

Kotzebue Airport Relocation Feasibility Study November 2007

- Project Recap – What are we doing and why
- Alternative Development & Evaluation
- Funding Airport Construction
- Relocation Feasibility



Project Recap

- **What:** Examine the feasibility or reasonableness of relocating the Kotzebue Airport by answering 3 questions:
 - **Are potential areas available for relocation?**
 - **How do these areas compare with each other and the existing facility and are the alternatives environmentally and socially acceptable?**
 - **Is the cost to move the airport reasonable?**
- **Why:**
 - *City of Kotzebue Comprehensive Plan* identified “Move Airport” as the 1st Goal.
 - The 1998 Airport Master Plan indicated the need to consider relocation as a means to meet long term needs



Project Process

- Identify issues at the airport
- Study potential relocation areas & existing airport
- Forecast aviation activity & identify design aircraft
- Airport alternatives development & evaluation
- Financial analysis



Finding The Balance

The goal of this project is to find the balance between a number of objectives.

Safety

- Meets FAA safety standards
- Obstruction-free approaches
- Minimized wildlife hazards
- Limited vehicle/aircraft conflict potential
- Orientation to winds



Cost

- Development costs
- Facility relocation costs
- M&O costs
- Costs to public

Natural Environment

- Wetlands
- Wildlife habitat
- Kotzebue Sound
- Kotzebue Lagoon

Community

(Human Environment)

- Community disruption
- Relocation of businesses
- Proximity to community
- Land uses/Subsistence impacts
- Cultural resources



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Airport Alternatives

- Expand the existing airport
- Relocate airport to a new site within Areas 1, 2, or 3



Developing Alternatives

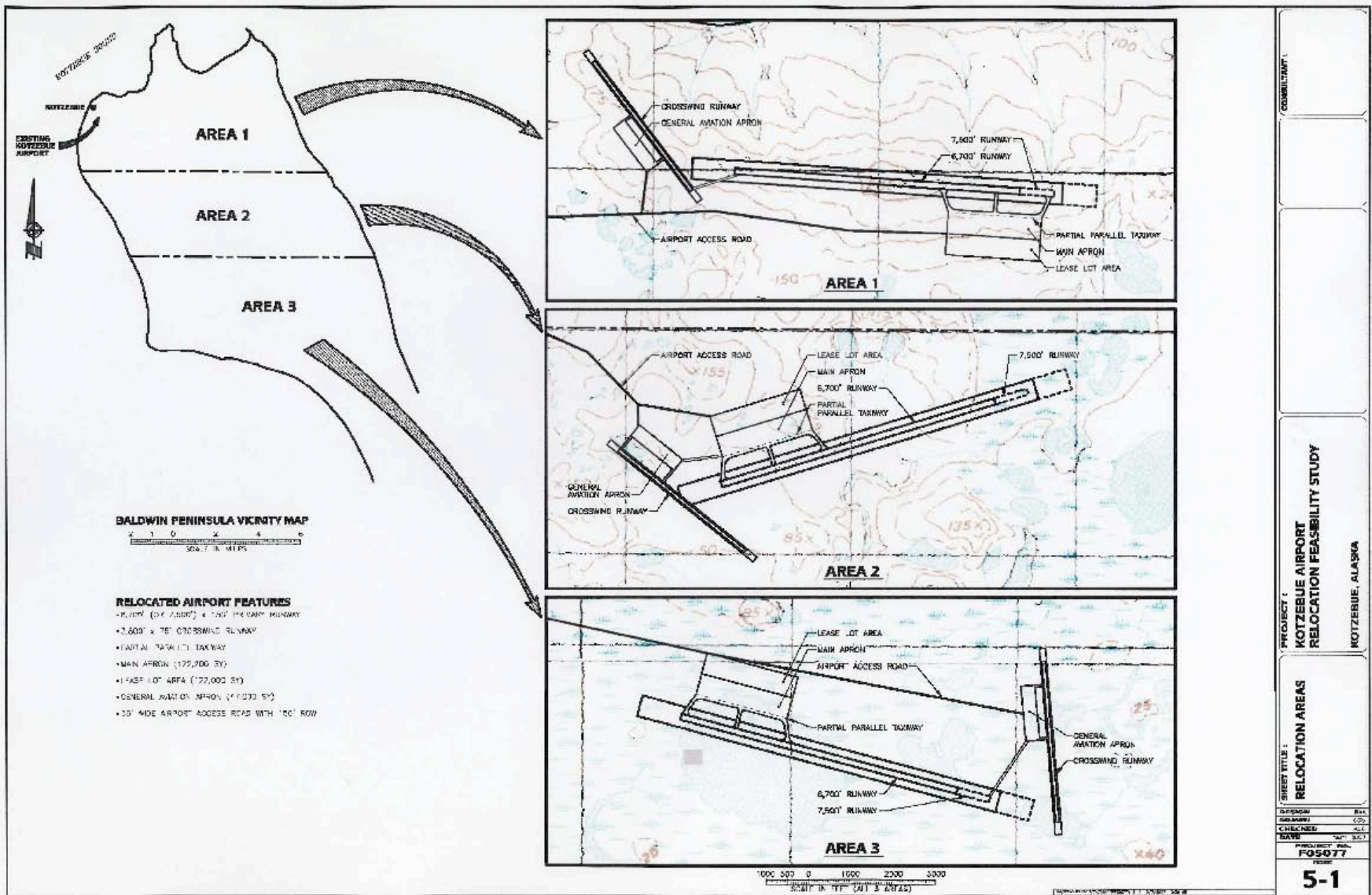
- Conceptual airport layout developed in each relocation area and at existing airport
- Layouts show basic airport features
- Layouts help to estimate the cost of building these facilities



Key Airport Elements

Element	Dimensions	Reason
<i>Primary Runway</i>		
Runway Length	7,500' and 6,700'	Ultimate and interim lengths based on FAA standards
Runway Width	150'	FAA standards
Safety Area	9,500' x 500' and 8,700' x 500'	FAA standards, based on ultimate and interim runway lengths
<i>Crosswind Runway</i>		
Runway Length	3,800'	Existing crosswind runway length
Runway Width	75'	FAA standards
Safety Area	4,400' x 150'	FAA standards
<i>Other Features</i>		
Apron & Lease Lot Sizes	As shown on Figure 5-1	Same as ALP ultimate layout
Parallel Taxiway	Partial	Same as ALP ultimate layout





CONSULTANT:

PROJECT 1:
**KOTZEBUE AIRPORT
 RELOCATION FEASIBILITY STUDY**

KOTZEBUE, ALASKA

PROJECT TITLE:
RELOCATION AREAS

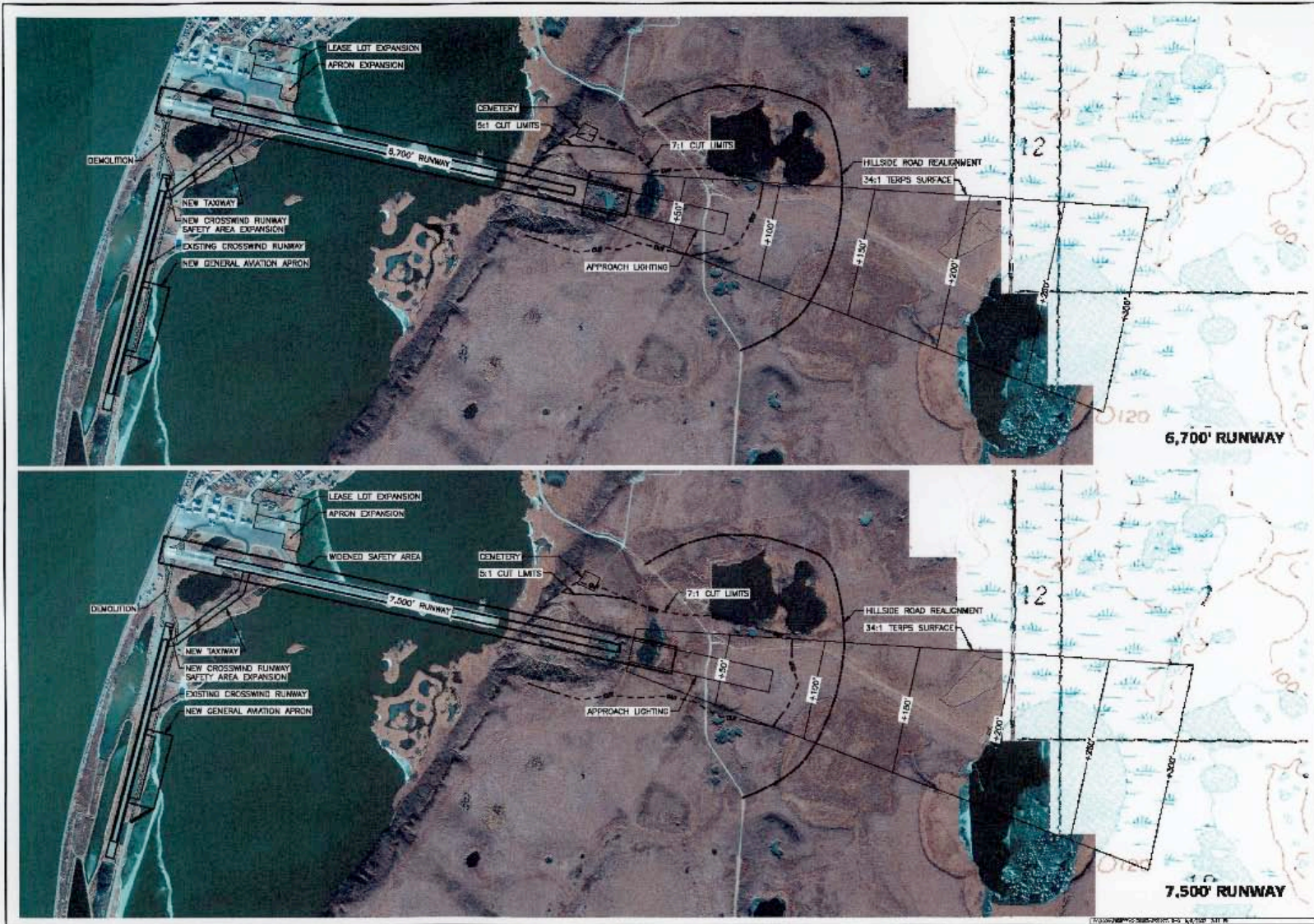
DESIGNED	BY:
DRAWN	DATE:
CHECKED	SCALE:
DATE	PROJECT NO.:

F05077

5-1



Kotzebue Airport Relocation Feasibility Study



CONTRACT NO. 1	
PROJECT 1	
SUBJECT TITLE: EXISTING AIRPORT IMPROVEMENTS 6,700' AND 7,500' RUNWAYS	
DESIGNED BY: FDC, INC.	PROJECT No. F050177
KOTZEBUE, ALASKA	
DATE: 02/20/01	SCALE: AS SHOWN
5-2	



Kotzebue Airport Relocation Feasibility Study

Alternative Evaluation

- **Safety**
 - Approach capabilities
 - Wind coverage and other meteorological conditions
 - Distance from bird attractants
 - Air space and land use compatibility/obstructions
 - Safe access
 - Airport security
- **Environmental Impacts**
 - Convenience of access/proximity to community
 - User costs
 - Cultural resources/subsistence impacts
 - Floodplain and water source impacts
 - Land ownership
 - Wetlands/fish & wildlife impacts



Alternative Evaluation (cont.)

- Design Quality
 - Geology/long-term stability
 - Maintenance & operations cost
 - Construction costs
 - Future expansion possibilities
 - Utility extension
- Alternative evaluation showed . . .
 - Alternatives are constructible, but prohibitively expensive
 - What additional studies are needed for further alternative evaluation



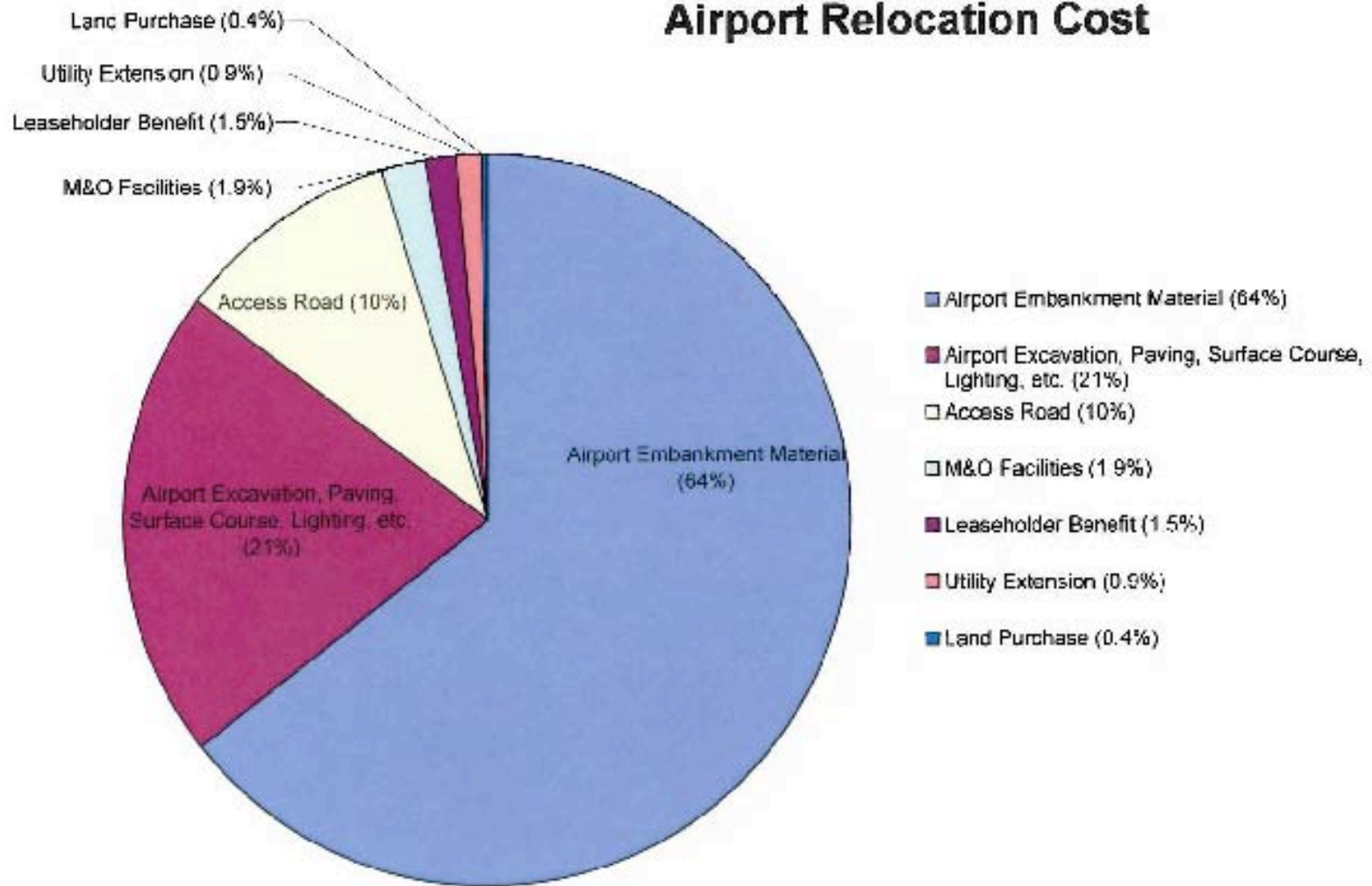
Funding Analysis

Airport Relocation Cost	\$760 million - \$1.29 billion
Existing Airport Improvement Cost	\$560 million
FAA Funding for <u>All Alaskan Airports</u> (FY07)	\$200 million

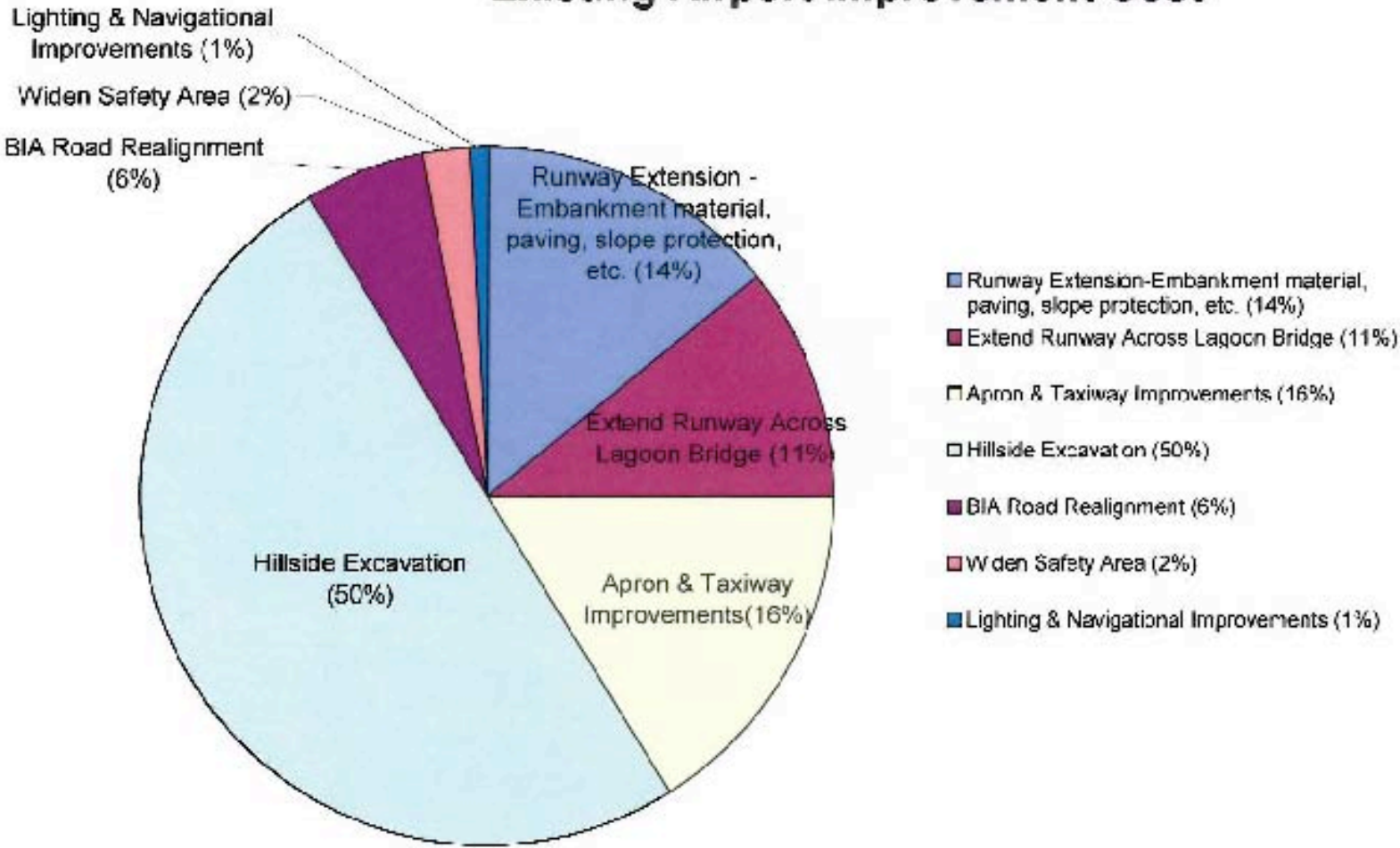
From 1950 to 2005, \$73.5 million has been invested at the Kotzebue Airport (in 2006 \$s). An additional estimated \$22.8 million has been privately invested in lease improvements.



Airport Relocation Cost



Existing Airport Improvement Cost



For Comparison

- Kotzebue Eastside Obstruction Removal and Safety Area Expansion Project
 - Construction Cost: \$13.8 million
 - Project Scope
 - Apron and runway pavement repairs
 - Widened primary runway from 190' to 340'
 - Hillside excavation
 - This project did not include any facility expansion



Why so expensive?

- Kotzebue Airport is a sizable regional airport
 - Infrastructure development - utilities
 - Paving
 - Lease lot development
- Variable permafrost
- Poor foundation soils
- Lack of local materials
 - Majority of gravel and rock materials will need to be barged to construction site
- Hilly terrain



Funding Sources – Federal Grants

- FAA's Airport Improvement Program (AIP)
 - Total funding has been approximately \$200 million per year for the last 4 years
 - Kotzebue Airport is one of 260 airports in Alaska that are eligible for federal funding
 - Kotzebue Airport is 1 of 27 primary airports in Alaska
 - The 27 Alaskan primary airports receive \$21 million per year of the total AIP funding



Funding Sources – State Funds

- Most capital improvement \$ comes from the FAA and is allocated by the state
- State money is used to match federal funds (95% federal/5% state) to provide greater leverage



Competing State Interests

State funding of any magnitude is unlikely

- State funding capabilities are based on declining oil reserves
- Increased construction costs = funding for fewer projects
- Intense competition between regional transportation priorities
 - Another regional funding priority: Relocation of Kivalina, Newtok, & Shishmaref out of reach of coastal storms



Funding Sources Explored

- Bonds issued by the city or borough backed by taxes
 - \$760 million = \$100,000 per NWAB resident (without interest)
- Passenger Facility Charge
 - Minimum required passenger capacity of 60 people per plane
 - In 2005, \$98,000 could have been raised, if this requirement had been met by all flights



Funding Sources Explored

- Operating Surplus
 - Kotzebue like most Alaskan airports operates at a loss each year
 - Over the last 4 years, M&O expenses have ranged between \$500,000 and \$1 million more than the revenue received from lease lots and tie-downs.



Funding Sources Explored (cont.)

- Selling or leasing existing airport property
 - Leases unlikely to generate significant revenue in light of airport construction costs
 - Probable contamination at airport would reduce revenue from airport property sale
- Public/private partnerships
 - Projects are scored as a higher priority when community contributes to the project
 - Land or gravel contributions



Funding Sources - Earmarks

- Federal and state earmarks may be available when other typical funding sources are insufficient for a priority project
- Public outcry over “bridges to nowhere” suggests this magnitude of money would be difficult to acquire
- The state earmarks are also unlikely, as stated above, because of the tight state transportation budgets and intense competition between regional transportation priorities



Feasibility

- Environmental impacts, safety considerations, and land availability support airport relocation
- Mixed public acceptance of airport relocation
- However it all comes down to costs . . .

Constructing a relocated facility or making large-scale improvements to the existing facility is not considered feasible.



How to Move Forward

- This study is part of the Kotzebue Airport Master Plan Update
 - Alaskan primary airport's master plans are updated every 5-10 years
 - Master plans typically set goals for the next 20 years
 - Master plans allow airports to obtain federal funding



Kotzebue Airport Master Plan

- Kotzebue Airport Master Plan will
 - Indicate that relocating the airport is financially infeasible
 - Define projects and a timeline for improving the functionality of the existing airport
- This study provides a basis for educated decision-making in regards to development at the Kotzebue Airport



Improving the Kotzebue Airport

How can we create a financially viable airport improvement plan?

1. Identify reasonable funding expectations for the next 20 years
2. Develop an improvement plan for this funding
3. Evaluate impacts of improvement plan on Kotzebue and the surrounding communities



Developing the Improvement Plan

- Discussion with FAA, major air carriers, and community
- Evaluate effects of less demanding aircraft servicing Kotzebue and the region
- Decision making on the priority of improvements
 - safety area improvements, runway lengthening, increasing apron and lease lot sizes, beach access road safety measures



Developing the Improvement Plan

- Additional factors to consider
 - Material source availability
 - Effect on local watershed (Vortac Lake & Devils Lake)
 - Impacts of climate change on embankment stability and flooding risk



Finishing Up the Study

What

Public Comment Period

Final feasibility report released with revisions based on public comments

When

Until December 5

January 2007



Questions & Comments

- Let us know . . .
 - If we are missing key information in the study
 - If there are any points we need to clarify



Thank you for your participation!



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