5 Forecast

5.1 Introduction

This chapter outlines the development of 20-year traffic forecasts for all highway corridors in the study area and forecasts for passengers, cargo and based aircraft at Interior Alaska's public use airports. Forecasts are used to assess future traffic operations and identify potential deficiencies in the transportation system. The forecasts also help communities within the study area plan for future growth and travel demand.

To complete the forecasts, population projections for the study area were analyzed. In addition, impacts from resource and economic development projects and historical growth patterns were considered.

5.2 Population Projections

The model used in the population projections assumes the continuation of current population migration trends, particularly population declines. These trends have been indentified in Northern Economics' own research and in the research of other such as ISER's *Fuel Costs, Migration, and Community Viability.* The population estimation process is described below:

- The analysis identifies census area/borough-specific compound annual growth rates (CAGRs) for from Alaska Department of Labor and Workforce Development and the University of Alaska-Anchorage's Institute of Social and Economic Research (ISER).
- The analysis assumes that communities, in aggregate, grow at the census area or borough specific compound annual growth rate from ISER or ADOLWD.
- The analysis assumes that the difference between a community's individual CAGR and the weighted average for that community's census area between 2000 and 2007 will continue into the future.
- After estimating individual CAGRs for each community, the resulting population estimates are adjusted to make sure that the results for each community fit the internally consistent set of assumptions developed by the study team.

- In the final step, the analysis aggregates community results into census area and borough level results.

A more detailed discussion of this process and the model's basic assumptions about the future are included in the full population projection memo (See Appendix C Population Projection Memo).

The analysis estimates that almost all of the census areas and boroughs included in this analysis will grow between 2007 and 2030, but that growth rates will be modest. Overall, the weighted CAGR for all communities in the study is expected to be 0.9 percent between 2007 and 2030. However, the data for this analysis show that declining population is an issue for many communities; between 2000 and 2007, 29 of the 59 communities or places experienced negative growth rates. The aggregate population of the project communities in the Fairbanks North Star Borough is expected to grow most quickly, albeit at a modest 1.1 percent CAGR, driven by the construction of the North Slope natural gas pipeline and the City of Fairbanks' role as a regional hub. The analysis projects that the aggregate population of the project communities in the Yukon-Koyukuk Census Area will fall slightly. This decline continues a pattern identified in recent work by ISER and by Northern Economics. The remaining areas will see very modest population growth.

Table 5-1. Study Area Population Projections by Census Area/Borough[1]

Borough/ Census Area	Number of Communities Inside Project Area	2007 Population	2010 Population	2020 Population	2030 Population	2007-2030 CAGR
Matanuska-Susitna Borough	1	91	91	102	114	1.0%
Denali	3	1,444	1,392	1,375	1,348	-0.3%
Yukon-Koyukuk	17	2,290	2,179	1,973	1,843	-0.9%
Valdez-Cordova	17	2,564	2,429	2,275	2,156	-0.8%
SE Fairbanks	10	3,782	3,688	3,734	3,674	-0.1%
Fairbanks North Star	12	90,963	91,193	103,673	116,469	1.1%
Grand Total	60	101,134	100,971	113,133	125,603	0.9%

Source: U.S. Census Bureau Census 1990; U.S. Census Bureau Census 2000; Alaska Department of Labor and Workforce Development 2008; Northern Economics, Inc Estimates 2008.

In aggregate, the populations of non-road system communities within the project's study area are expected to decline at a CAGR of -0.2 percent between 2007 and 2030; from nearly 1,500 to approximately 1,430. While the aggregate population of these communities will be relatively stable, the changes in individual community populations will be highly variable. For example the analysis estimates that the populations of Lake Minchumina, Rampart and Chisana will decline into the single digits by 2030, effectively indicating that the communities may cease to exist in the long-term. The analysis also estimates that some larger communities such as Arctic Village and Fort Yukon will grow slowly during the analytical period.

[1] This table aggregates estimates by census area/borough. The table does not contain comprehensive estimates of actual census area or borough populations because there are communities in some of the census areas and boroughs which are not included in the study area. The analysis does not provide population projections for communities outside the study area. The estimates in this memo are based on current trends and reasonably foreseeable actions and events (RAFE). Events that could significantly change the results of this analysis include large changes in energy prices; the failure of efforts to build the Arctic North Slope Natural Gas Pipeline; major changes in Federal policy either through direct changes in Federal expenditures or through the Base Realignment and Closure (BRAC) process; force majeure events such as rapid climate change, epidemic, or natural catastrophe; major changes in state and Federal transportation policy; large changes in Permanent Fund Dividend checks.

Table 5-2. Population Projections for Non-Road System Communities

Community/ Place	Borough/ Census Area	2007 Population	Estimated 2010 Population	Estimated 2020 Population	Estimated 2030 Population	Estimated 2007-2030 CAGR
Arctic Village	Yukon Koyukuk	155	160	179	200	1.1%
Beaver	Yukon Koyukuk	65	60	45	34	-2.8%
Birch Creek	Yukon Koyukuk	26	26	25	25	-0.2%
Chalkyitsik	Yukon Koyukuk	72	69	62	55	-1.2%
Fort Yukon	Yukon Koyukuk	591	604	650	700	0.7%
Lake Minchumina	Yukon Koyukuk	17	13	6	3	-7.8%
Rampart	Yukon Koyukuk	17	12	3	1	-12.1%
Stevens Village	Yukon Koyukuk	71	67	54	44	-2.0%
Tanana	Yukon Koyukuk	257	244	205	172	-1.7%
Venetie	Yukon Koyukuk	181	177	165	153	-0.7%
Healy Lake	Southeast Fairbanks	37	38	40	42	0.6%
Chisana	Valdez-Cordova	7	6	3	1	-7.3%
Total for Non-Road System Communities		**1,496**	**1,476**	**1,437**	**1,430**	**-0.2%**

Source: Alaska Department of Labor and Workforce Development 2008; Northern Economics, Inc Estimates 2008.

Based on original estimates prepared by ISER (Goldsmith 2005) for the Knik Arm Crossing Environmental Impact Statement, the analysis estimates that the road system communities will grow at an average CAGR of 1.0 percent between 2007 and 2030. Under these conditions, the aggregate population of the study area communities will grow from approximately 99,631 persons in 2007 to 124,173 in 2030. The city of Fairbanks is expected to remain relatively constant in population, while evolving bedroom communities in the Fairbanks area such as Ester and Two Rivers will see faster growth as new residents take advantage of relatively lower land prices. Tourism gateway communities such as McCarthy may also see future growth. Other communities will see population losses. Communities such as Chicken, Livengood, Minto and Nelchina will likely shrink as residents age and more mobile residents seek lower living costs or higher wages in larger communities.

Table 5-3. Population Projections for Road System Communities

Community/ Place	Borough/ Census Area	2007 Population	Estimated 2010 Population	Estimated 2020 Population	Estimated 2030 Population	Est. 2007-2030 CAGR
Lake Louise	Matanuska-Susitna	91	91	102	114	1.0%
Anderson	Denali	234	234	263	292	1.0%
Big Delta	SE Fairbanks	790	776	804	817	0.1%
Cantwell	Denali	183	161	118	84	-3.3%
Central	Yukon-Koyukuk	95	78	46	26	-5.4%
Chicken	SE Fairbanks	19	19	22	24	1.0%
Chistochina	Valdez-Cordova	93	89	86	81	-0.6%
Chitina	Valdez-Cordova	124	119	116	110	-0.5%
Circle	Yukon-Koyukuk	102	99	98	94	-0.3%
Coldfoot	Yukon-Koyukuk	11	10	10	10	-0.4%
College CDP	Fairbanks North Star	12149	11979	12606	12991	0.3%
Copper Center	Valdez-Cordova	337	313	272	231	-1.6%
Delta Junction	SE Fairbanks	974	974	1074	1074	0.4%
Dot Lake	SE Fairbanks	15	13	9	6	-3.9%
Eagle	SE Fairbanks	109	97	73	54	-3.0%
Eielson AFB	Fairbanks North Star	4119	3512	3512	3512	-0.7%
Ester	Fairbanks North Star	2041	2130	2458	2836	1.4%
Fairbanks	Fairbanks North Star	31627	30940	31727	31856	0.0%
FNSB Remainder	Fairbanks North Star	35546	36946	46275	56776	2.1%
Fox	Fairbanks North Star	354	365	444	530	1.8%
Gakona	Valdez-Cordova	236	236	259	278	0.7%
Glennallen	Valdez-Cordova	518	483	421	360	-1.6%
Gulkana	Valdez-Cordova	113	121	166	224	3.0%
Harding-Birch Lake CDP	Fairbanks North Star	245	248	286	322	1.2%
Healy	Denali	1027	997	995	972	-0.2%
Kenny Lake	Valdez-Cordova	411	395	381	359	-0.6%
Livengood	Yukon-Koyukuk	21	18	11	6	-5.1%
Manley Hot Springs	Yukon-Koyukuk	72	69	66	62	-0.6%
McCarthy	Valdez-Cordova	54	58	80	107	3.0%
Mendeltna	Valdez-Cordova	68	67	72	76	0.5%
Mentasta Lake	Valdez-Cordova	109	93	61	39	-4.3%
Minto	Yukon-Koyukuk	180	148	85	47	-5.6%
Moose Creek CDP	Fairbanks North Star	650	675	841	1027	2.0%
Nelchina	Valdez-Cordova	52	44	27	16	-5.0%
Nenana	Yukon-Koyukuk	357	325	264	209	-2.3%
North Pole	Fairbanks North Star	1945	2048	2675	3423	2.5%

Community/ Place	Borough/ Census Area	2007 Population	Estimated 2010 Population	Estimated 2020 Population	Estimated 2030 Population	Est. 2007-2030 CAGR
Northway (Jct.& Village)	SE Fairbanks	147	129	94	66	-3.4%
Paxson	Valdez-Cordova	32	27	27	27	-0.7%
Pleasant Valley CDP	Fairbanks North Star	671	665	710	743	0.4%
Salcha CDP	Fairbanks North Star	995	1020	1220	1430	1.6%
Slana	Valdez-Cordova	108	98	77	59	-2.6%
Tanacross	SE Fairbanks	173	182	237	302	2.5%
Tazlina	Valdez-Cordova	219	230	271	319	1.7%
Tetlin	SE Fairbanks	165	179	201	224	1.3%
Tok	SE Fairbanks	1353	1281	1181	1065	-1.0%
Tonsina	Valdez-Cordova	76	67	49	35	-3.3%
Two Rivers	Fairbanks North Star	621	665	919	1022	2.2%
Total Pop. of Road System Communities		99,631	99,490	111,693	124,173	1.0%

Source: Alaska Department of Labor and Workforce Development 2008; Goldsmith 2005; and Northern Economics, Inc Estimates 2008.

5.3 Highway Traffic Forecasts

This section outlines the development of year 2030 traffic forecasts for all highway corridors in the study area. Traffic volume forecasts are used to assess future traffic operations and identify potential deficiencies in the transportation system. The forecasts also help communities within the study area plan for future growth and travel demand. The following sections outline the methodology used to develop future traffic volumes and provide the resulting future highway traffic forecasts within the study area.

5.3.1 Methodology

The existing traffic volumes provided in Chapter 3 represent the baseline traffic volumes for which future traffic volumes were developed. The following key elements were used for developing future year highway traffic forecasts.

- Population Projections
- Historical Traffic Volume Growth Trends
- Resource and Economic Developments

Population projections for the communities and census areas/boroughs were analyzed along with potential resource and economic development. These were then compared to highway traffic volume growth trends to establish annual growth rate factors.

5.3.1.1 Population Projections

Existing and future population projections are an important planning tool used to develop highway traffic forecasts. In order to project future highway traffic volumes, available population data was reviewed to assess general growth trends of communities throughout the study area. The overall forecast process considered historical population growth trends at the statewide, census area/borough, and community scales. The analysis found that almost all of the boroughs and census areas in the study area will grow between 2007 and 2030, but that growth rates will be modest (0.9 percent annual average). Variations within the boroughs and census areas are expected as some communities are projected to grow while others decline.

5.3.1.2 Historical Traffic Volume Growth Trends

Historic traffic volumes were reviewed along each of the major highway facilities within the study area for the past 20 years for all highway facilities with permanent traffic recorders (PTR) and 10 years for all remaining facilities. The facilities were divided up according to general traffic growth trends, major highway junctions, and population centers. Fixed recorders along the routes track Annual Average Daily Traffic (AADT) volumes and provide a year-by-year comparison of AADTs for each facility. Historic trends were identified and used to generate growth rates.

In general, the facilities that experienced the greatest traffic volume growth over the period analyzed were those that provide connections between major communities, such as Fairbanks and Anchorage. Portions of the Richardson Highway, Parks Highway, Steese Highway and Alaska Highway serving the major communities also experienced increases in AADT. Most of the other facilities saw a modest growth in traffic volumes.

5.3.1.3 Resource and Economic Development

The study of resource and economic development examined major industries including minerals, gas and oil, alternative energy, tourism, agriculture and timber. The study of the current conditions, trends and possible development opportunities associated with resource and

economic development within the study area were closely examined to assess how they might influence highway traffic forecasts. As outlined in the *Resource and Economic Development* section of this report, findings suggest that although there is potential for significant growth in these areas, the overall impacts of resource and economic development in the study area are somewhat uncertain and varying. However, of these major resource industries, the potential for two new gas pipelines (Alaska Natural Gas Pipeline and Enstar Gas Pipeline) would have the greatest near-term impact to the transportation system. If construction of either pipeline were to begin, the associated short-term spike in population and employment would generate additional traffic on Interior highways. In particular, the anticipated increase in truck traffic would have a heavy impact on highway operations and the existing highway infrastructure.

5.3.1.3.1 Alaska Natural Gas Pipeline

Steps toward developing the Alaska Natural Gas Pipeline are currently underway by the State for a new gas pipeline between the North Slope and destinations throughout the lower 48. Although neither a producer nor definitive route has been selected, if and when construction of this large-scale gas pipeline was to begin, it would have a significant effect on the Interior highway transportation system.

As outlined by the DOT&PF, the facilities most likely to experience the largest increase in added traffic would be those that parallel the projected route of the new gas pipeline; the Dalton Highway, Elliott Highway, Richardson Highway and Alaska Highway. Although adequate capacity currently exists for all of these facilities to safely and efficiently accommodate regional traffic growth, a surge in construction activity resulting in not only higher truck volumes, but longer and more frequent truck trips, would trigger the need for major infrastructure improvements.

5.3.1.3.2 Enstar Gas Pipeline

The Enstar Gas Pipeline will begin in the North Slope and extend to Southcentral Alaska. Although a specific route for this new gas pipeline has yet to be determined, the most likely route will either be a parallel route to the Dalton Highway and either the Parks or Richardson Highway to the Glenn Highway. These highway facilities and adjacent supporting facilities will likely experience major increases in truck traffic during the construction of the gas pipeline, similar to what is identified for the Alaska Natural Gas Pipeline. As previously mentioned, areas of

interest for the highway system include operations, safety, accessibility, circulation and infrastructure needs. These and other issues will be further explored in the Transportation Analysis chapter of this report.

Resource Roads

Ahtna, Department of Natural Resources, and the National Park Service have lands across the Copper River, where there are stands of cottonwood, white spruce and willow. Ahtna is planning to build a wood pellet plant in the Glennallen area. The pellets would be produced from Ahtna timber, 80 percent of which is located on the other side of the Copper River. The potential for minerals, oil and gas resources, geothermal and subsistence resources is very good in this area, also, and would be greatly improved by better year-round access. A bridge is needed to access these lands, timber and other resources.

The Copper River is narrow in several places between Gulkana and Tazlina. There are maintained roads east of the Gulkana airport (Alyeska/Ahtna maintained), east of the Richardson Highway in Tazlina (the Old School Road), and east out of Copperville (the Copperville Road) that would be good conduits to a bridge across the Copper River. It is recommended that a feasibility study be conducted to select the best site for the necessary bridge.

It is important to consider the Nenana Basin when discussing resource development in the Interior. The road to Totchakat would access the Nenana Basin for potential gas or minerals as well as agriculture lands. The last estimate for this route was $72 million. The Nenana Native Association applied to Denali Commission for Nenana Totchakat Road funding in 2006. The road would be accessed off 10th Avenue in Nenana. The State and the City of Nenana have about $50,000 (total) to do a feasibility study for the route which includes updating the cost estimate. The City will manage the project.

5.3.2 2030 Forecast Traffic Volumes

Year 2030 forecast traffic volumes were development based on a review of population projections, historical traffic volume growth trends, and resource and economic development. As previously mentioned, resource and economic development can have a significant impact on forecast highway traffic volumes. Development of major industries such as gas, minerals, agriculture and timber all have the potential to generate spikes in highway traffic under both

near- and long-term conditions. While population and historical traffic volume growth trends can be easily measured and monitored, the overall impacts of resource and economic development are more uncertain with a larger potential for variability. The potential for any number of future resource and/or economic development projects does exist and very likely represents the condition of highest forecast traffic levels. Future impacts of potential resource and/or economic development should be considered as specific projects become more clearly defined.

Based on a review of population projections and historic traffic volumes, annual growth has been occurring at a moderate rate of one to three percent for most highway segments, with some segments recently experiencing modest growth (less than a half percent), while others have experienced higher rates of up to seven percent. A closer review of the historic traffic volumes also reveals that growth rates slightly vary based on near- and long-term trends, with near-term trends resulting in lower growth rates (potentially influenced by recent higher fuel costs). As such, two levels of traffic forecasts (low and medium) were developed to show this range. For the low forecasts, traffic volumes on facilities serving major communities and population centers were grown by a respective 0.50 percent per year, while an annual growth rate of 0.25 percent was applied to all remaining facilities. These growth rates were determined based on more recent trends seen throughout the study area. The medium forecasts were based on 10 to 20 year historical trends. Table 5-4 summarizes the year 2030 forecast AADT volumes.

Table 5-4 2030 Forecast Traffic Volumes

Highway	Mileposts	Geographic Boundary	2007 AADT	Low Forecast		Medium Forecast	
				Annual Growth	AADT	Annual Growth	AADT
Alaska Highway	1222 – 1314	Canadian Border – Tok	715	0.25%	760	1.0%	880
	1314 – 1422	Tok – Delta Junction	1,575	0.50%	1,760	1.0%	1,940
Dalton Highway	0 – 230	Elliott Highway – Study Area Boundary	280	0.25%	300	1.0%	340
Denali Highway	0 – 135	Richardson Highway – Parks Highway	280	0.25%	300	2.0%	410
Edgerton Highway/ McCarthy Road	0 – 91	Richardson Highway - McCarthy	380	0.25%	400	2.8%	620
Elliott Highway	0 – 68	Fox – Dalton Highway	1,205	0.50%	1,340	1.5%	1,620
	68 - 154	Dalton Highway – Manley Hot Springs	120	0.25%	130	1.0%	150

Highway	Mileposts	Geographic Boundary	2007 AADT	Low Forecast		Medium Forecast	
				Annual Growth	AADT	Annual Growth	AADT
Glenn Highway	127 - 158	Study Area Boundary – Lake Louise Road	970	0.25%	1,030	1.7%	1,350
	158 – 187	Lake Louise Road – Richardson Highway	2,710	0.25%	2,870	1.7%	3,770
Parks Highway	128 – 210	Study Area Boundary – Denali Highway	2,280	0.25%	2,410	4.8%	4,800
	210 - 304	Denali Highway – Nenana Highway	3,365	0.25%	3,560	1.7%	4,680
	304 – 324	Nenana Highway – Sheep Creek Road	7,825	0.50%	8,720	2.2%	11,780
Richardson Highway	69 – 115	Study Area Boundary – Glenn Highway	1,490	0.25%	1,580	1.0%	1,830
	115 – 185	Glenn Highway – Denali Highway	955	0.50%	1,060	1.8%	1,350
	185 - 266	Denali Highway – Alaska Highway	3,195	0.50%	3,560	1.8%	4,520
	266 – 348	Alaska Highway – Laurence Road	10,495	0.50%	11,700	1.7%	14,600
Steese Highway	3 – 11	Farmers Loop – Fox	8,070	0.50%	9,000	2.7%	13,080
	11 – 162	Fox – Circle	265	0.25%	280	2.7%	430
Taylor Highway	0 – 160	Alaska Highway – Eagle City	195	0.25%	210	1.0%	240
Tok Cutoff Highway	0 – 125	Richardson Highway – Tok	580	0.25%	610	1.0%	710
Top of the World Highway	0 – 14	Taylor Highway – U.S./Canada Border	120	0.25%	130	1.0%	150

The highway traffic forecasts shown in Table 5-4 were used to analyze future roadway operations covered under the Transportation Analysis chapter of this report.

5.3.2.1 Comparison to 1981 Interior Alaska Transportation Study

Based on a review of the year 2005 traffic forecasts used in the 1981 *Interior Alaska Transportation Study*, *Volume III Transportation Demand Forecasts* prepared by Louis Berger and Associates, Inc., a comparison of the forecast 2005 highway traffic volumes to the existing 2005 traffic volume data reveals that the existing 2005 traffic volumes are less than what was originally projected. Also, a closer review of the 1981 report shows that the average annual growth rates assumed under the previous study are in line with those used for this study. This assessment was based on a direct comparison of roadway link volumes along the Richardson, Alaska, Parks, Steese, Dalton and Tok Cutoff Highways. Therefore, the annual growth percentages used to forecast the 2030 highway traffic volumes are in line with previous growth assumptions, and as such the 2030 highway forecasts represent a reasonably conservative level of traffic demand.

5.3.3 Truck Traffic

DOT&PF tracks truck volume percentages data for many of the major state highway facilities. The data is obtained from the Automatic Vehicle Classifiers (AVC) located across the State. Table 5-5 summarizes historical truck percentages based on data obtained from the DOT&PF Northern Region annual traffic volume reports.

Table 5-5 Truck Percentages (1999 – 2007)

Highway	1999	2000	2001	2002	2003	2004	2005	2006	2007
Alaska (Gardiner)	26	32	33	37	29	-	36	31	-
Alaska (MP 1411)	-	-	-	-	-	-	-	-	26
Alaska (MP 1310)	-	-	-	-		-	-	-	34
Dalton	-	-	-	-	-	-	-	70	-
Denali	-	-	-	-	-	-	-	-	-
Edgerton / McCarthy	-	-	-	-	-	-	-	-	-
Elliott (North of Fox)	9	9	9	22	15	-	23	20	25
Glenn	-	-	-	-	-	-	-	-	-
Parks (E. Fork)	15	21	24	18	22	-	23	21	24
Parks (Nenana)	18	16	16	10	20	-	23	18	19
Parks (Ester)	13	13	14	14	15	-	-	16	19
Parks (Chena Bridge)	5	5	5	-	-	-	-	6	17
Parks (Lathrop Street)	7	6	6	11	6	-	10	11	11
Richardson (Ernestine)	27	32	32	28	27	-	36	29	-
Richardson (Gulkana)	21	24	24	40	20	-	32	27	27
Richardson (Trims Camp)	21	-	-	40	22	-	34	-	25
Richardson (Moose Creek)	5	7	7	8	7	-	12	12	14
Richardson (3 Mile)	6	5	5	8	6	-	-	10	-
Steese (North of Fox)	6	9	10	12	14	-	-	-	20
Taylor	-	-	-	-	-	-	-	-	-
Tok Cutoff (Tok Junction)	18	19	19	19	22	-	29	29	27
Top of the World	-	-	-	-	-	-	-	-	-

As indicated by the available data summarized in Table 5-5, truck percentages have increased along most all highway facilities over the past nine years. The highway facilities that have experienced the largest percent increase in truck traffic are the Dalton Highway, Elliott Highway, Parks Highway, Richardson Highway and the Steese Highway. As the need for goods and services continues to grow along with major industries, freight will remain as one of the key

transport methods. While similar growth trends in truck percentages will likely continue, future development of major industries such as natural gas and minerals can create dramatic increases.

5.4 Aviation Forecasts

This section presents forecasts for passengers, cargo and based aircraft at Interior Alaska's public use airports. Low, medium and high forecasts are included to define a range for the most probable activity levels. The forecasts include totals for all study area airports and are airport-specific for airports that account for at least 1 percent of study area activity. Although planning for Fairbanks International Airport is excluded from the scope of the Interior Alaska Transportation Plan, aviation activity in the study area is undeniably dominated by that airport. Consequently, Fairbanks International Airport is included in the forecasts.

5.4.1 Methodology

The aviation forecasts were based on 2007 data and the out-year for forecasting is 2030. The forecasting process considered:

- Population Projections
- Resource and Economic Developments
- Other Assumptions about the Aviation Industry
- Historical Records of Aviation Activity
- Previous Forecasts for Interior Airports
- FAA Forecasts

5.4.1.1 Population Projections

Aviation activity typically correlates well with the population of the community and region the airport serves. Consequently, the population forecasts prepared for the Interior are assumed good indicators of future aviation activity.

5.4.1.2 Resource and Economic Developments

The previous analysis of resource and economic development in the study area was reviewed for affects on aviation activity. These developments are not directly included in the aviation forecast numbers, except as they were considered in the population forecasts. Instead, qualitative discussions follow the forecast tables, describing how resource and economic developments might affect certain airports.

The proposed Alaska Natural Gas Pipeline would affect activity at specific airports located along the highways chosen for the pipeline route. The greatest impact would be air freight during construction, but passenger activity could also grow.

Tourist activity could increase passengers and aircraft operations at airports used as the base for flightseeing or as the origin/destination of tours. However, air tourism would need to grow substantially in the Interior before it would stress the capacity of Interior airports. It is difficult to determine the number of tourists using small Interior airports because the tour operators do not report passenger statistics to the USDOT. For example, USDOT records for Coldfoot Airport show only 535 enplaned passengers in 2007, while Air Arctic, flying for the Northern Alaska Tour Company, reported enplaning 5,535 passengers at Coldfoot in 2007. Passengers who flightsee from Copper Center 2 and McKinley National Park Airports are also not reported to the USDOT. While the exact numbers of Interior air tourists are unknown, it seems none of these airports experiences the high levels of flightseeing that occur at cruise ship ports in Southeast Alaska or at Talkeetna, south of Denali National Park.

5.4.1.3 Other Assumptions about the Aviation Industry

Many things besides population and economic growth can influence aviation. For example, the soaring cost of fuel has seriously and adversely affected discretionary general aviation travel and the airlines. However, over the forecast period, it is assumed that such factors will not have a significant impact on passenger, cargo and based aircraft levels in the study area. Specific assumptions include the following:

- Aging airplanes such as the DC-3, DC-6 and C-46 from the World War II era will continue to operate on the Interior's short, unpaved runways. These airplanes can deliver bulk cargo and fuel to communities lacking adequate barge and road access.[2]
- Changes in Federal regulations, laws and subsidies will not change Interior Alaska aviation substantially. For example, it is assumed that:
    - Postal subsidy for fourth-class mail and the bypass mail program will continue.[3]

[2] If these aged aircraft cannot be kept flying or if a cost effective alternative to them cannot be found, the cost of living in these remote communities will increase. The result may be more people moving away from those communities.

- The Essential Air Service subsidy program will continue.[4]
- Alaskan waivers for airport certification, aircraft noise, etc. will continue.

5.4.1.4 Historical Records of Aviation Activity

Most of the historical records about aviation activity at study area airports are not very accurate or complete. Reporting of passenger enplanements and cargo data to the USDOT has improved in the last five years, but reporting is still voluntary for some air carriers and air taxis operating with Part 135 certificates. The 2007 inventory of based aircraft at 161 Alaskan airports found that the actual number of based aircraft at these airports was about half the number reported for them in the Airport Master Records (FAA Form 5010). These data problems affect the validity of the Interior Alaska aviation forecasts.

5.4.1.5 Previous Forecasts for Interior Airports

Forecasts for state aviation system plans are usually less detailed than forecasts prepared for individual airports in their master plans, so system plan forecasts often adopt forecasts from recent airport master plans. This is not possible with the majority of study area airports. From a review of master plans and airport layout plans, only Nenana Municipal's Airport Layout Plan (2002) and Bradley Sky Ranch Airport's Draft Final Master Plan (2003) have useful forecasts of aviation demand.[5] Individual airport forecasts are also available for four study area airports that were included in the Northwest Alaska Transportation Plan (2004)—Manley Hot Springs, Minto, Rampart and Tanana. Table 5-6 presents the recent forecasts that are available for six study area airports.

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[3] Within Alaska, the bypass mail program has subsidized air cargo deliveries to remote communities through a program that allows air cargo to be shipped at the same rate as third class mail. Even if the bypass program survives in the long-term future, the US Postal Service is aggressively seeking ways to reduce program costs.

[4] The Essential Air Service program began after airline deregulation in 1978 to subsidize a minimum amount of air service to small communities who had service before 1978 and subsequently lost it due to airline economics. The nationwide program has been criticized for several years as being ineffective; each renewal of airport improvement legislation threatens the funding and continued existence of the program.

[5] Several other airport layout plans project future Airport Reference Codes, which is discussed in the Transportation Analysis chapter.

Table 5-6 Existing Aviation Forecasts from Other Plans

Airport	Forecast Component	Base Year	Actual	Forecast Year	Forecast	Ave. Annual Growth
Bradley Sky Ranch (North Pole)	Based Aircraft	2003	73	2023	145	3.5%
	Aircraft Operations	2003	12,410	2023	26,100	3.8%
Manley Hot Springs	Population	1995	95	2025	86	-0.3%
	Passenger Enplanements	1995	174	2025	221	0.8%
	Mail (tons)	1995	17	2025	18	0.2%
Minto	Population	1995	235	2025	308	0.9%
	Passenger Enplanements	1995	148	2025	616	4.9%
	Mail (tons)	1995	12	2025	18	1.4%
Nenana	Based Aircraft	2001	15	2021	23	3.5%
	Air Cargo Operations	2001	0	2021	360	NA
	Air Taxi Operations	2001	50	2021	95	3.3%
	General Aviation Operations	2001	3,120	2021	4,780	2.2%
	Total Operations	2001	3,170	2021	5,235	2.5%
Rampart	Population	1995	76	2025	54	-1.1%
	Passenger Enplanements	1995	827	2025	1,334	1.6%
	Mail (tons)	1995	42	2025	46	0.3%
Ralph M. Calhoun (Tanana)	Population	1995	303	2025	368	0.6%
	Passenger Enplanements	1995	4,685	2025	5,680	0.6%
	Mail (tons)	1995	303	2025	430	1.2%

Source: Northwest Alaska Transportation Plan (2004), Nenana Municipal Airport Layout Plan (2002), North Pole Airport Master Plan (Draft Final 2003)

5.4.1.6 FAA Forecasts

The FAA prepares forecasts for all airports that are in the National Plan of Integrated Airport Systems (NPIAS) and updates them annually in the Terminal Area Forecast (TAF)[6]. The Terminal Area Forecast does not include cargo. Historical enplaned passenger numbers in the TAF are an actual census taken from the USDOT T-100 database; however, Part 135 carriers providing service in aircraft with fewer than 10 seats are not required to report. In 2000, the FAA Alaskan Region surveyed small operators and found the majority of passenger enplanements were not reported; passenger reporting is thought to have improved since then. The TAF uses historical data on based aircraft and operations from Airport Master Records, the same source that the FAA's 2007 inventory of based aircraft found to be very inaccurate.

[6] This chapter used the December 2007 version of the Terminal Area Forecast, http://aspm.faa.gov/main/taf.asp

The FAA's TAF tends to project future activity at the same level as the current activity reported in the Airport Master Record for small airports lacking control towers and master plans. Indeed, all of the TAF forecasts for based aircraft and operations at study area airports (excluding Fairbanks) show 0 percent annual growth through 2025. All but 10 study area airports show 0 percent future growth in passengers. TAF projections for no future based aircraft growth are typical for small airports throughout the country, not just in Alaska.

Table 5-7 shows that the FAA projects lower growth for Alaska than for the nation as a whole. All of the Alaska growth rates are two-thirds to three-quarters of the US average growth rates, except the growth rate for instrument operations, which is nearly as high as the national rate. This shows that the FAA expects Alaska to undergo a stronger shift from visual to instrument flights than the national average. The impact of more instrument flights is discussed more in the Transportation Analysis chapter.

Table 5-7 Terminal Area Forecast State and National Growth Rates

Forecast Component	Average Annual Growth Rate for Alaska 2006 – 2025	Average Annual Growth Rate for US 2006 – 2025
Enplaned Passengers	1.8%	2.9%
Based Aircraft	0.5%	0.8%
Aircraft Operations	0.8%	1.1%
Instrument Operations	1.8%	1.9%

Source: FAA Terminal Area Forecasts, Dec. 2007, FAA Aerospace Forecast Fiscal Years 2008-2025, March 2008.

5.4.2 Purpose of Aviation Forecasts

Usually, aviation demand forecasts determine the size and timing of needed airport improvements. However, passenger, cargo, and based aircraft numbers are so low at most Interior Alaska airports that forecasts for these indicators of aviation activity have little effect on future airport needs. For example, runway capacity is not an issue at the study area airports, since a single runway can handle approximately 200,000 annual aircraft operations, and none of the study area airports (excluding Fairbanks) have annual aircraft operations over 20,000 (10 percent of capacity). Also, passenger and cargo terminal size is not an issue for the study area airports. A few airports have small passenger shelters and at a few airports, individual operators provide passenger waiting area and temporary storage for cargo in their hangar/office facilities. In addition, increases in numbers of based aircraft will affect very few airports; the majority of

airports have no based aircraft, and most that have based aircraft have aprons and/or land available for aircraft storage.

Nevertheless, the aviation demand forecasts in this chapter indicate the busiest airports within the system and where significant future growth or decline is anticipated. The most important factors for determining individual airport facility needs in Interior Alaska will be evaluated in the Transportation Analysis chapter. These factors are the airport reference code, instrument approach capability, and FAA design standards.

5.4.3 Enplaned Passenger Forecasts

Table 5-8 shows the total enplaned passengers for 2007 in the study area and lists the airports accounting for at least 1 percent of the total number of enplaned passengers.

Table 5-8 Enplaned Passengers in 2007

Airport	Enplaned Passengers	Airport Share
Fairbanks International	442,274	95%
Fort Yukon	9,081	2%
Tanana (Ralph M. Calhoun)	3,719	1%
30 Other Airports	9,822	2%
Total	464,896	100%

Note: The 30 airports with shares less than 1% range from Venetie (1,766 enplanements) to Delta Junction (5 enplanements).
Source: USDOT T-100 database

The TAF shows the following growth rates for enplaned passengers from 2006 to 2025:

All NPIAS Airports in Alaska	1.8%
Arctic Village	0.3%
Beaver	1.1%
Chalkyitsik	1.0%
Fairbanks International	1.4%
Fort Yukon	1.1%
Manley Hot Springs	2.7%
Rampart	1.8%
Stevens Village	0.2%

Tanana (Ralph M. Calhoun)	1.1%
Venetie	0.2%

Table 5-9 presents the passenger enplanement forecasts for the study area. The low forecasts use the same annual growth rates as the Interior Alaska population forecasts. The high forecasts use the same growth rates as the TAF. The medium forecasts average the high and low forecasts.

Table 5-9 Enplaned Passenger Forecasts

	Study Area	Fairbanks International	Fort Yukon	Tanana (Ralph M. Calhoun)
2007 Actual	464,896	442,274	9,081	3,719
Low 2030 Forecast	571,285	543,486	10,661	2,507
Ave. Annual Growth	0.9%	0.9%	0.7%	-1.7%
Medium 2030 Forecast	636,011	576,206	11,170	3,645
Ave. Annual Growth	1.4%	1.2%	0.9%	-0.1%
High 2030 Forecast	700,736	608,926	11,679	4,783
Ave. Annual Growth	1.8%	1.4%	1.1%	1.1%

Source: USDOT T-100 Database and WHPacific, Inc. Analysis

Table 5-9 shows that it is likely the Fort Yukon Airport will pass the 10,000 annual passenger enplanement threshold for the FAA's primary airport designation. According to current Federal legislation, a primary airport receives annual entitlement funding of at least $1 million for airport improvements, considerably more than the $150,000 maximum entitlement funding for airports with fewer enplanements.

Neither Fort Yukon nor Tanana is on the road system, so unusually high passenger growth resulting from the Alaska Natural Gas Pipeline construction or operation is not projected for them.

Passenger growth alone is unlikely to cause air carriers to shift to larger aircraft. Frontier Flying Service already serves Fort Yukon with 19-seat airplanes. It is doubtful a carrier will want to provide scheduled service to Fort Yukon in a 30-seat airplane, which is the next larger size typically used by passenger airlines. One reason is that the larger airplane would require a more restrictive and thus, more expensive, operating certificate for both the air carrier and the airport.

Although only 555 enplaned passengers were reported for Prospect Creek Airport in 2007, Prospect Creek has a certificate[7] to allow commercial service in airplanes with 30 or more seats. Alyeska operates the DOT&PF-owned airport, using the airport primarily for crew changes at the adjacent Pump Station No. 5 of the Trans-Alaska Pipeline. The proposed Alaska Natural Gas Pipeline, routed along the Dalton Highway, may cause an increase in passengers at Prospect Creek, since it is a public airport on the road between Fairbanks and Deadhorse that can handle larger passenger airplanes.

Passenger service may grow or be initiated to other airports along the pipeline route. Few of these airports have much passenger activity now, being located on highways that provide year-round access to commercial airline service in Fairbanks, Anchorage, or Valdez. For example, the Tok Junction Airport is located in a population center far from a commercial service airport, but reported only 224 passenger enplanements in 2007. A considerable increase in passengers could be handled at Tok, but only in small airplanes, unless significant airport improvements are made.

5.4.4 Air Cargo Forecasts

Table 5-10 shows the 2007 enplaned, deplaned, and total pounds of cargo (freight and mail) in the study area and lists the airports accounting for at least 1 percent of the total.

[7] Within the study area, only Fairbanks International and Prospect Creek have Part 139 certificates. One of the more costly Part 139 requirements is aircraft rescue/firefighting equipment and personnel. Part 139 does not specifically require a building to house the equipment, but is a practical necessity in Alaska. Alaska is exempt from certification for airplanes under 30 seats; in other states, the certification is required for airplanes with at least 10 seats and for any capacity jet providing passenger service.

Table 5-10 Air Cargo Activity in 2007

Airport	Enplaned Pounds	Deplaned Pounds	Total Pounds	Airport Share
Arctic Village	27,580	936,677	964,257	2%
Eagle	24,994	234,255	259,249	1%
Fairbanks International	21,432,694	14,498,591	35,931,285	86%
Fort Yukon	197,011	2,306,086	2,503,097	6%
Tanana (Ralph M. Calhoun)	78,204	627,882	706,086	2%
Venetie	19,072	482,022	501,094	1%
24 Other Airports	232,270	925,844	1,158,114	3%
Total	22,011,825	20,011,357	42,023,182	100%

Note: The 24 other airports with reported cargo range from Beaver (203,501 pounds) to Boundary (1,710 pounds).

Source: USDOT T-100 database. Cargo includes freight and mail.

Table 5-10 shows that only Fairbanks International enplanes more cargo than it deplanes, which illustrates that the airport is a point of origin/transshipment to bush communities. Excluding Fairbanks, 90 percent of cargo is deplaned and only 10 percent is enplaned at the communities, on average. Excluding Fairbanks, 42 percent of deplaned cargo in the study area is mail. At Fairbanks, 27 percent of deplaned cargo weight is mail. The higher percentage of mail at the rural airports illustrates the impact of the bypass mail program.

Fairbanks' airport master plan[8] projected annual growth of 4.1 percent for enplaned and deplaned cargo from 2000 through 2020, but the projection appears to be higher than what has actually occurred. The plan also noted that the conservative growth rate for cargo in the most recent official statement for bond sales was 1.3 percent per year. In addition, the plan presented a trend model for forecasting cargo through the year 2020, with annual growth of 1.7 percent declining to 1.4 percent.

The recent draft airport master plan for Anchorage[9] provided a forecast of cargo outbound from Anchorage to Fairbanks, which reflected an average annual growth rate of 2.65 percent from 2005 through 2027. This growth was assumed to result from a gradual population increase and the assumed construction of a natural gas pipeline to the lower 48. The forecast also assumed the continuance of the bypass mail program, a continuance of the historical relationship between

[8] Fairbanks International Airport Master Plan Update, June 2004.

[9] Draft Ted Stevens Anchorage International Airport Master Plan, February 2007.

intrastate Alaska air freight and US domestic air freight, and it assumed fuel prices would not experience long-term spikes. The 2.65 percent annual growth rate is used to determine the probable high range of air cargo growth in Interior Alaska.

The Northwest Alaska Transportation Plan study area was adjacent to and slightly overlapped the Interior Alaska Transportation Plan study area. Analysis in the Northwest Alaska Transportation Plan is relevant to remote communities in the Interior, which also benefit from the bypass mail program. Since bypass mail service began in the 1980s, mail volumes in Northwest Alaska increased threefold. During the same time, passenger traffic on these flights more than doubled. The historical average mail volume per person was one ton per resident per year.[10] The Northwest Arctic Transportation Plan projected cargo growth using population projections and growth of about five pounds of mail per person per year, consistent with historical growth.

Table 5-11 shows the air cargo forecast for the Interior and for the six airports that account for at least 1 percent of cargo in the study area. The low forecasts use the annual growth rates from the Interior Alaska population forecasts, increased by 0.9 percent per year to account for per person growth in cargo. The high forecasts use the growth rate recently projected for outbound air cargo from Anchorage to Fairbanks, adjusted for differences in population growth. The medium forecasts average the high and low forecasts.

[10] For Interior communities off the road system, deplaned cargo in 2007 averaged 1.2 tons per person.

Table 5-11 Air Cargo Forecasts (pounds)

	Study Area	Arctic Village	Eagle	Fairbanks	Fort Yukon	Tanana	Venetie
2007 Actual	42,023,182	964,257	259,249	35,931,285	2,503,097	706,086	501,094
Low							
2030 Forecast	63,341,425	1,520,536	196,393	54,159,125	3,606,060	586,984	524,659
Ave. Annual Growth	1.8%	2.0%	-1.2%	1.8%	1.6%	-0.8%	0.2%
Medium							
2030 Forecast	70,448,153	1,690,768	219,166	60,235,626	4,011,526	654,745	584,559
Ave. Annual Growth	2.3%	2.5%	-0.7%	2.3%	2.1%	-0.3%	0.7%
High							
2030 Forecast	77,554,881	1,861,000	241,939	66,312,126	4,416,992	722,506	644,460
Ave. Annual Growth	2.7%	2.9%	-0.3%	2.7%	2.5%	0.1%	1.1%

Source: USDOT T-100 Database and WHPacific, Inc analysis

The forecasts for Arctic Village and Fort Yukon show significant growth in the low, medium, and high forecasts[11]. In other areas (except Fairbanks International), the projected change in cargo is so slight that no appreciable change in the number of flights or the size of aircraft is expected. Fort Yukon is now second to Fairbanks in the amount of cargo and has been designated a postal hub. The Transportation Analysis will examine the potential of larger airplanes serving Fort Yukon.

The proposed Alaska Natural Gas Pipeline construction would generate more cargo activity at airports along the highways. Construction spikes of air cargo at these airports have not been projected, due to uncertainties associated with the pipeline. The airports affected and their air freight levels will depend on construction logistics plans not yet in place. Fairbanks International is the only public use airport in the study area ready for heavy cargo aircraft (255,000 pounds or more) with adequate runway length/strength, hardstand aircraft parking, and some cargo handling facilities. Prospect Creek on the Dalton Highway, Allen Army Airfield and Tanacross Airport on the Alaska Highway, and the Nenana and Clear Airports on the Parks

[11] The growth at Arctic Village and Fort Yukon airports is based on population growth projections prepared by Northern Economics. Passenger growth rates are similar to population forecast growth rates. Higher growth rates for air cargo are due to an increase in cargo per person over time, consistent with analysis from the Northwest Arctic Transportation Plan. Increases in hunting and construction activity also factor in.

Highway have adequate runway length for some large cargo aircraft (41,000 up to 255,000 pounds). The potential use of these airports by large cargo aircraft will be discussed in the Transportation Analysis.

5.4.5 Based Aircraft Forecast

Table 5-12 shows the based aircraft in the study area in 2007 and lists the airports accounting for at least 1 percent of the total.

Table 5-12 Based Aircraft in 2007

Airport	Based Aircraft	Airport Share
Chena River*	6	1%
Copper Center 2*	5	1%
Delta Junction*	16	2%
Fairbanks International	514	71%
Gulkana	14	2%
Manley Hot Springs	6	1%
McKinley National Park*	7	1%
Nenana Municipal	15	2%
North Pole (Bradley Sky-Ranch)*	76	11%
Tanana (Ralph M Calhoun)	5	1%
Tok 2*	17	2%
Tok Junction	8	1%
15 Other Airports	30	4%
Total	719	100%

*The airport is not in the NPIAS, and its based aircraft were not inventoried in 2007.
Source: 2007 Inventory by GCR Associates and Airport Master Records

Nearly all the based aircraft in the study area are single engine piston. Delta Junction Airport, Gulkana Airport and Bradley Sky Ranch each report one multi-engine airplane. The FAA's latest national forecasts[12] project the active, piston-powered general aviation and air taxi fleet will grow only 0.5 percent annually.

Table 5-13 shows the based aircraft forecast for the whole study area and for the 12 airports that account for at least 1 percent of study area based aircraft. The medium forecast uses Interior

[12] FAA Aerospace Forecast Fiscal Years 2008-2025.

Alaska population growth rates. The high and low forecasts use growth rates that are plus or minus 10 percent of the population growth rates.

Table 5-13 Based Aircraft Forecast

	Actual	Low	Medium	High	Forecast Range
	2007	2030	2030	2030	Annual Average Growth Rate
Study Area	719	864	884	904	0.8% to 1.0%
Chena River	6	7	7	8	0.8% to 1.0%
Copper Center 2	5	4	4	4	-0.8% to -0.6%
Delta Junction	16	19	20	20	0.8% to 1.0%
Fairbanks International	514	617	632	646	0.8% to 1.0%
Gulkana	14	12	12	12	-0.8% to -0.6%
Manley Hot Springs	6	6	6	7	0.2% to 0.4%
McKinley National Park	7	7	8	8	0.3% to 0.5%
Nenana Municipal	15	11	11	11	-1.5% to -1.3%
North Pole (Bradley Sky-Ranch)	76	153	164	175	3.1% to 3.7%
Tanana (Ralph M Calhoun)	5	3	3	4	-1.9% to -1.5%
Tok 2	17	16	17	17	-0.2% to 0%
Tok Junction	8	8	8	8	-0.2% to 0%

Source: Table 5-12 and WHPacific, Inc. analysis

Excluding Fairbanks International Airport, a significant change in based aircraft is expected at only one airport. Bradley Sky Ranch has the strongest based aircraft growth projected, since North Pole has nearly the highest population growth rate projected in the Interior. The forecast for Bradley Sky Ranch in Table 8 is consistent with its master plan forecast for 3.5 percent annual growth. Bradley Sky Ranch has become a center for sport aviation, a fast-growing segment of aviation. It attracts ultralight enthusiasts from areas beyond North Pole. Bradley Sky Ranch is one of six privately owned airports in North Pole, but the only one open to public use. The FAA funded an airport master plan for Bradley Sky Ranch, but the plan was aborted due to unresolved ownership issues and the airport has not been added to the NPIAS. Federal airport improvement funding may be needed to accommodate the high level of aviation activity expected in the North Pole area, an issue that will be addressed in the Transportation Analysis.

One of the thresholds for NPIAS inclusion is for an airport to have at least 10 based aircraft.[13] Tok 2 and Delta Junction Airports are the only non-NPIAS airports in Table 8 with more than 10 based aircraft. Tok 2 Airport is too close to the DOT&PF's Tok Junction Airport to be considered a NPIAS candidate. The Transportation Analysis will address the potential need for a NPIAS airport to serve Delta Junction.

5.4.6 Design Aircraft Considerations

The FAA defines the design, or critical, aircraft as the most demanding aircraft that regularly uses an airport. Regular use is defined as at least 500 annual aircraft operations (takeoffs and landings). For rural Alaska airports lacking year-round road access, the 500 operations threshold is sometimes disregarded to provide for medevac and cargo aircraft access to the community.

While the based aircraft forecast does not indicate that any airports will need to change their design aircraft in the future, future transient aircraft activity could necessitate a change in design aircraft. Nationwide, the FAA forecasts 3.7 percent annual growth in turbine powered aircraft. Nine-seat turboprops provide passenger service to many study area airports. Frontier Flying Service provides passenger service in 19-seat turboprop airplanes and Era Aviation uses a 37-seat turboprop to serve Prospect Creek. Within the study area, carrier fleets may shift from piston-powered to turboprop aircraft and to slightly larger capacity aircraft, most likely on routes that include Fort Yukon.

The FAA forecasts 5.6 percent annual growth for turbojet aircraft nationally, fueled by business aviation. Business jet traffic is light in the Interior, currently limited to Fairbanks, where the Fixed Base Operator sells jet fuel and provides ground services and passenger/pilot amenities for corporate jets. Business jet traffic may increase with some of the Interior economic development scenarios, but these expensive aircraft are not likely to be used on unpaved airfields, due to the higher potential for damage compared to paved airfields. In addition, most business jets now flying need longer runways and larger runway safety areas than exist at most study area airports.

The new Very Light Jets (VLJ) may revolutionize aviation in America--or they may not. VLJs, also called microjets or personal jets, are a new class of airplane that offers performance

[13] Many Alaska airports with fewer than 10 based aircraft are included in the NPIAS because they are in remote locations, serve Native Alaskan populations, or are a long distance from another NPIAS airport.

comparable to high-end business jets at a fraction of the price. A VLJ costs between $1 and $3 million, weighs less than 10,000 pounds, seats up to seven people, can fly 1,000 miles at speeds of 300 to 400 mph, and can fly at altitudes up to 40,000 feet, where it is easier to find a smooth ride than at lower altitudes. VLJs are quieter, less polluting and more energy efficient than piston and turboprop aircraft of similar size. Two companies received FAA certification for the jets in late 2006—Eclipse Aviation (Eclipse 500) and Cessna Aircraft Company (Mustang) and several other aircraft manufacturers are developing VLJs. In 2007, DayJet began operating a "per seat, on demand" air taxi business with an Eclipse fleet in the southeastern US. (Both DayJet and Eclipse ceased operating in late 2008, most likely due to the economic recession).

In the long term, VLJs are an intriguing possibility for Alaska because they can use runways as short as 3,000 to 3,500 feet. In addition, they are in the same FAA category for speed and wingspan as a Super Cub; consequently, the FAA airport design standards (such as safety and object free areas) are the same. Gravel kits may be available for VLJs, but the risk and cost of damage might still discourage their use on unpaved runways. Their lack of cargo-carrying capacity may discourage using them for scheduled service to rural airports, but they may be effective air ambulances, if their interiors are large enough. A major disadvantage now is the lack of used VLJs. A price tag comparable to a new turboprop airplane does not attract those Alaskan air carriers who usually purchase airplanes phased out of lower 48 service.

The Transportation Analysis chapter will address airport improvements needed for the changing fleet in the study area. It will assign airport reference codes, which determine FAA design standards. The airport reference codes will be appropriate for the using aircraft.