

demand and consequently the peak delays are also possible, but unlikely to reach that level. Because of this it was not realistic to include many of the GA operations at FAI during IFR conditions. Once capacity was determined, most GA activity was removed and all future simulations for IFR were run without most small GA. This provided more realistic delay numbers for the rest of the analysis.

The capacity values for Fairbanks cannot be used to draw a direct conclusion regarding the amount of traffic that could be diverted from ANC to FAI. This is because the capacity has been estimated using the current mix of traffic at FAI. Capacity is highly dependent on the mix of aircraft using the airfield. The possible ANC diverted traffic can only use Runway 2L/20R and would also change the fleet mix at FAI, which has a significant impact on capacity. The conclusion that can be drawn at this point is that FAI airfield certainly has excess capacity. The extent of the ANC demand that can be reasonably accommodated by FAI is addressed in the Capacity Balancing Strategy section. Some specific observations on the delays for each mode follow.

#### *3.2.2.1 FAI Configuration 1-VFR*

Configuration 1 represents north flow operations. South flow operations have the same capacity. VFR conditions occur at FAI 95% of the time. The delays during VFR conditions are very minimal since the hourly capacity of the airfield is never tested.

#### *3.2.2.2 FAI Configuration 1-IFR*

As with VFR, the capacity is essentially the same for the airfield for both north and south flow during IFR. IFR conditions occur at FAI 5% of the time. The delays are not significant mainly due to the assumption that many GA aircraft will choose not to fly during IFR conditions.

### **3.3 Strategies to Address Delay**

The analysis of capacity and delay above indicates that serious delays will occur at ANC within the operation levels studied. The delays will jeopardize attaining the goal of maintaining the AIAS as an efficient and attractive airport system. Delay adds costs to operators. Tech stop and integrated carriers are most impacted by delay as they may miss sort or curfew windows. If delay

becomes too great, they can choose to leave AIAS. Losing these operators would have a huge effect on landing fee rates. They could double or even triple without these operators.

The analysis also shows that FAI has plenty of capacity through the study period. Therefore, further analysis has been conducted to ascertain if it is possible to balance demand and capacity between the two AIAS airports.

Five options were considered to address delay in the AIAS;

- Better use ANC's existing capacity by changing its runway use program;
- Build additional capacity infrastructure at ANC;
- Balance capacity by moving operations to FAI;
- Move operations to another existing or new airport; or
- Do nothing.

Changing ANC's runway use program to better use ANC's existing capacity, is an alternative being examined in the ANC Master Plan. Adding infrastructure at ANC is also being considered in the ANC Master Plan. Doing nothing has the potential to limit growth in service at ANC, as tech stop and integrated carriers may choose to reduce or eliminate service if the level of untenable delay is reached. Such delay would also increase the operating costs for all carriers serving ANC during those peak periods. This analysis focuses on the second option to balance capacity by moving some future operations from ANC to FAI. Moving operations to another existing or new airport is more expensive and less practical than use of FAI, but is briefly discussed in Section 3.6.

### **3.4 Capacity Balancing Strategy**

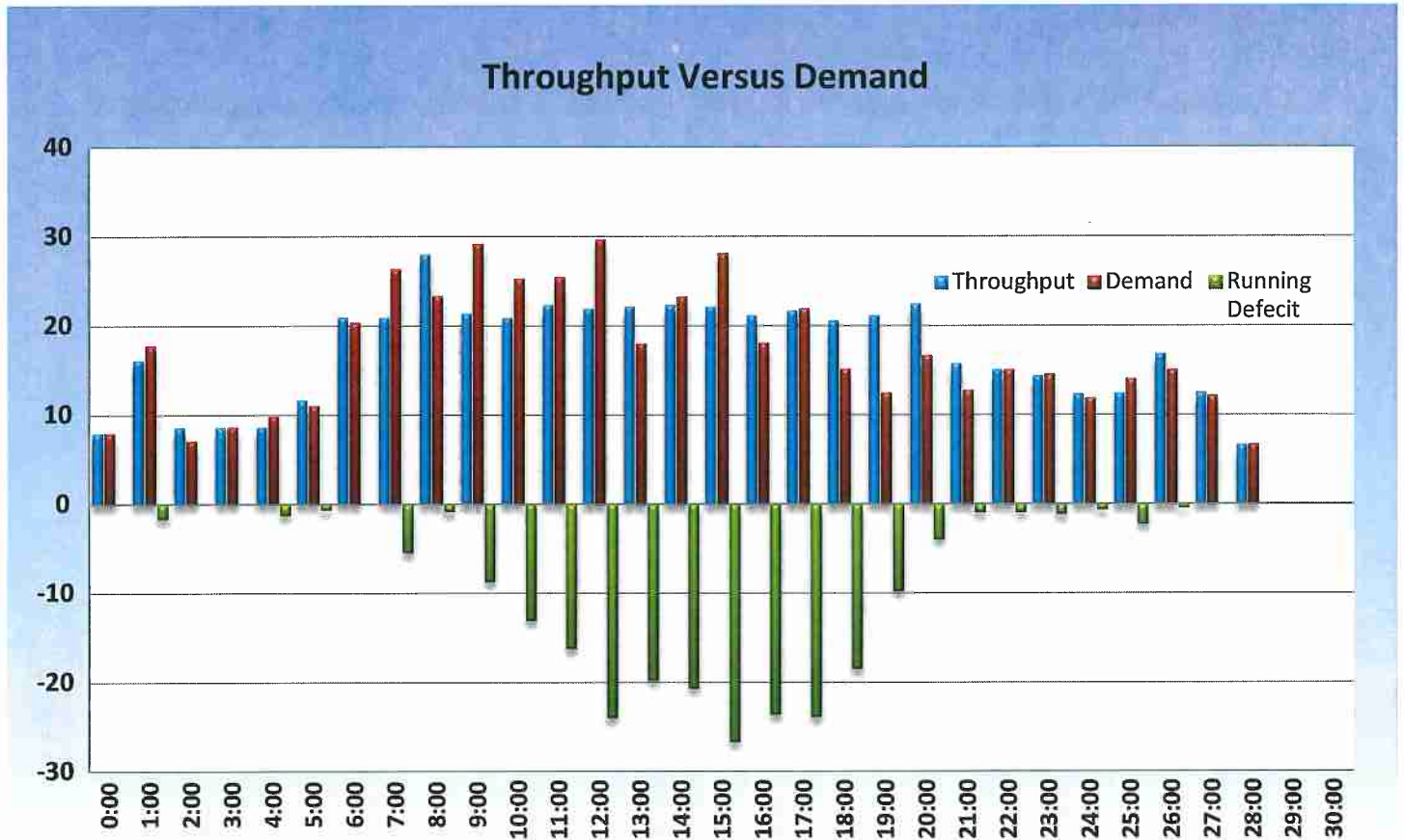
Different strategies were evaluated to determine the best way to balance capacity at the two airports. The overall critical hours of future operations at ANC occur between 11 a.m. and 7 p.m. with the peak hour being 3 p.m. (see Exhibit 3.25). Exhibits 3.26 and 3.27 show where demand exceeds capacity during these critical hours. If some operations could be moved to FAI during this time it would alleviate some of the delay and congestion.

**Figure 3.25**

**Throughput Versus Demand  
Anchorage International Airport  
Departures, Configuration 4  
VFR**

**Future 2**

Annual Operations	282,000
Average Day Peak Month Operations	1,000

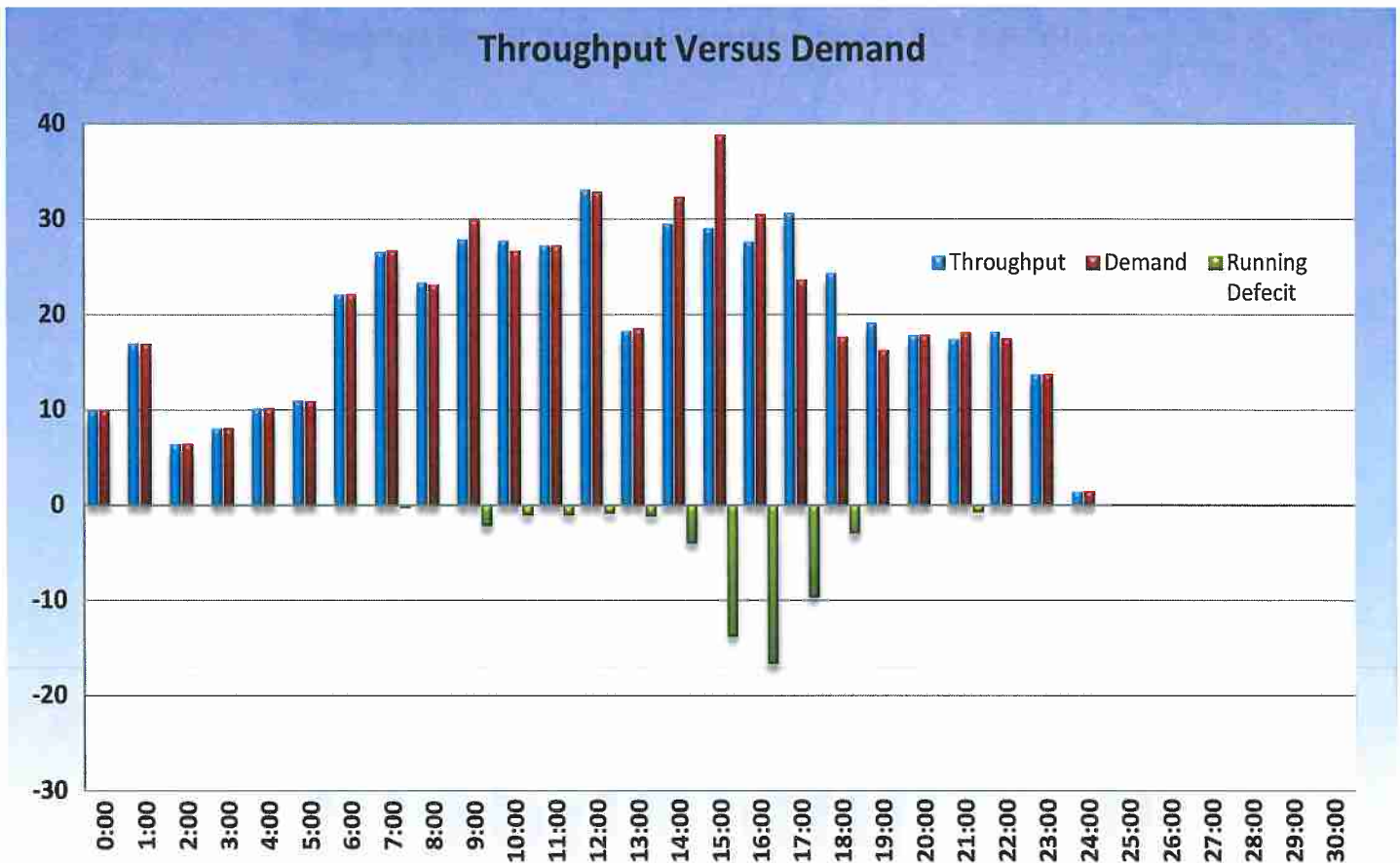


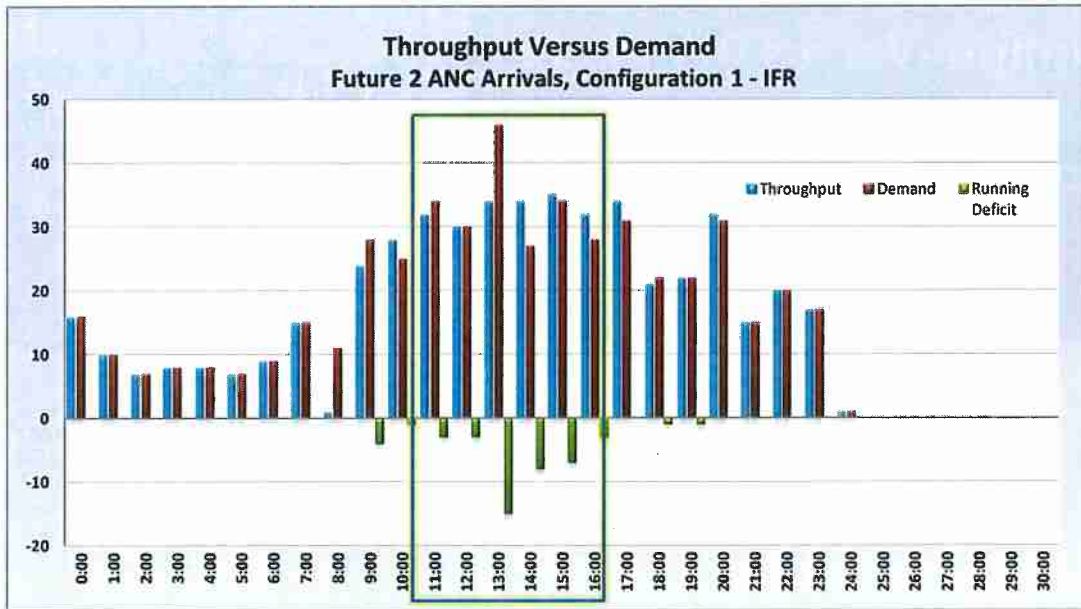
**Figure 3.26**

**Throughput Versus Demand  
Anchorage International Airport  
Departures, Configuration 1  
IFR**

**Future 2**

Annual Operations	282,000
Average Day Peak Month Operations	1,000

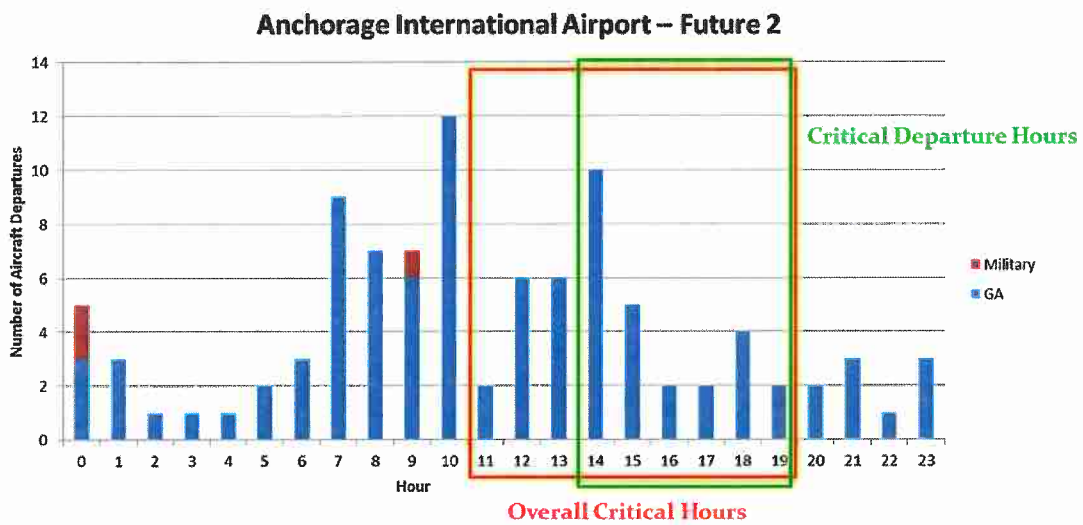




Critical Arrival Hours

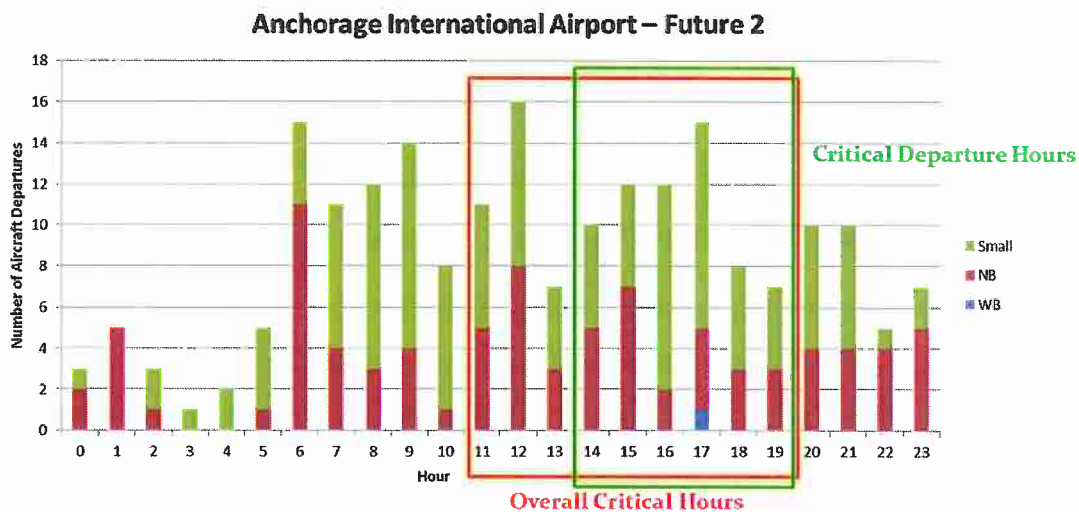
**Exhibit 3.27: Critical Arrival Hours at ANC for Future 2**

The first option considered was to move the GA and military operations to FAI to see if that had a significant impact on reducing delay at ANC. Most of the GA and military flights have ANC as their destination or origin, so relocation to FAI is not likely to be practical. Further, there were not a substantial enough number of operations to move and many of the GA operations use a different runway so diversion benefits would be minimal. Exhibit 3.28 shows daily departures by hour and highlights the critical hours for GA and military departures.



**Exhibit 3.28: Critical GA and Military Departure Hours at ANC**

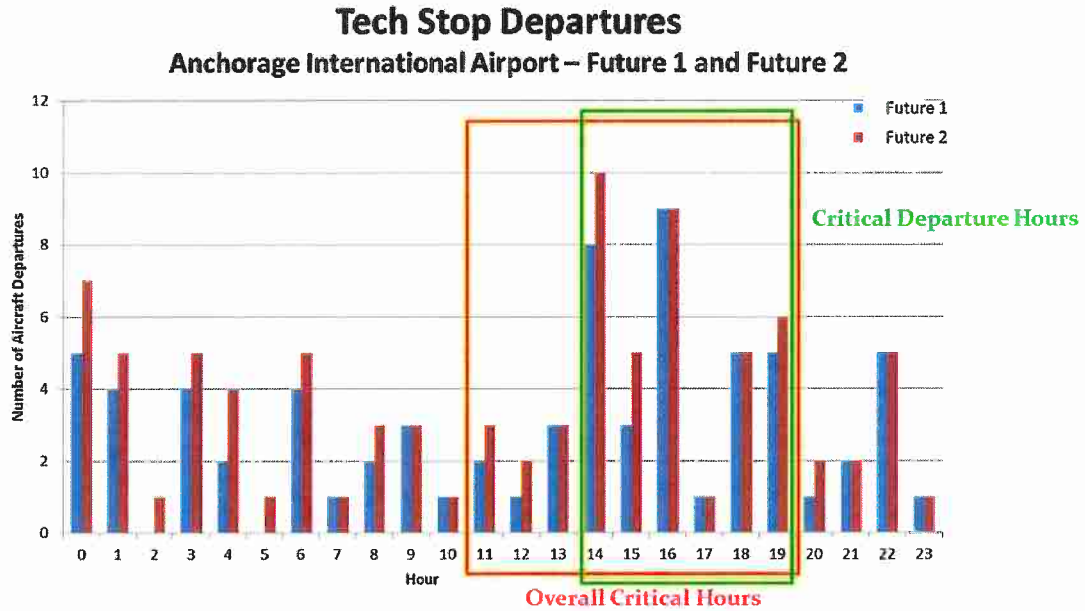
Another consideration was to move some passenger aircraft traffic from ANC to FAI. It was determined that this was not a viable option. Most of the passengers on flights to or from ANC have ANC as their destination or origin. While many passengers also transfer and go to other destinations in Alaska, trying to move them to connect through Fairbanks would not be feasible. This is not an economically viable option and would not significantly reduce flights going into ANC. Exhibit 3.29 shows the anticipated daily number of passenger aircraft departures by aircraft type per hour in the Future 2 timeframe.



**Exhibit 3.29: Critical Passenger Aircraft Departure Hours at ANC**

Moving either of the network cargo carriers to Fairbanks would also not be viable since they both have significant hub operations in ANC. To move them would require moving their hub operation which would require a significant investment, both in the ground facilities that would need to be moved and in the airfield improvements needed to support the significant increase in operations.

The tech stop cargo aircraft primarily just stop at ANC for refueling and crew changes. They are not normally carrying people or cargo that is destined for ANC. The ground infrastructure that is required is much less than for the network cargo carriers. Consequently it would be much easier to move their operations to a different airport. Therefore, the tech stop carriers make the most sense to look at to determine if diverting them to Fairbanks can reduce demand and delay the need for major airfield expansion at ANC. Exhibit 3.30 shows hourly departures for tech stop carriers at ANC for both Future 1 and Future 2.



**Exhibit 3.30: Critical Tech Stop Departure Hours at ANC**

One capacity balancing strategy modeled using SIMMOD was to move all tech stop airlines from Anchorage to Fairbanks. For the Future 1 year that amounts to 144 operations daily and for the Future 2 year there were 180 daily operations moved. Table 3.1 shows the list of the tech stop airlines and number of daily operations that were moved from ANC to FAI for Future 1 and Future 2.

**Table 3.1: Tech Stop Daily Operations at ANC**

Tech Stop Airline	Daily Operations Moved	
	Future 1	Future 2
5Y - Atlas	6	10
BR - Eva Air	22	24
CA - Air China	6	8
CI - China Airlines	20	24
CK - China Cargo Airlines	6	10
CX - Cathay Pacific	24	32
EZ - Evergreen	4	4
K4 - Kalitta	2	2
KE - Korean	26	30
KZ - Nippon Cargo	4	4
OZ - Asiana	8	12
SOO - Southern	10	14
SQ - Singapore	4	4
WO - World Airlines	2	2
<b>Total Daily Ops Moved</b>	<b>144</b>	<b>180</b>

Another strategy looked at was to move half of the tech stops from ANC to FAI. Table 3.2 summarizes the average delay at ANC during the critical hours for the integrated carriers for the 2 future years during base case, all tech stops moved to FAI and half of the tech stops moved to FAI. Delay times at ANC are cut in half for most operating scenarios in Future 2 as a result of moving even half of the tech stop operations to FAI.

**Table 3.2: ANC Delay Analysis Summary-Shifting Tech Stops to FAI**

<b>DELAY ANALYSIS - ANCHORAGE - BASE LINE FORECAST</b>		
<b>Critical Hours For International Cargo Carriers</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1 (242K Operations)</b>	<b>Future 2 (282 K Operations)</b>
<b>62% Of Time</b>	18.1	42.1
<b>22% Of Time</b>	7.2	20.3
<b>10% of Time</b>	21.8	57.7
<b>3% of Time</b>	>60	>60

<b>DELAY ANALYSIS - ANCHORAGE - BASE LINE FORECAST</b>		
<b>ALL TECH STOP AIRLINES MOVED TO FAIRBANKS</b>		
<b>Critical Hours For International Cargo Carriers</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1 (242K Operations)</b>	<b>Future 2 (282 K Operations)</b>
<b>62% Of Time</b>	5.4	12
<b>22% Of Time</b>	6.8	11
<b>10% of Time</b>	9.5	23.9
<b>3% of Time</b>	>60	>60

<b>DELAY ANALYSIS - ANCHORAGE - BASE LINE FORECAST</b>		
<b>50% OF TECH STOP AIRLINES MOVED TO FAIRBANKS</b>		
<b>Critical Hours For International Cargo Carriers</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1 (242K Operations)</b>	<b>Future 2 (282 K Operations)</b>
<b>62% Of Time</b>	6.3	19
<b>22% Of Time</b>	6.3	11.2
<b>10% of Time</b>	11.3	31.2
<b>3% of Time</b>	>60	>60

Table 3.3 summarizes the average delay during the peak hour at FAI and what happens to delay if all the tech stops from ANC and half the tech stops from ANC are moved to FAI. Delays are shown for the 2 future years modeled. Delay never reaches more than 6.5 minutes. Blocking pertains to the operating restriction FAI has regarding interaction between Group VI aircraft and operations on Taxiway A. Some of the future tech stop aircraft are Group VI



(e.g. Boeing 747-800). During Group VI aircraft operations (specifically landings), other aircraft are prevented from being on Taxiway A, because of inadequate runway and parallel taxiway separation. To block taxiing aircraft from violating this procedure, specific ground links, or “check points” were defined as “closed” if there were aircraft on any of the airspace links that were part of the Group VI aircraft route. Once the large aircraft landed and it was no longer on the air route, all of the ground links were “opened” again, and the taxiing aircraft were allowed to move freely within the simulation. Even with the Group VI restriction, the delays are minimal at FAI with 50% (45 daily flights) of the Tech stops operating there.

**Table 3.3: FAI Delay Analysis Summary-Shifting Tech Stops to FAI**

<b>DELAY ANALYSIS - FAIRBANKS - BASE LINE FORECAST</b>		
<b>Peak Hours</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1 (136K Operations)</b>	<b>Future 2 (156K Operations)</b>
<b>95% Of Time</b>	1.8	2.9
<b>5% Of Time</b>	1.4	2.5

<b>DELAY ANALYSIS - FAIRBANKS - BASE LINE FORECAST</b>		
<b>ALL TECH STOP AIRLINES MOVED TO FAIRBANKS</b>		
<b>Peak Hours</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1</b>	<b>Future 2</b>
<b>95% Of Time</b>	3.3	3.9
<b>5% Of Time</b>	4.2	6.4

<b>DELAY ANALYSIS - FAIRBANKS - BASE LINE FORECAST</b>		
<b>HALF TECH STOP AIRLINES MOVED TO FAIRBANKS (No Blocking)</b>		
<b>Peak Hours</b>		
<b>(Average Delays in Minutes)</b>		
	<b>Future 1</b>	<b>Future 2</b>
<b>95% Of Time</b>	2.4	3.4
<b>5% Of Time</b>	2.9	5.4

<b>DELAY ANALYSIS - FAIRBANKS - BASE LINE FORECAST</b>		
<b>HALF TECH STOP AIRLINES MOVED TO FAIRBANKS (with Blocking)</b>		
<b>Peak Hours</b>		
<b>(Average Delays in Minutes)</b>		
		<b>Future 2</b>
<b>95% Of Time</b>		5.1
<b>5% Of Time</b>		6.4

Note that the Group VI blocking restriction was only modeled at FAI for the 50% diversion scenario. This restriction was not known during the initial modeling. It was added to the 50% scenario since a diversion of more than 50% did not seem realistic or necessary as the study progressed. The numbers in the report without the Group VI restriction were not modified since it may be possible to get a modification to standards and operate without the restriction. Either way, FAI can accommodate 50% of the tech stops with minimal delay.

Table 3.4 compares the minutes of delay at ANC by moving half of the tech stops to FAI. It reduces the occurrence of untenable delays from 75% of the time to just 13% of the time at Future 2. Moving one of the tech stop carriers with 32 operations daily reduces average delay as much as 10 minutes per operation. Shifting just one tech stop carrier from ANC to FAI was examined to understand more fully how an incremental shift of traffic impacts delays at ANC and how it may work with setting up some kind of incentive structure to encourage tech stop carriers to make the move to FAI. Incentives are discussed further in Section 5.

**Table 3.4: Compare Average Delay at ANC  
 Moving Half the Tech Stop Operations to FAI**

<b>AVERAGE ANC DELAY IN MINUTES</b>					
<b>TECH STOP AIRLINES MOVED TO FAIRBANKS</b>					
<b>Critical Hours For Integrated Carriers</b>					
	<b>242K Annual Ops (2020)</b>		<b>282 K Annual Ops (2030)</b>		
<b>62 Percent of Time (Configuration 1 VFR)</b>	18.1	6.3	42.1	9	31.4
<b>22 Percent of Time (Configuration 2 VFR)</b>	7.2	6.3	20.3	11.2	
<b>10 Percent of Time (Configuration 1 IFR)</b>	21.8	11.3	57.7	32.2	43.5
<b>3 Percent of Time (Configuration 4 VFR)</b>	>60	>60	>60	>60	

### 3.5 Trigger Points

Trigger points are defined as the activity level at which delays become unacceptable and action needs to be taken in order for the AIAS to retain and attract air traffic, and therefore serve the needs of the region, state, nation and air transportation industry.

As discussed earlier, a hard definition for unacceptable delay is difficult to quantify in a simplistic manner. The level of delay that is unacceptable depends on how high the delay is, which carrier groups the delay is affecting, the amount of time the delay happens (i.e., how often a year) and the alternatives available to taking the delay (i.e., can the aircraft's schedule be adjusted or can the aircraft overfly or be rerouted through another airport).

Thirty minutes of delay is taken as unacceptable delay when it happens during critical times of the day, and when it happens with sufficient frequency during the year. There is a desire to keep Alaska competitive for air cargo. ANC Configuration 4-VFR has the highest delays of the operating modes studied with close to 200 minutes average delay in Future 2. This operating mode occurs on an average of 3% annually, or approximately 11 days per year. Since delays for this operating mode are already extreme, it is probable that the delays for this mode are unacceptable today and the airlines are already taking some kind of action to deal with the situation on a limited basis. An argument can be made that significant delays (in excess of 30 minutes) that only happen 3% of the time do not occur often enough to be unacceptable. It could well be that under today's conditions enough aircraft are already choosing to divert to an alternate location or take a reduced payload and overfly ANC. Enough aircraft are evidently doing this such that the delay is tolerable for those who still operate at ANC. Since the 3% occurrence is a low amount, and often does not all happen in one combined period, it is easier for the carriers to recover operations once conditions return to lower delay levels. Even so, as traffic grows it will become less tolerable for the carriers to take these kinds of delays. AIAS may want to work with the FAA and carriers to track, plan for, and minimize future diversions from AIAS.

ANC Configuration 1-IFR has the next highest delays of the operating modes studied. This mode occurs on an average of 10% annually, or approximately 37 days per year. At Future 1 traffic levels the delays are still manageable with the departure delays averaging 15 minutes during the peak hour and arrival delays averaging 7 minutes. For aircraft that have critical turn times that

arrive after 2 p.m. and need to leave prior to 5 p.m., the combined arrival and departure delay is 22 minutes, which is starting to approach the value for unacceptable delay.

For Future 2 levels the peak arrival delays were 20 minutes and the peak departure delays were 37 minutes. For aircraft that have critical turn times that arrive after 2 p.m. and need to leave prior to 5 p.m. the delay is approximately 48 minutes (20.3 minutes arrival delay in the 2 to 3 p.m. hour plus 28.0 minutes departure delay in the 4 to 5 p.m. hour). In essence, by a couple different measures, this puts delays beyond acceptable levels prior to Future 2 levels of 282,000 annual operations. Delay occurring 10% of the time is too often for the carriers to tolerate since it becomes additive to the 3% for Configuration 4-VFR which will have extreme delays at this point. This will mean that 13% of the time or 41 days per year ANC will experience unacceptable delays over most of those days. The growth of delays is not totally linear. It tends to become more exponential as delays become extreme. For this configuration, it is estimated that the unacceptable delay level will be reached approximately four years after Future 1 levels are met. This equates to an annual operations level of 258,000.

ANC Configuration 1-VFR has the third highest level of delays. This mode occurs on an average of 62% annually or 226 days per year. The arrival delays at Future 1 levels are minor at an average of 1.8 minutes for the peak hour of delay. Departure delays are an average of 16.3 minutes. By Future 2 levels, the arrival delays are still minor, but the departure delays are 38.6 and have exceeded the unacceptable delay level since they still happen during a key time for connecting banks elsewhere. If only departure delays are considered, the unacceptable delay level is reached 6 to 7 years after Future 1 levels are met. However, they are very significant (approximately 25 minutes) in the 4 to 5 years after Future 1.

Based upon this, the trigger point for ANC is estimated to happen somewhere between the Future 1 and 2 levels, or more specifically when the traffic level reaches 258,000 annual operations. Average delays during the critical hours will be in excess of 30 minutes for 13% of the year and near 25 minutes for an additional 62% of the year. This means that 75% of the time delays will be very high during the critical hours at the airport. This is a recommended trigger point, but waiting until this time to have a fix take place could have a high amount of risk. As delays grow, the excessive delays that occur 3% of the time and that are apparently tolerable

today, may become intolerable well before this time frame since the growing delays in the other operating modes will make it harder to recover from the excessive delays that happen during Configuration 4-VFR.

There is not an exact point where delays go from being acceptable to immediately unacceptable. Instead, the delays will become increasingly difficult for the airlines, airport and air traffic control. When operations start to approach the 258,000 level, it is possible that the airlines will start to move some or all of their operations from ANC unless they see action is underway to improve the capacity of the airport.

Capacity improvements take time. The amount of lead time that is required depends on the solution that is chosen to improve capacity. For example, if the solution involves moving a segment of traffic from ANC to FAI, not much lead time may be required to get started, assuming FAI has most of the necessary facilities to accommodate the shifted traffic. It may take a year to make sure all the logistics are in place and the airlines schedules modified as appropriate.

If the solution involves major physical improvements at ANC such as a new runway, it will take many years of lead time to do the planning, environmental studies, design, and construction. Ten years is the minimum time typically required to achieve a new air carrier runway from the start of planning to the opening of the new runway.

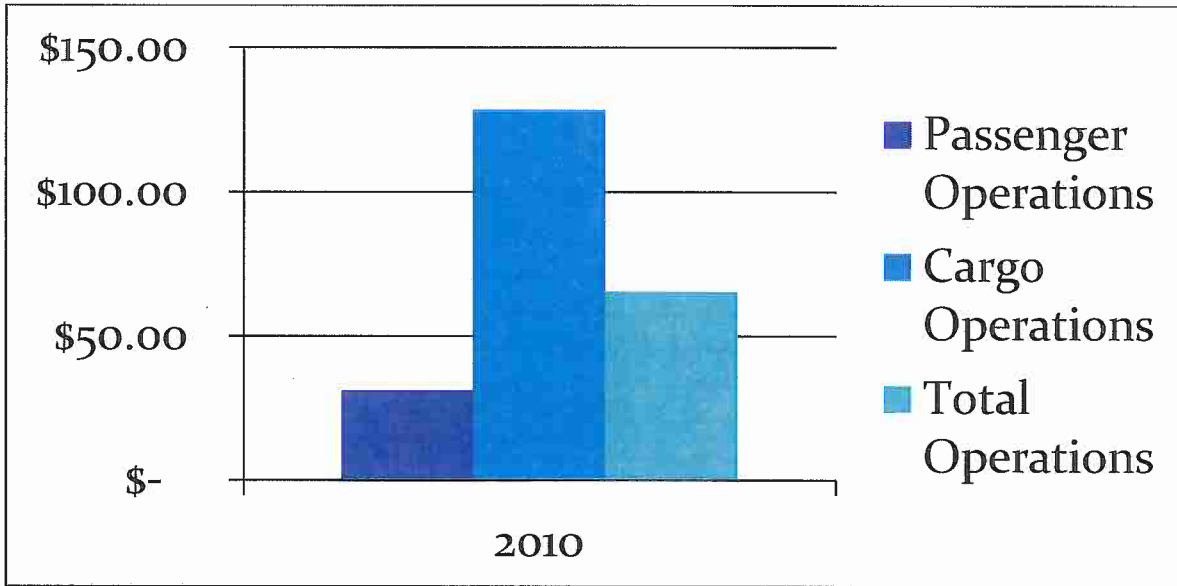
Once a direction is decided, additional trigger points would need to be established regarding when additional planning needs to be conducted, environmental studies (if needed) commenced, and the start of design projects.

### **3.6 Impacts of Shifting Traffic to FAI**

As shown in Section 3.3, FAI could handle a large shift of ANC tech stop traffic with minor airfield delays. A shift of 50% (45 daily flights) of the ANC tech stop traffic to FAI would resolve the untenable delay conditions described above for Future 2.

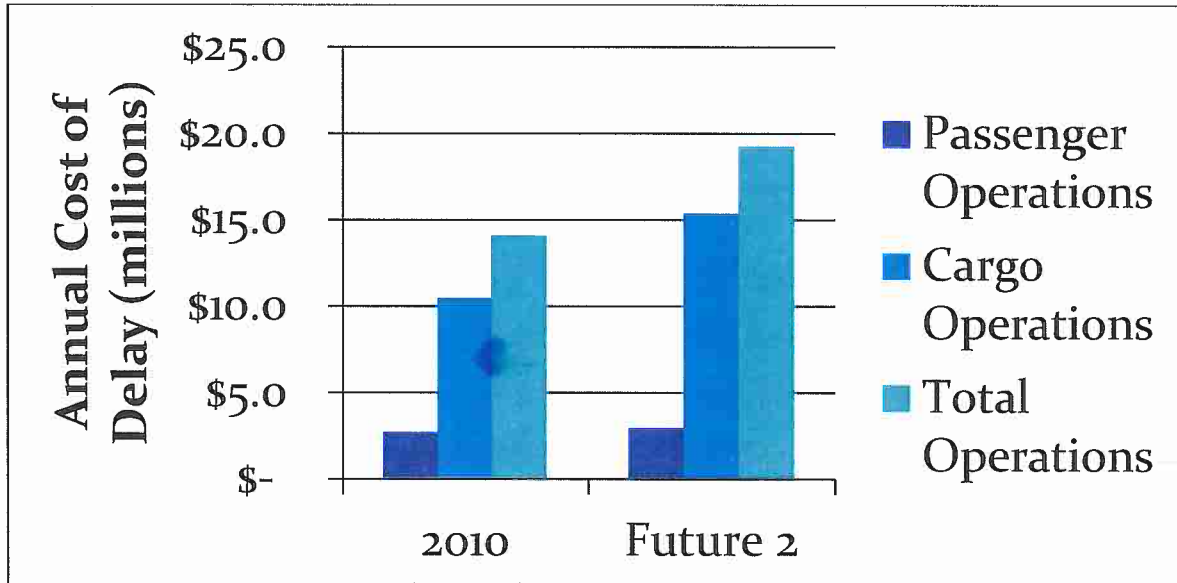
A test case was run to measure the benefits for those carriers that remain at ANC, if one tech stop airline with 16 daily flights moved from ANC to FAI. First, the airline operating costs associated with delay were estimated. Costs of delay were estimated and the average cost per aircraft

operation for each minute of delay is approximately \$130 for cargo operations (see Exhibit 3.31). This equates to over \$15 million additional annual operating costs to the cargo carriers for each minute of delay by Future 2 (see Exhibit 3.32).



Source: HNTB Analysis of USDOT BTS Data

**Exhibit 3.31: Average Cost per Aircraft Operation for Each Minute of Delay**



**Exhibit 3.32: Additional Annual Aircraft Operating Costs at ANC for Each Minute of Delay**

Moving the 16 flights resulted in the weighted average day delays for all users at ANC to be decreased by 764 minutes in Future 2. The reduced delays amounted to a reduction in user costs

of \$17,136,000, on an annual basis due to reduced fuel burn and less crew time. This is illustrated in Table 3.5.

**Table 3.5: Annual Delay Reduction - Shift 16 Flights from ANC to FAI - Future 2 (2030)**

<b>Daily Cost Reduction - Configuration 1 - Future 2</b>		
	<b>Operations</b>	<b>Average Delay</b>
IFR Base (Occurs 10% of time)	1,001	6.37
IFR Base Minus One Tech Stop Airline	969	5.08
<b>Operations Difference =</b>	32	
<b>Delay Difference =</b>		1.29
Total Daily Delay Savings =	1,246	minutes
Cost per delay - \$65.14/minute =	\$81,142.11	per day
VFR Base (Occurs 62% of time)	1,001	4.28
VFR Base Minus One Tech Stop Airline	969	3.49
<b>Operations Difference =</b>	32	
<b>Delay Difference =</b>		0.79
Total Daily Delay Savings =	764	minutes
Cost per delay - \$65.14/minute =	\$49,779.49	per day
<b>Annual Cost Reduction</b>		
Delay reduction for 10% of time, or 37 days =		\$3,002,258.25
Delay Reduction for 62% of time, or 226 days =		\$11,250,164.93
Therefore Delay Reduction for 263 days =		\$14,252,423.17
Assume Delay reduction for Configuration 1 is at least equal to the benefit for Configuration 1 IFR. Then benefit for 3% or 11 days =		\$892,563.26
Assume Delay reduction for Configuration 2 VFR is at least half of delay reduction for Configuration 1 VFR. Then benefit for 22% or 80 days =		\$1,991,179.63
Total Annual Delay Reduction for 2030 based upon moving 16 flights to FAI =		\$17,136,166.07

### 3.7 Use of Capacity at non-AIAS Airports

The feasibility of using non-AIAS airports to handle some of ANC’s future demand has been previously studied. This includes construction of a new airport to replace ANC or a supplemental airport to take some of ANC’s traffic. These ideas and the use of other Alaska airports are discussed below.

#### 3.7.1 Providing Capacity at a New Airport

The 2002 ANC Master Plan examined the feasibility of construction of a new airport in the Anchorage region and compared new airport alternatives to the construction of a new runway(s) at ANC. New airports were considered in Point MacKenzie, north of ANC in the vicinity of the existing agricultural area, and on Fire Island, to the west of ANC. Both options would not only

include a new airport, but new major bridges across Turnagain Arm or the Knik Arm and connector roads. Because Fire Island is too small to completely replace ANC, only a supplemental airport alternative was considered on Fire Island, an airport that would supplement, but not replace ANC. For Point MacKenzie, supplemental airport and a replacement airport alternatives were both considered. The supplemental airport alternatives at Fire Island and Point MacKenzie were defined as international cargo airports and GA airports, with ANC remaining a passenger airport and a domestic cargo airport.

These alternatives as well as alternatives to build new runways at ANC, were evaluated and compared, reviewed by stakeholders in two large stakeholder roundtable meetings and also reviewed in public meetings.

The analysis concluded that supplemental or replacement airports at Fire Island and Point MacKenzie were not viable for several reasons:

- Supplemental or replacement airport alternatives were double or triple the cost of expanding ANC.
- Supplemental airports would require paying for operating two airports instead of one, requiring expensive duplication of staff and commodities.
- The uncertainties and cost impacts to AIAS carriers of building and operating a new airport could drive away international cargo traffic.
- Future aviation demand is too uncertain to risk spending such large amounts on supplemental or replacement airports.
- Supplemental airports would require that some cargo carried on passenger aircraft at ANC be transferred by truck on public roads to the supplemental airport, creating additional costs, time, and inefficient operations.
- A supplemental airport at Fire Island would have airspace conflicts with traffic at ANC. A supplemental airport at Point MacKenzie would have airspace conflicts with Elmendorf, with regional GA traffic, and with ANC traffic. A replacement airport at Point MacKenzie would also have airspace conflicts with JBER and GA traffic.
- Supplemental and replacement airports would be in less convenient locations for the public and businesses that use the airport.



- While there would be some environmental benefits of moving operations to a supplemental or replacement airport, there would also be considerable environmental impacts at a new airport site.

Since 2002, a wind farm has been constructed at Fire Island and additional development has occurred in the Point MacKenzie area, further complicating what are still unviable options. The 2009 draft Airport Master Plan also briefly reviewed the supplemental and replacement airport alternatives, and determined that they continue to not be viable options.

A new GA airport has been studied in the vicinity of the Point MacKenzie agriculture area. While this might draw some traffic from ANC and FAI, if a Knik Arm Bridge is built, it will not likely have enough of an impact to significantly affect ANC delays during peak cargo operations. As discussed in Section 3.3.1 and illustrated in Exhibit 3.28 there are not enough GA operations during the critical hours to make a large difference in delays if they were moved.

### 3.7.2 Use of an Existing Non-AIAS Airport

Some Anchorage residents also questioned whether use of an existing airport, such as Kenai or Cold Bay for tech stop operations, might be a better alternative to building a new runway at ANC.

The Kenai Airport has a 7,500-foot runway and airport facilities designed and sized to serve regional passenger, cargo and GA aircraft. Redevelopment of the Kenai Airport for international cargo operations is not realistic for the following reasons:

- High costs of extending the runway and rebuilding the entire airfield to meet FAA standards for wide-body cargo aircraft.
- A lack of suitable facilities and services (fueling, deicing, maintenance, aircraft rescue, and firefighting) to support international cargo operations.
- The location of the community next to and surrounding the Kenai Airport would mean significant noise impacts to residences and businesses from large cargo aircraft.

- The presence of an existing proven option at FAI, that is already more capable of serving tech stop operations, without major airport redevelopment and with fewer community impacts.

In the 1960s, the Cold Bay Airport was used for refueling of international cargo flights. Since then, international cargo activity has shifted to ANC and in the past to FAI, but Cold Bay continues to serve a valuable role as an alternate/emergency landing airport for transpacific flights. It still has a 10,000-foot runway, large cargo aprons, fueling facilities and equipment, and M&O equipment to support operations by wide-body aircraft. Carriers do not use Cold Bay for routine tech stop fueling because better options exist at ANC and FAI. While Cold Bay can currently handle international cargo flights, ANC and FAI have more services, personnel, and facilities, have better passenger air service for crew changes, and are more efficiently located on airways between the Lower 48 and Asia, for refueling.

Shifting some tech stop operations to JBER has also been mentioned by Anchorage residents. According to an official at JBER, joint use of JBER with civilian and military operations is not feasible because:

- Infrastructure and space at JBER are already at or near capacity with prospects for continued growth in JBER operations and facilities and space needs;
- JBER security issues preclude access by foreign and U.S. citizens to this airfield, a critical facility for national defense; and
- A different type of fuel is used at JBER than is used by ANC users.

Based on the above, JBER should not be considered a viable option for tech stops. On the other hand, if JBER's role were to be reduced in the future, this option could be reconsidered.