

**Table 5-1 – Alternative Evaluation Matrix**

Criteria are listed in order of importance. The alternative that best fulfills each evaluation criterion is shown in bold.

	<b>Alternative 1 Relocate Airport to Area 1</b>	<b>Alternative 2 Relocate Airport to Area 2</b>	<b>Alternative 3 Relocate Airport to Area 3</b>	<b>Alternative 4 Improve Existing Airport</b>
<b>Safety</b>				
<b>Approach Capabilities</b>	<b>Good approach capabilities; potential airport site is nearly the highest point on the peninsula</b>	Approach capability downgraded because of windmills and radio tower in proximity to potential approaches	<b>Good approach capability; potential airport site in lowland area</b>	Improvements would clear a TERPS approach, but Part 77 terrain obstructions would remain off of the east end of Runway 8-26 Kotzebue Sound prevents approach lighting on the west end of Runway 8-26
<b>Wind Coverage and Other Meteorological Conditions</b>	<b>Wind coverage with 12 knot crosswind Main runway = 89.8% coverage Combined runway = 95.2% coverage Fog unlikely</b>	Wind coverage with 12 knot crosswind Main runway = 84.7% coverage Combined runway = 95.5% coverage Fog is likely because of Sadie Creek Combination of terrain and runway alignments may lead to snow drifting on runways	<b>Wind coverage with 12 knot crosswind Main runway = 90.2% coverage Combined runway = 96.9% coverage Fog unknown, but suspected unlikely</b>	Wind coverage with 12 knot crosswind Main runway = 90.4% coverage Combined runway = 96.8% coverage Fog cover common
<b>Distance from Bird Attractants</b>	<b>Located in low-value wetlands</b>	Located near high-value wetlands	Located between two high-value wetland areas	Located near Kotzebue Lagoon, landfill, high-value wetlands, and fish drying racks
<b>Air Space and Land Use Compatibility/Obstructions</b>	<b>Site located in undeveloped area; airspace and land use conflicts unlikely</b>	<b>Same as Alternative 1</b>	<b>Same as Alternative 1</b>	Airport conflicts with the community over land use; terrain and community development limit airspace
<b>Safe Access</b>	Potential airport site 6.6 road miles from community	Potential airport site 5.9 road miles from community	Potential airport site 12.8 road miles from community	<b>Airport in close proximity to community</b>
<b>Airport Security</b>	<b>Sufficient land at potential airport site to put security measures in place</b>	<b>Same as Alternative 1</b>	<b>Same as Alternative 1</b>	Security hindered by lack of space for airport expansion and community subsistence activities at the beach
<b>Environmental Impacts</b>				
<b>Convenience of Access/Proximity to Community</b>	Airport a short distance from community; not as convenient for residents and visitors, but provides room for community expansion on spit, encourages the development of a transit industry, and provides access to new land	Same as Alternative 1	Airport a considerable distance from community, which would be inconvenient for airport users	<b>Airport remains within walking distance; community values the proximity of the existing airport</b>
<b>User Costs</b>	Airport relocated 6.6 road miles from community center; estimated upper limit for air carriers' and local businesses' additional costs from the increased travel distance to the airport is approximately \$479,100/year	Airport relocated 5.9 road miles from community center; estimated upper limit for air carriers' and local businesses' additional costs from the increased travel distance to the airport is approximately \$479,100/year	Airport relocated 12.8 road miles from community center; estimated upper limit for air carriers' and local businesses' additional costs from the increased travel distance to the airport is approximately \$1,262,400/year	<b>Airport stays at existing location; user cost increase is minimal</b>
<b>Cultural Resources/Subsistence Impacts</b>	Likely to have impacts on subsistence resources; cove is heavily used for subsistence activities; relocation may indirectly impact cultural resources and subsistence camps along shoreline	<b>Least likely to impact cultural resources or subsistence activities because of inland location; access road may aid in reaching berries and other resources</b>	Likely to have impact on subsistence resources, especially birds; airport access road also likely to impact cultural resources and subsistence activities along shoreline	Community's access to subsistence resources will be improved by making room for the road at the west end of Runway 8-26; burial ground will be near the extension of Runway 8-26; cultural resource and subsistence conflicts are inevitable because of proximity to community
<b>Floodplain and Watershed (Water Source) Impacts</b>	Flooding unlikely Airport site about 2.5 miles from Devil's Lake; water source protection may be necessary	Flooding unlikely Airport site about 2.0 miles from Devil's Lake; water source protection may not be necessary	<b>Flooding unlikely Airport site located 8.8 miles from Devil's Lake</b>	Potential for flooding issues Improvements will impact Vortac Lake
<b>Land Ownership</b>	Will require sizeable land purchase; may require private land purchase for access road.	Will require sizeable land purchase; unlikely to impact private land holdings.	Will require sizeable land purchase; likely to require private land purchase for access road.	<b>Land purchase for improving the airport would be limited; unfortunately, land close to the airport, such as the beach area, is not owned by the airport</b>
<b>Wetlands/Fish &amp; Wildlife Impacts</b>	<b>Development avoids high-value wetlands and areas of high wildlife use; large game may be attracted to ridge tops, which are potential runway sites</b>	Development in close proximity to high-value wetlands; highest wildlife use on the peninsula occurs in Area 2	Development between two high-value wetland areas; low wildlife potential, but long airport access road will travel through wildlife/wetland areas	Located in high-value wetland area Airport noise may affect seals and other marine life

<b>Quality Design</b>				
<b>Geology/Long-Term Stability</b>	Most likely of the three relocation areas to have stable foundation soils	Surface features suggest variable permafrost and massive ice formations; variable terrain may result in abrupt and dramatic changes in fill thickness	Surface features suggest variable permafrost and massive ice formations; runway may be placed on dry lake beds which would limit permafrost issues	<b>Primary runway extension likely to be relatively stable because cut will be deep enough to reach glacial till. A significant portion of runways and airport infrastructure have already settled and are mostly stable.</b>
<b>Maintenance &amp; Operation Costs (2006 \$; see Appendix D)</b>	\$2.78 million/year Relatively stable soil conditions	\$2.68 million/year Largely unstable foundation soils	\$2.83 million/year Somewhat stable foundation soils	<b>\$2.63 million/year Most initial settlement has already occurred</b>
<b>Construction Costs for 7,500' Runway (2006 \$; see Appendix D)</b>	\$760 million to \$1,290 million, depending on availability of local borrow Airport borrow quantity: 8,400,000 cy (\$490/\$980 million) Access road construction: 5.6 miles (\$54/\$86 million)	\$950 million Airport borrow quantity: 4,800,000 cy (\$570 million) Access road construction: 3.1 miles (\$60 million)	<b>\$810 million Airport borrow quantity: 4,000,000 cy (\$470 million) Access road construction: 9.7 miles (\$190 million)</b>	\$560 million Excavation quantity: 11,100,000 cy (\$280 million) Airport borrow quantity: 300,000 cy (\$40 million)
<b>Future Expansion Possibilities</b>	Somewhat limited by topography	Same as Alternative 1	<b>Not limited by topography; somewhat limited by prevalence of high-value wetlands.</b>	Severely limited by community & topography
<b>Utility Extension</b>	6.6 mile utility extension; fair soil conditions	5.9 mile utility extension; fair to poor soil conditions	12.8 mile utility extension; fair to poor soil conditions	<b>Minimal utility extension is needed</b>