



CHAPTER 6

ALTERNATIVES EVALUATION RESULTS

601. Introduction

As previously presented, Chapter Five titled “Alternatives Evaluation Procedures” introduced and discussed the comprehensive methodology and associated procedures to be used when conducting the actual alternatives evaluation. All procedures have been formulated with input from the Community Airport Committee (CAC), the Virginia Department of Aviation (DOAV), and FAA. The procedures were also presented and discussed at a Public Workshop held on October 27, 2008.

This section of the Report will now present and summarize the results of the Evaluation.

It should be noted that the intent of the Alternatives Evaluation is to provide future decision makers with information relative to the advantages and disadvantages of each alternative, and that selection of a favored alternative will be accomplished by decision makers at a later date.

602. Evaluation and Scoring / Rating Matrices

Both the completed Alternatives Evaluation Matrix and the Alternatives Scoring and Rating Matrix are presented for review as shown below in Exhibit 6-1 and Exhibit 6-2 respectively.



Exhibit 6-1
Alternatives Evaluation Matrix

Criteria	Alternative A Status Quo	Alternative B Local Acquisition	Alternative C Develop New Airport
ENVIRONMENTAL			
Compatible Land Use	No Change	Better Safety Area/ RPZ Protection Would Enhance Compatibility	Acquisition Acreage Would Accommodate All Compatibility Standards
Potential Recreation / Wildlife / Historic Area Impacts	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential Issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Some Mitigation Anticipated Based On Future Site Selection
Wetlands	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential Issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Some Mitigation Anticipated Based On Future Site Selection
Floodplains	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Anticipated That Future Site Selected Will Not Impact Floodplains
Proximity To Land Fill/Wildlife Hazards	No Change	Non-Sanitary Land Fill Is Closed, New Fencing Would Decrease Wildlife Hazards	Anticipated That Future Site Selected Will Not Conflict With Land Fill / Wildlife Hazards
Land Acquisition	None	Some 107 Acres Acquired From Airport Owner; 46 Acres of Avigation Easements To Be Acquired From Private Owners	Some 416 Acres Of Land Acquisition Required



ENGINEERING			
Special Engineering Needs	None	Non-Sanitary Land Fill Cap May Require Lowering	Special Engineering Needs Will Be Considered During The Site Selection Process
Utility/Pipeline Relocation	None	None Anticipated	Only Minor Utility Relocations Anticipated Dependent On Future Site Selection
Building/Structure Removal	None	None Anticipated	Only Minor Removals Anticipated Dependent On Future Site Selection
Topography Factors	None	None Anticipated	Only Minor Topography Factors Anticipated Dependent On Future Site Selection
SURFACE TRANSPORTATION			
Road/Rail Relocation	None	None Anticipated	Only Minor Road Relocations Anticipated Dependent On Future Site Selection
New Roadway Requirements	None	Existing Access Road Will Require Improvements	New Roadways Will Be Needed For Airport Access And Are Dependent On Future Site Selection
Highway Congestion Factor	Currently Not A Major Factor	No Change	It Is Anticipated That A Future Site Selection Study Will Consider / Avoid Congestion Situations
User Driving Time	Currently Reasonable	No Change	Continued Reasonable Driving Times Are Anticipated If Future Site Remains In Defined Service Area



Exhibit 6-1 (continued)

<u>OPERATIONAL</u>			
Meet FAA Design Standards	Would Continue To Meet Only DOAV Standards	Can Meet Basic FAA Standards If A Portion of the Parallel Taxiway And Some Aircraft Tiedowns Are Abandoned	Would Meet All DOAV And FAA Design Standards
Airspace/Airfield Capacity	Would Continue To Be Adequate With Limited Airspace	Would Continue To Be Adequate With Limited Airspace	It Is Anticipated That The Future Site Selected Would Provide Enhanced Airspace/ Capacity & IFR Capabilities
Obstruction Removal	Normal Trimming Maintenance Only	Would Require Trimming Of Off-Airport Tree Groupings And Possible Lowering Of Non-Sanitary Land Fill Cap	Land Acquisition Would Protect Part 77 To 50 Feet With Only Minor Removals Anticipated Beyond Recommended Property Line
Instrumentation / Lighting Improvements	No Improvements	Site-limited Improvements Only	Significant Improvements Could Be Implemented
Meet User Needs	Would Meet Needs To A Moderate Degree	Would Meet Needs To A High Degree with Some Operational Restrictions Due to Runway Length / Approach Capabilities.	Would Meet Needs To A Very High Degree With Almost No Restrictions Due To Runway Length / Approach Capabilities.



Exhibit 6-1 (continued)

<u>ECONOMIC</u>			
Development Costs	\$0.0	\$3,210,500.00 ¹	\$16,000,000.00 ²
Economic Benefits	Airport Related Jobs Retained Locally	Airport Related Jobs Retained Locally	Airport Related Jobs Retained In Defined Service Area
FAA Funding Potential	Very Low Without Public Sponsor	FAA Funding Probability Is Considered Moderate	More Significant FAA Funding Requirement Considered Possible With Comprehensive Financial Plan
Financial Viability Potential	Low Without Public Sponsor And FAA Funding Support	High With Public Sponsor And FAA Funding Support	Very High With Public Sponsor And FAA Funding Support
<u>PUBLIC SUPPORT</u>			
Secure Public Airport Sponsor	Very Low Without FAA Funding Support	Moderate With FAA Funding Support	Likely With FAA Funding Support
Airport User Support	Continued High Level Of Support	Continued High Level Of Support	With An Optimum Site Found And Selected, A Very High Level Of Support Is Anticipated
Community Support	Continued Low / Moderate Support Level	Continued Low / Moderate Support Level	With An Optimum Site Found And Selected, A High Level Of Support Is Anticipated
Public Agency Support	Continued Strong DOAV Support	Continued Strong DOAV Support With Better Potential For FAA Support	With An Optimum Site Found And Funding Arranged, A High Level Of Support Is Anticipated

¹ This cost does not include acquisition of the existing Airport. An acquisition cost will be added pending on-going discussions with Owner.

² This cost does not include construction of hangars and other support facilities, which can be funded by airport tenants / businesses.



**Exhibit 6-2
Alternatives Scoring and Rating Matrix**

Criteria	Weight	A – Status Quo		B – Local Acquisition		C – Develop New Airport	
		Score	Rating	Score	Rating	Score	Rating
<u>ENVIRONMENTAL</u>							
Compatible Land Use	8.9	3	26.7	4	35.6	5	44.5
Potential Recreation/Wildlife/Historic Area Impacts	6.6	4	26.4	4	26.4	4	26.4
Wetlands	6.7	4	26.8	4	26.8	4	26.8
Floodplains	4.6	3	13.8	3	13.8	5	23.0
Proximity To Land Fill/Wildlife Hazards	5.4	2	10.8	3	16.2	5	27.0
Land Acquisition	6.6	5	33.0	4	26.4	1	6.6
<u>ENGINEERING</u>							
Special Engineering Needs	5.1	5	25.5	2	10.2	4	20.4
Utility/Pipeline Relocation	3.4	5	17.0	5	17.0	4	13.6
Building/Structure Removal	5.3	5	26.5	5	26.5	4	21.2
Topography Factors	5.6	5	28.0	5	28.0	4	22.4
<u>SURFACE TRANSPORTATION</u>							
Road/Rail Relocation	4.0	5	20.0	5	20.0	4	16.0
New Roadway Requirements	4.4	5	22.0	4	17.6	3	13.2
Highway Congestion Factor	3.1	4	12.4	4	12.4	4	12.4
User Driving Time	5.7	4	22.8	4	22.8	4	22.8
<u>OPERATIONAL</u>							
Meet FAA Design Standards	9.1	1	9.1	2	18.2	5	45.5
Airspace/Airfield Capacity	8.3	3	24.9	3	24.9	5	41.5
Obstruction Removal	8.0	3	24.0	2	16.0	4	32.0
Instrumentation/Lighting Improvements	7.3	2	14.6	3	21.9	5	36.5
Meet User Needs	8.9	3	26.7	4	35.6	5	44.5
<u>ECONOMIC</u>							
Development Costs	8.0	5	40.0	3	24.0	1	8.0
Economic Benefits	8.7	5	43.5	5	43.5	4	34.8
FAA Funding Potential	10.0	1	10.0	3	30.0	4	40.0
Financial Viability Potential	9.6	2	19.2	3	28.8	4	38.4



PUBLIC SUPPORT							
Secure Public Airport Sponsor	7.0	1	7.0	3	21.0	4	28.0
Airport User Support	7.9	4	31.6	4	31.6	5	39.5
Community Support	8.1	3	24.3	3	24.3	4	32.4
Public Agency Support	7.4	2	14.8	3	22.2	4	29.6
TOTALS							
	94	601.4	97	641.7	109	747.0	

603. Alternatives Evaluation Summary

Alternative "C"

With a Score of 109 and a Rating of 747.0, Alternative "C" - *Develop New Airport* achieved both the highest score and rating of the three alternatives evaluated.

A number of important potential advantages were recognized with this alternate. First, land acquisition of some 416 acres (if determined achievable) would allow the airport to fully meet all FAA design standards, provide an enhanced level of adjoining land use compatibility, and serve virtually all anticipated user needs. In addition, proposed airport acreage would provide for further possible airport development to accommodate a larger family of general aviation business aircraft - if found justified in the future.

Given the attributes associated with a new airport site, and the need to continue to efficiently serve the continuing demand trend, it is considered possible that FAA, working closely with DOAV, may determine the new airport site concept worthy for inclusion in the NPIAS, increasing the probability for FAA funding from the Aviation Trust Fund.

Naturally, to achieve FAA participation, the airport sponsor would be required to agree to various grant assurances and obligations. Compliance with NEPA regulations would also be required.

While some level of public resistance can always be expected as associated with a project of this type, it is considered that, given the ability to find and secure a new site and acquire adequate funding support; this alternative is likely to achieve a high level of airport user and community support.

Lastly, a new unconstrained airport facility better able to serve an expanded group of airport users offers the opportunity to increase airport revenues, thereby enhancing financial viability.



With regard to disadvantages, a number of important unknowns and risks are associated with this alternative.

For example, it is presently unknown if an adequate new airport site (containing the attributes discussed above) can be found / assembled and acquired. Contact with James City County indicates that such a site would most probably be composed of agricultural land currently zoned A-1. The feasibility of identifying and acquiring an optimum site could only be determined by going forward with a future Comprehensive Site Selection Study.

Also, new airport ownership/sponsorship may become a major consideration. Depending on the location of a new site, local funding availability and public resources available, multi-jurisdictional sponsorship, or the possibility of the creation of an airport authority, may become a requirement / advantage.

In addition, the cost of a new airport is roughly estimated to be approximately \$16 Million. While this rough estimate included land acquisition, it does not include the cost of hangars and other facilities that would potentially be paid for by airport tenants. Even with (potential) FAA and DOAV funding support, local match requirements will represent a sizeable dollar amount that must be provided for.

Lastly, inclusion of the new site / airport in the NPIAS with the prospect of FAA funding from the Aviation Trust Fund is not a foregone conclusion, and may or may not occur in the future. However, it should be considered that FAA did participate in this Airport Feasibility Study, and, should FAA participate in a Future Site Selection Study and a suitable site is found, FAA might be more likely to include the new airport site in the NPIAS.

Alternative "B"

With a Score of 97 and a Rating of 641.7, Alternative "B" – *Local Acquisition* achieved the second highest score and rating of the three alternatives evaluated.

This alternative offers the advantage of retaining and improving the existing airport to the highest degree found practical. It would allow continued use of the airport facilities that have been invested in over previous years. This Alternative would also eliminate the requirement to go forward with a selection of a Greenfield site, and, assuming a suitable site is found, follow through with a rather extensive land acquisition and airport development project.

Airport improvement costs for those projects considered feasible and associated with this alternative are considered reasonably affordable at an estimated \$3.2 Million. However, it should be noted that the estimated \$3.2 Million does not include the cost to acquire the existing airport property. This cost must be established by a licensed property appraiser and review appraiser.

This alternative suggests that the existing airport would be acquired by a public sponsor (owner). With public sponsorship and the associated long term commitment



to the airport, it is considered that a moderate potential exists for inclusion of the airport in NPIAS with possible FAA funding support from the Aviation Trust Fund. Such action on the part of the FAA working closely with the DOAV would enhance the stability of the airport, helping to ensure the airports continued existence to serve continuing demand. Such funding support would substantially increase the financial viability of the airport for the public sponsor.

With regard to significant disadvantages associated with this alternative, it is noted that the present airport site is somewhat constrained. As an example, runway end locations will need to be modified, with the potential for a displaced threshold to provide the standard approach clearance over the closed non-sanitary land fill. In addition, a section of the existing parallel taxiway may require closure because the standard runway / taxiway separation distance cannot be accommodated.

Additionally, to gain FAA support (considered critical to financial viability), the airport sponsor will be required to agree to various grant assurances and obligations. Some of these assurances will require modifications to the Special Use Permit (SUP) now in effect. In addition, compliance with NEPA regulations would also be required.

Alternative "A"

With a Score of 94 and a Rating of 601.4, Alternative "A" – *Status Quo* achieved the lowest score and rating of the three alternatives evaluated.

As might be expected as associated with the Status Quo Alternative, major advantages are centered on the lack of development costs, and the anticipation that the airport would continue to function as it does today, meeting user needs to a moderate degree without new program or financial requirements.

However, given the current "status quo" situation of the existing airport, it is questionable whether circumstances will provide for the continued existence of the airport in the future.

The major disadvantage of this alternative is that, given the present owners intent to retire and sell the airport property, the property will most likely be converted to non-airport use as highest and best land use factors are considered by a new owner.

Also, because this alternative does not provide for possible ownership of the airport by a public sponsor, the potential for FAA support to retain the airport in considered very low.

Potential closure of the existing airport without new airport site development would result in the displacement of the current airport tenants and businesses, and constrain direct general aviation access to the local area.