

Chapter 3

Alternatives Evaluation

The alternatives considered are generally derived from the analysis completed for the *Airport Master Plan* (2007, Sept). **Figure 3A** is the Federal Aviation Administration (FAA) approved Airport Layout Plan (ALP) that was generated through the master planning process. The following section summarizes alternatives examined and the reasons for keeping or dismissing them.

As required by the National Environmental Policy Act (NEPA), the analysis of the No Action alternative is considered to provide a basis for comparison of a reasonable range of alternatives. Therefore, the No Action alternative will be discussed throughout this Environmental Assessment (EA).

3.1. *Elements to be Analyzed*

Runway/Taxiway Centerline Separation. The runway/taxiway centerline separation deficiency was identified in the Master Plan. Runway/taxiway centerline separation standards are determined by FAA design standards set forth in Advisory Circular 150/5300-13, *Airport Design*, which is based on the types of aircraft using a particular runway, as previously mentioned in Chapter I, *Purpose and Need for the Action*.

The existing 50-foot wide parallel taxiway centerline is 200 feet from the runway centerline, 40 feet short of the required separation based on the existing Airport Reference Code (ARC) designation of B-II. The Airport Layout Plan (ALP) indicates a future ARC for the airport of C-II, which requires a centerline separation of 300 feet. However, the ALP recommends using a 400 feet centerline separation, as required for Design Group III.

The three taxiway relocation design alternatives being considered include relocating the east parallel taxiway to provide centerline separations from the runway of 240 feet, 300 feet, and 400 feet. The No Action alternative will be evaluated with the design alternatives. The four alternatives are outlined as follows:

- **Alternative 1:** No Action
- **Alternative 2:** Relocate the Parallel Taxiway to 240 feet separation, at a width of 50 feet
- **Alternative 3:** Relocate the Parallel Taxiway to 300 feet separation, at a width of 50 feet
- **Alternative 4:** Relocate the Parallel Taxiway to 400 feet separation, at a width of 50 feet

In addition to the runway/taxiway centerline separation deficiency, the City is proposing to purchase land adjacent to the Airport's eastern boundary. Since the late 1980s, the McCall Municipal Airport Layout Plan (ALP) has shown land acquisition of approximately 64 acres south

of the airport's eastern property boundary. There are three primary reasons why this land has a high priority for acquisition.

The land that needs to be acquired is divided into four 20-acre parcels running from parallel taxiway "A" to their easterly property boundary. It is undesirable to purchase the property through a series of piecemeal purchases. Doing so would create uneconomic remnants after the land for the taxiway relocation is purchased. By purchasing the property in one acquisition, the City will be able to avoid costly acquisition fees (*i.e.*, appraisal and negotiation). Additionally, purchasing all of the property now would protect the Airport from encroachment by incompatible land uses, while preserving it for aeronautical uses. Depending on the alternatives presented, approximately 1-16 acres of the land is required for taxiway construction to comply with FAA runway/taxiway centerline separation standards, as further detailed below.

The existing ALP for the Airport depicts land and aviation land uses for this land totaling approximately 64 acres, which have been previously disclosed via the Airport Master Plan Update process. The Airport Master Plan Update of 2007 documents a need for an additional 135 hangars through the 2025 planning period. Approximately 20 of the hangars needed by 2015 can be accommodated on existing airport property. By 2015, it is estimated that 72 additional hangars will be in demand. Therefore, in the foreseeable (3-5 year) planning period, there will be a deficit of 52 spaces upon which to develop new hangars.

This Environmental Assessment (EA) will consider impacts associated with correcting the runway/taxiway centerline deficiency. The EA will not address any environmental impacts of the property acquisition outside of the taxiway relocation project area of potential effect. All future development on the area of the proposed acquisition outside of the taxiway relocation area of potential effect will be subject to individual National Environmental Policy Act (NEPA) review. The appropriate NEPA review will be determined on a case-by-case basis. The proposed property acquisition is included in this EA solely for the purpose of public disclosure. The EA will evaluate the cumulative impacts of potential development on the acquired property as a reasonably foreseeable action.

3.2. Analysis of Alternatives

The above mentioned airport improvement alternatives will be analyzed based on how they meet the purpose and need, project feasibility, FAA design standard compatibility, initial environmental impacts, and project costs. Detailed cost information may be found in the Engineer's Design Report (Appendix C).

The FAA submitted a letter to the City in November 2009 (**Appendix H**). The letter identifies four major points outlining:

1. Support for constructing the taxiway to 300-foot runway/taxiway centerline separation;
2. Support for designing the taxiway to ARC C-II or C-III standards as a wise use of federal funds;
3. Their position that designing to C-II or C-III standards does not give justification for a longer runway; and

4. Support for designing the taxiway to maintain a width of 50 feet (rather than 35 feet).

Given this information, the following alternatives are compared against the guidance provided by the FAA. The alternatives have also been evaluated in light of information obtained in the following field studies.

Field studies have been performed for threatened and endangered species, cultural and archaeological resources, and wetlands. For the purposes of this chapter:

- “Wetland” should be interpreted as “jurisdictional wetland.” The US Army Corps of Engineers (Corps), has given concurrence on the wetland delineation, which determined 2.26 acres of jurisdictional wetlands/waters, and 3.01 acres of non-jurisdictional waters are located within the project area (see Appendix D).

At this time, it is assumed any impacts to wetlands or waters will need to be mitigated off-site at a 2:1 replacement ratio. It is likely any build alternative will require off-site mitigation.

Requirements by the Corps for wetland permitting require that the alternatives reviewed include an alternative that avoids wetland impact, if possible. If no avoidance alternative is feasible, then an alternative that minimizes wetland impact must be reviewed. Under Corps rules, the minimization alternative should be favored over a more impactful alternative, if impacts to other environmental elements are similar and the alternative meets the stated purpose and need.

- The Biological Evaluation (Appendix E) found there would be no adverse impacts to species at or near the Airport.
- The Airport has been identified as potential habitat for the Northern Idaho Ground Squirrel. Additional field research was conducted in June of 2009 to determine the species presence. The investigation found the site does not provide habitat for the Northern Idaho Ground Squirrel (see Appendix F).
- The cultural resource inventory (Appendix G) did not identify any cultural resources.

Additional property acquisition – beyond that required for the taxiway relocation – does not vary with each build alternative, consistent with the FAA’s position letter dated November 2009. The property for proposed acquisition is highlighted in Figure 3A, the Airport Layout Plan. As previously stated, the environmental impact(s) of developing the acquired property will be addressed in future NEPA documents.

A detailed breakdown of project costs can be found in the Engineers Design Report (Appendix C).

3.2.1. Alternative 1: No Action

The No Action Alternative provides no change to the current taxiway system and does not correct the deficiency in runway/taxiway centerline separation. While it does not meet the

project's purpose and need, it will be retained in the EA as a baseline for analysis of the build alternatives.

Key Features of Alternative 1 are:

- There is no property acquisition.
- There are no environmental impacts.
- The airport does not meet FAA standards for runway/taxiway centerline separation.
- There are potential safety issues due to the decreased distance between the runway and taxiway centerlines.
- The City would be solely responsible for maintenance of the taxiway.
- No land acquisition.

The total estimated project cost for the No Action Alternative (includes only pavement maintenance operations) is \$1,072,750.

Alternative 1 does not meet the project's purpose and need. It will be retained in subsequent chapters of the EA for comparative purposes only.

3.2.2. Alternative 2: Relocate the Parallel Taxiway to 240 feet separation, at a width of 50 feet

In Alternative 2, the existing parallel taxiway would be removed and relocated to provide the FAA standard runway/taxiway separation of 240 feet for the current ARC designation of B-II. It would not meet the separation standards for C-II or C-III. The taxiway will be constructed to a width of 50 feet consistent with the City of McCall's guidance to accommodate the USFS operations. Per FAA letter dated November 30, 2009 the FAA will not support this alternative (see Appendix H). The connector taxiways, that join the runway to the parallel taxiway, will be reconstructed to a width of 50 feet and extended to the new parallel taxiway.

Approximately 0.61 acres would be acquired for the construction of this alternative. Additionally, approximately 0.97 acres of wetland would be impacted. Wetland mitigation would need to occur off-airport, in order to meet FAA requirements regarding wildlife attractants.

Figure 3B provides a graphical representation of Alternative 2.

Key features of Alternative 2 are:

- Lowest cost for all the build alternatives.
- Brings airport into compliance with FAA standards for current ARC of B-II by increasing runway/taxiway centerline separation to 240 feet.
- Off-site environmental mitigation is needed.
- Less wetland impact than Alternative 3, but greater than Alternative 4.
- The City would be solely responsible for relocation/construction and maintenance of the taxiway.
- Land acquisition for project-related improvements only; estimated cost doesn't include acquisition of additional property for airport protection/development.

- Per FAA letter dated November 30, 2009 the FAA will not support this alternative (see Appendix H).

The total estimated project cost for Alternative 2 is \$5,609,339, which includes 20-year pavement maintenance costs.

While Alternative 2 does meet the stated purpose and need, it does not satisfy the runway/taxiway centerline separation for ARCs C-II or C-III. According to forecast data in the Airport's Master Plan, future operations will likely justify upgrading the ARC. As such, Alternative 2 does not meet the long-term needs of the Airport.

3.2.3. Alternative 3: Relocate the Parallel Taxiway 300 feet separation

Alternative 3 would remove the existing parallel taxiway relocate it to provide the FAA standard runway/taxiway separation of 300 feet for the future ARC designation of C-II. The taxiway will be constructed to a width of 50 feet. The connector taxiways will be reconstructed to a width of 50 feet and extended to the new parallel taxiway.

Approximately 8.16 acres would be acquired for the construction of this alternative and approximately 1.39 acres of wetland would be impacted. Wetland mitigation would need to occur off-airport, in order to meet FAA requirements regarding wildlife attractants.

Figure 3C provides a graphical representation of Alternative 3.

Key features of Alternative 3 are:

- Meets FAA standards for future ARC (C-II), as cited in ALP.
- Off-site environmental mitigation is needed.
- Greatest wetlands impact of the build alternatives.

The total estimated project cost for Alternative 3 is \$6,744,111, which includes 20-year pavement maintenance costs.

Alternative 3 meets the purpose and need for the project. In the event the Airport does become an ARC C-III airport; however, additional land acquisition and relocation of the taxiway would be necessary. As such, an option for Alternative 3 is to purchase approximately 7.91 acres of additional land to preserve the C-III (400 feet) safety area setbacks. The cost for this option is \$7,732,861. Per FAA's letter dated November 30, 2009, the FAA would support this option.

3.2.4. Alternative 4: Relocate the Parallel Taxiway 400 feet separation

The existing parallel taxiway would be removed and relocated to provide the FAA standard runway/taxiway separation of 400 feet for the future Design Group III as recommended in the ALP. The taxiway will be constructed to a width of 50 feet consistent with the standards for Design Group III. The connector taxiways will be reconstructed to a width of 50 feet and extended to the new parallel taxiway.

Approximately 16.07 acres would be acquired for the construction of this alternative and approximately 0.30 acres of wetland would be impacted.

Figure 3D provides a graphical representation of Alternative 4.

Key features of Alternative 4 are:

- Taxiway built out for Design Group III, as recommended in current Master Plan.
- Least wetlands impact of all build alternatives.
- Off-site environmental mitigation is needed.

The total estimated project cost for Alternative 3 is \$8,121,714, which includes 20-year pavement maintenance costs.

As with the other alternatives, Alternative 4 meets the project's purpose and need. Furthermore, it preserves the ability for the Airport to upgrade to an ARC C-III without additional relocations or property acquisition. As a result of the additional taxiway connector length, it is the most costly alternative.

3.3. Summary

Key differentiators for the alternatives are construction costs, wetland impacts, and property acquisition. **Table 3A** provides a matrix for comparison of the alternatives.

On January 28, 2010, the McCall City Council voted Alternative 3 as the Preferred Alternative, with the option to purchase the additional 7.91 acres, to be analyzed throughout the EA. This vote was cast after much discussion, and with the understanding that approval of this alternative gave no support towards a runway extension.

Table 3A. Alternatives Comparison Table

	Alternative 1 (No Action)		Alternative 2 (240')		Alternative 3 (300')		Alternative 4 (400')	
Meets FAA Runway/Taxiway Separation Standards	No		Yes		Yes		Yes	
Future Development Limitations	High		Moderate		Low		Low	
Wetland Impacts & Mitigation	None	\$0	0.97 ac	\$116,160	1.39 ac	\$166,560	0.30 ac	\$36,000
Property Acquisition	None	\$0	0.61 ac	\$61,000	8.16 ac + <u>7.91 ac</u> = 16.07 ac	\$816,000 + <u>\$791,000</u> = \$1,607,000	16.07 ac	\$1,607,000
Taxiway Construction	\$0		\$4,861,465		\$5,380,015		\$5,888,000	
20-Year Maintenance Cost	\$1,072,750		\$570,714		\$579,286		\$590,714	
Overall Cost	\$1,072,750		\$5,609,339		\$7,732,861		\$8,121,714	
Financial Responsibility <i>*State Grant Only if Available</i>	City (100%) \$1,072,750		City (100%) \$5,609,339		City (2.5%) \$193,322		City (2.5%) \$203,043	
	State Grant (0%) \$0		State Grant (0%) \$0		State Grant (2.5%) \$193,322		State Grant (2.5%) \$203,043	
	FAA (0%) \$0		FAA (0%) \$0		FAA (95%) \$7,346,218		FAA (95%) \$7,715,629	