities of Palmer or Wasilla airport personnel, DOT&PF airport maintenance personnel, or FAA personnel, as they are counted in the government sector. It does not count companies that list their primary industry as flight training, aviation repair, providers of aviation fuel, providers of tours, or other aviation-linked categories. In addition, this calculation does not include air transportation industry employees who might work in the borough, but their main office is in Anchorage, and employees are reported as being in Anchorage. Also, since this employment count is by place of employment, air transportation workers living in the borough but working elsewhere are not included in this count.

Table 15 shows direct, indirect, and induced impacts of reported 2005 employment in the Air Transportation industry in the borough. This information came from the IMPLAN (IMPact Analysis for PLANning) model, a community and regional level input/output model initially developed by the U.S. Forest Service in cooperation with the Federal Emergency Management Agency, and the U.S. Department of the Interior, Bureau of Land Management to assist the Forest Service in land and resource management planning. The model uses census area level data about employment, income, and other indicators to determine how direct economic impacts will produce multiplier effects (indirect and induced economic impacts) within an area. This analysis uses 1999 Matanuska-Susitna Borough specific data, adjusted for inflation to 2005 dollars. While this analysis represents only a small portion of the impact that aviation activity has on the borough, it can indicate the expansion of the impact beyond direct employment of personnel.

Table 15
Economic Impacts of 2005 Reported Air Transportation Employment
In the Matanuska-Susitna Borough

	Direct	Indirect	Induced	Total
Business Income	\$3,625,427	\$369,805	\$1,788,386	\$5,783,618
Employment	46	5.1	23.6	74.7
Payroll	\$1,526,566	\$158,366	\$810,826	\$2,495,757
Rents and Dividends	\$635,398	\$69,578	\$304,659	\$1,009,636
Local Fees and Taxes	\$273,654	\$15,628	\$85,494	\$374,776

Source: Southeast Strategies, 2006.

Definitions of Table 15 Terms:

- **Direct** impacts are primary impacts in the local area that are a direct result of employment in the air transportation industry in the borough that would not exist without that activity.
- **Indirect** impacts are secondary impacts created by additional spending in the borough by **businesses** earning revenue directly from air transportation businesses reporting employment in the borough.
- **Induced** impacts are secondary impacts created by additional spending in the borough by **households** who earn income (usually as wages and salaries) directly from air transportation businesses reporting employment in the borough.

The impact categories are:

- **Business Income** – Total income to local businesses as a result of activity by air transportation businesses reporting employment in the borough.
- **Employment** – Total number of jobs created as a result of activity by air transportation businesses reporting employment in the borough. Jobs are counted as the equivalent of full-time, year round jobs.
- **Payroll**– Total wages and salaries paid to employees and payments received by self-employed individuals as a result of activity by air transportation businesses reporting employment in the borough.

- **Rents and Dividends** – Total lease and rent payments, royalties and dividends that are paid by impacted businesses as a result of activity by air transportation businesses reporting employment in the borough.
- **Local Fees and Taxes** – Total sales, property and other local taxes paid, as well as local fees and commission paid by impacted businesses as a result of activity by air transportation businesses reporting employment in the borough.

In addition to the above impact on borough employment in the narrowly defined Air Transportation industry and similar impacts in aviation-linked industries, economic impacts are received in many other economic sectors in the borough. Visitors using aviation services may also rent hotel rooms and cars, purchase tours, meals, gifts, and other goods and services. Pilots residing in the borough but working outside of the borough bring home their paychecks and spend it with borough businesses. Retired aviation industry employees spend retirement and insurance income in the borough. Construction and maintenance activities related to airports or air strips bring economic impacts to the borough, and many other impacts occur which are not easily quantified. Also, for each of those economic activities, indirect and induced impacts multiply the dollars circulating within the borough. Although a full evaluation of economic impacts to the borough of aviation activity is not within the scope of this study, the above brief analysis hints at the large size of that economic impact.