

**U.S. DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration  
Northwest Mountain Region  
Renton, Washington**

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***RECORD OF DECISION***

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**PROPOSED  
REPLACEMENT AIRPORT  
AND ASSOCIATED AIRPORT-RELATED DEVELOPMENT  
ST. GEORGE, WASHINGTON COUNTY, UTAH**



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## **GENERAL INFORMATION ABOUT THIS DOCUMENT**

**WHAT'S IN THIS DOCUMENT?** This document contains the Federal Aviation Administration's (FAA) final agency decisions, determinations, and approvals for those Federal actions by the FAA necessary to provide Federal support for the proposed replacement airport and associated airport-related development at St. George, Utah. This document discusses alternatives considered by the FAA in reaching its decision, summarizes the analysis used to evaluate the alternatives, and briefly summarizes the potential environmental consequences of the proposed replacement airport alternative and the No-Action alternative, which were the two alternatives evaluated in detail in the Final Environmental Impact Statement (FEIS). This document also identifies the environmentally preferred alternative and selects the proposed replacement airport alternative for implementation at St. George. This document identifies appropriate mitigation. This document also contains the FAA's responses to comments received on the FEIS.

**BACKGROUND.** In September 2005 the FAA prepared a Draft Environmental Impact Statement (DEIS). The DEIS addressed the potential environmental effects of the proposed replacement airport and reasonable alternatives to that proposal. The DEIS was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA). The FAA published the Notice of Availability for the DEIS on September 9, 2005. The FAA received comments on the draft between September 9, 2005 and November 8, 2005.

The FAA prepared the FEIS using the information in the 2005 DEIS and comments received on the DEIS. The FEIS documented the comprehensive coordination efforts between the FAA and the National Park Service (NPS) regarding the potential for cumulative noise issues at Zion National Park and responded to all comments received during the comment period on the DEIS. The FAA also updated **Section 6.2** in the FEIS to include an analysis of the air pollutant, particulate matter (PM<sub>2.5</sub>) and completed additional noise analyses including an audibility assessment for Zion National Park. The FAA published the Notice of Availability for the FEIS on May 12, 2006. The FAA solicited comments concerning the new and updated analyses included in the FEIS during the comment period closing on July 3, 2006, providing a lengthier 45-day comment period.

Copies of this Record of Decision (ROD) are available for inspection at various libraries in the St. George and southwest Utah area, the FAA Headquarters Office in Washington, D.C. and its Northwest Mountain Regional Office in Renton, Washington and Airports District Office in Denver, Colorado and at the administrative offices of the City of St. George and the existing St. George Airport. **Chapter Nine** of the FEIS provides the addresses for these locations.

**WHAT SHOULD YOU DO?** Read this ROD to understand the actions that the FAA will take relative to the proposed replacement airport at St. George, Utah.

**WHAT HAPPENS AFTER THIS?** The FAA ROD approves the Airport Layout Plan for the proposed replacement airport and associated airport-related development at St. George. The FAA may proceed with implementation actions for the replacement airport, as approved, and the FAA may now proceed with processing applications and requests for Federal grant-in-aid funding.

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# 1. INTRODUCTION AND BACKGROUND

## INTRODUCTION

The purpose of the proposed replacement of St. George Municipal Airport (SGU) is to remedy numerous design standard deficiencies at the existing airport and enable the forecast growth in aircraft activity and commercial passenger demand to be accommodated safely and efficiently.

The existing SGU is located atop a mesa that drops off steeply to the south, east, and west in the central portion of the City of St. George, Utah. It consists of a single 6,606-foot runway, 16/34, which is oriented north/south, and one full and one partial parallel taxiway. In 2003, the airport accommodated a total of 43,714 aircraft operations of which 6,056 were commercial passenger-service operations and 2,104 were commercial air cargo operations. Commercial passenger service at SGU is currently provided by Sky West Airlines, which operates as both Delta Connection and United Express, and commercial air cargo operations, conducted by firms such as United Parcel Service (UPS) and Federal Express (FedEx) with small aircraft.

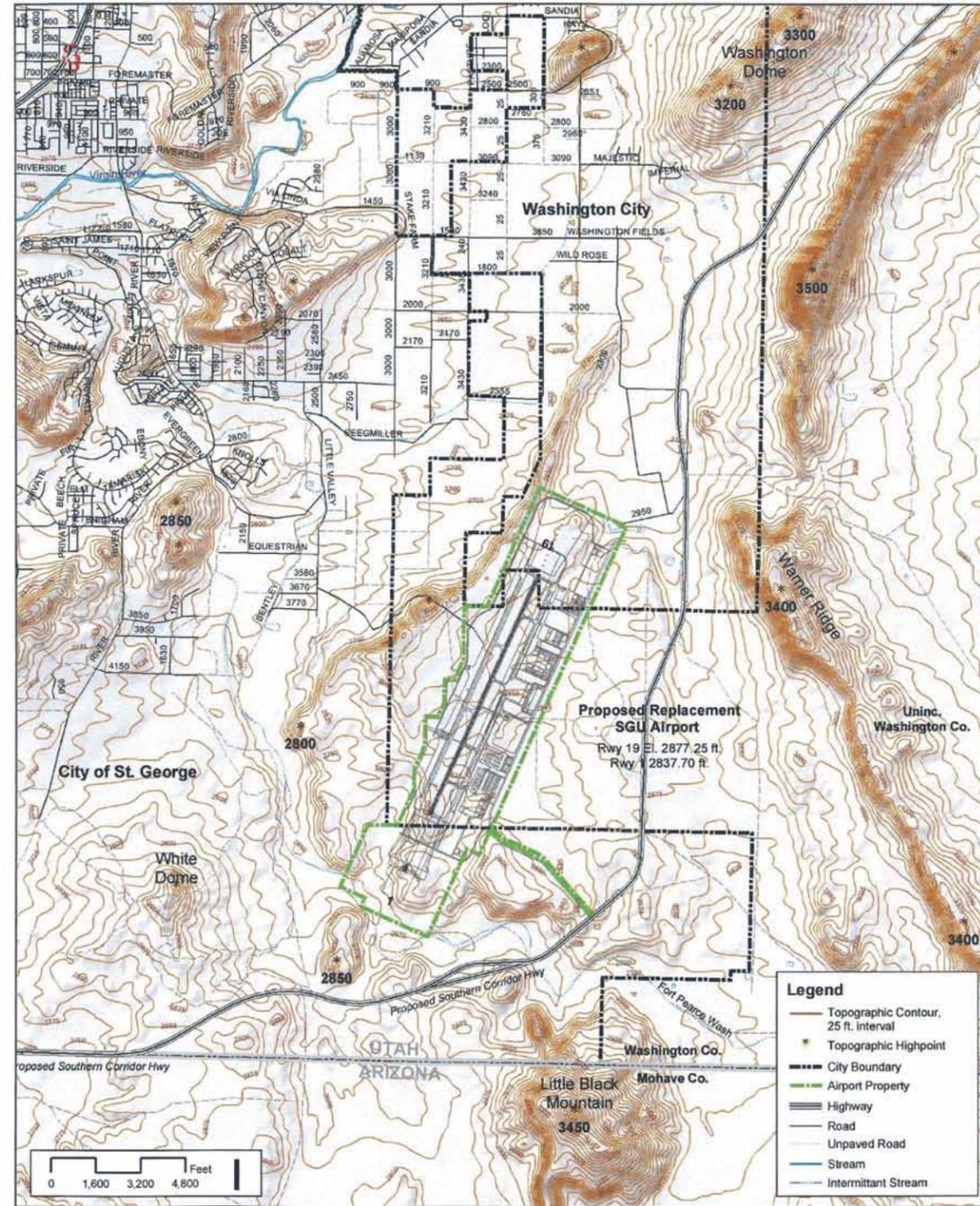
Due to the physical constraints of the existing airport property, SGU cannot be expanded or modified to meet Federal design standards or forecast aviation needs of the community. The proposed replacement airport would be designed and constructed to meet Federal design standards and the future needs of the area, including service by commercial regional jet aircraft. **Exhibit R.1** depicts the existing and proposed airport sites.

During the course of conducting the Environmental Impact Statement (EIS) process for the proposed replacement airport at St. George, the Federal Aviation Administration (FAA) coordinated extensively with the National Park Service (NPS) and considered all comments and concerns raised by other agencies and the public. These extensive efforts by the FAA are most evidenced in the comprehensive and exhaustive noise analysis conducted for this project. The noise analysis prepared for the proposed replacement airport at St. George encompassed an area of approximately 9,200 square miles in portions of southwestern Utah, northwestern Arizona, and southeastern Nevada. The proposed replacement airport lies at the center of the initial area of investigation, which extends approximately 40 nautical miles to the north and south and 44 nautical miles to the east and west.

The noise analysis included an assessment of over 12 different noise metrics and noise levels including the first analysis for an airport project using the new audibility metrics. All of the various noise metrics and noise levels used in the Draft EIS (DEIS) and Final EIS (FEIS) were coordinated and agreed upon by the FAA and the NPS as being the most appropriate analyses available for assisting the FAA and the NPS, as well as the public, in understanding the potential noise effects on Zion National Park from the proposed replacement airport.



Existing Airport



Proposed Replacement Airport

**LEGEND**

Topographic Contour, 25 ft. interval  
 Topographic Highpoint  
 City Boundary  
 Highway  
 Road  
 Unpaved Road  
 Stream  
 Intermittent Stream

**Existing and Proposed Replacement Airport Locations**



Not to Scale

Exhibit  
 R.1

## BACKGROUND

Since the mid-1990's, the City of St. George has devoted extensive study and effort to the consideration of the development of the proposed replacement airport. In 1998, the *Site Selection and Master Plan Study (1998 Master Plan)*<sup>1</sup> examined the feasibility of continuing the use of the existing SGU, compared to replacing the airport at a new site. The *1998 Master Plan*, which identified design deficiencies at the existing airport, concluded that the airport could not accommodate forecast demand at its present site, and evaluated potential replacement sites in the vicinity of the existing airport.

After completion of the *1998 Master Plan*, the city began to pursue the development of a replacement airport that would meet FAA design standards and accommodate, in a safe and efficient manner, forecast demand for passenger enplanements. In order to move toward this objective, the city prepared a *Draft Environmental Assessment (DEA)*.<sup>2</sup> The *DEA* was released on June 16, 2000, for a 45-day public comment period. A public hearing on the *DEA* was held in St. George on July 18, 2000.

Comments on the *DEA* reflected concerns for several environmental issues, with a primary focus on potential noise impacts of the project to Zion National Park, located approximately 20 miles northeast of the proposed site identified in the *DEA*. Additional concerns about potential noise effects on the community of Washington City, which is immediately north of the preferred site, were reflected in comments received on the *DEA*.

On January 30, 2001, the FAA issued a Record of Decision (ROD)/Finding of No Significant Impact (FONSI) for the development of a replacement airport at St. George, Utah. The *Final Environmental Assessment (2001 FEA)*<sup>3</sup> addressed each area of public and agency concern, through modifications to the text of the *DEA*, or by specific responses to written comments submitted during the public comment period.

On April 22, 2001, the Grand Canyon Trust filed suit against the FAA in the U.S. Circuit Court of Appeals for the District of Columbia Circuit. The suit petitioned for a review of the FAA decision to approve the Federal actions necessary to allow the City of St. George to develop a replacement airport. They challenged the adequacy of the *2001 FEA* and the FAA's conclusion that there would be no significant environmental impacts from the project, due to the potential noise impacts on Zion National Park, and the FAA's failure to adequately consider the cumulative impact of noise from all sources on the natural quiet of the park.

On May 24, 2002, the court issued its decision, stating the FAA must evaluate the cumulative impact of noise on Zion National Park, resulting from the development of the proposed replacement airport, in light of the following:

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<sup>1</sup> *Site Selection and Master Plan, St. George Municipal Airport*, prepared by Creamer & Noble Engineers and Barnard Dunkelberg & Company, October 1998.

<sup>2</sup> *Draft Environmental Assessment for the Proposed Replacement Airport at St. George, Utah*. Prepared by Creamer & Noble, Engineers and Barnard Dunkelberg & Company. June 16, 2000.

<sup>3</sup> *Final Environmental Assessment for the Proposed Replacement Airport at St. George, Utah*. Prepared by Creamer & Noble, Engineers and Barnard Dunkelberg & Company. January 30, 2001.

- Air traffic near and over Zion National Park
- Air tours near or in Zion National Park
- Acoustical data collected by the NPS in Zion National Park in 1995 and 1998, which was mentioned in the NPS' comments on the DEA

The court remanded the case to the FAA, because it found that the Administrative Record was insufficient for the court to determine whether an EIS was required.

In response to the court's order, the FAA decided to prepare an EIS for the proposed project. In the October 7, 2002 *Federal Register*, the FAA's Northwest Mountain Region Airports Division, acting as lead agency, announced its Notice of Intent to prepare an EIS for the development of a replacement airport at St. George, Utah. Two other announcements followed in the October 31, 2002 and November 7, 2002 issues of the *Federal Register*, to clarify the original notice.

The EIS for the proposed replacement airport at St. George addressed each of the issues raised and comments received during the previous EA process and subsequent court proceeding. As documented in both the DEIS and FEIS, the FAA conducted an exhaustive analysis of the potential noise effects on Zion National Park resulting from the construction and operation of the proposed replacement airport. The FAA worked closely with the NPS in developing the protocols that were used in conducting the noise analysis and coordinated with NPS and the Volpe National Transportation System Center on how to best utilize the acoustical data previously collected by NPS. During the course of the EIS, the FAA conducted surveys of air tour operators and other aviation users in the region regarding their flight operations and these data were incorporated into the noise analysis. The FAA collected and considered historical radar data from aircraft flying at all altitudes including high altitude overflights and low level air tour and general aviation activity. The incorporation of these data resulted in one of the most comprehensive aircraft noise analyses ever conducted by the FAA for an airport development project.

## **PUBLIC AND AGENCY INVOLVEMENT**

From the outset, the concerns of the public have been considered. Both the FAA and the City of St. George have been forthcoming with the communities about the project through extensive opportunities for public involvement. The interests of communities have been considered throughout the decision-making process. The FAA has received numerous public comments throughout the EIS process. All of these comments have been reviewed to ensure that the needs and concerns of the public were considered and addressed. Based on the numerous opportunities for public participation, the FAA is satisfied that full consideration has been given to the public's views on the replacement airport plans.

The FAA is committed to agency input and public involvement throughout the development process of an EIS. The FAA developed and implemented a comprehensive and proactive public involvement program that included the following elements:

- Formal Public and Agency Scoping
- The FAA worked closely with and appreciated the comments and assistance provided by the NPS in preparing the EIS. The NPS was a cooperating agency because of their specialized expertise. The two agencies have been in regular and frequent communication since September of 2004 (see **Appendix N** in the FEIS).
- The FAA also relied on the assistance of the following agencies to provide information necessary for the development of the DEIS and FEIS:
  - U.S. Environmental Protection Agency (USEPA)
  - U.S. Department of Agriculture, Natural Resources Conservation Service
  - U.S. Army Corps of Engineers (USCOE)
  - U.S. Department of Interior, Bureau of Land Management (BLM)
  - Federal Highway Administration (FHWA)
  - Utah Department of Transportation (Utah DOT)
  - Utah State Historic Preservation Office (Utah SHPO)
  - Arizona State Historic Preservation Office (Arizona SHPO)
  - Nevada State Historic Preservation Office (Nevada SHPO)
- Tribal Coordination
- Coordination with Local Governments
- Public Information and Outreach Efforts, including:
  - Public information meetings
  - Public information kiosks throughout the community
  - Public information web site: [www.airportsites.net/sgu-eis](http://www.airportsites.net/sgu-eis).

## **PURPOSE AND NEED FOR THE PROPOSED PROJECT**

The City of St. George's proposal provides for a replacement airport to be constructed with one fully instrumented and lighted runway, oriented at 010 degrees/190 degrees and at a length of 9,300 feet, and a parallel taxiway designed to meet current and future aviation demand levels. Runway 1/19 would be equipped with approach lighting and navigational systems to support instrument procedures. A passenger terminal and apron and associated parking would be developed on the eastern side of the runway, as would an aircraft rescue and fire-fighting (ARFF) facility; facilities for general aviation, fixed-base operator, corporate aviation, and air cargo; fuel farm facilities; airport maintenance facilities; and airport access to the Southern Corridor Highway. The west side of the airport property would be reserved for a future airport traffic control tower (ATCT) and future aviation development. All proposed facilities are further described in **Section 1.3.2** of the DEIS.

The purpose of the proposed replacement airport is to develop an airport that would fully accommodate forecast demand for air service in the community and meet all applicable FAA design standards. The need for the replacement airport is based on forecast demand levels, current facility deficiencies, and an inability to address these issues at the existing location. The current design deficiencies, which cannot be corrected at the existing airport site because of topographical constraints, are projected to become increasingly problematic due to forecast growth in passenger travel demand and the change in aircraft type projected to occur through the year 2020.

In order to meet the forecast demand at SGU, an airport must be developed that meets the standards for the Airport Reference Code (ARC) Design Category D-III, with a runway of sufficient length to accommodate commercial regional jets and business jets. The current airport is classified as ARC Design Category B-II. The topography of the existing site does not allow for the required expansion to meet ARC D-III standards.

The existing airport's ARC Design Category B-II classification accommodates aircraft with approach speeds up to the range of 91 to 121 knots, and wingspans ranging from 49 to 79 feet. The proposed replacement airport at St. George would be classified as ARC Design Category D-III, which accommodates aircraft with approach speeds up to the range of 141 to 166 knots and wingspans up to the range of 79 to 118 feet.

## **FUTURE AVIATION DEMAND**

Aviation demand forecasts for SGU (presented in **Table R.1**) were developed in the EIS for both constrained and unconstrained future conditions (see **Chapter Three, Purpose and Need for the Proposed Replacement Airport**, and **Appendix E, Aviation Activity Forecasts**, in the DEIS for detailed information). The constrained condition assumes that the existing airport would remain in service as the only local airport, without facility improvements. Thus, future aviation activity would be constrained by the limitations of the existing facility with a forecast growth of 23 percent in aircraft operations and 81 percent in passenger enplanements by the year 2020. The unconstrained condition, on the other hand, assumes that the future demand for air service could be fully met through any necessary airport facility improvements. The unconstrained forecast indicates a 17 percent growth in operations and 158 percent growth in enplanements by the year 2020. The decrease in operations under the unconstrained forecast as compared to the projected operations of the existing airport (constrained forecast) coupled with the relative increase in enplanements is due to the use of larger regional jet aircraft under an unconstrained condition.

**Table R.1**  
**SUMMARY OF AVIATION ACTIVITY AND FORECASTS, 2003-2020**

AIRCRAFT OPERATIONS (TAKEOFFS AND LANDINGS)	ACTUAL	CONSTRAINED FORECAST			UNCONSTRAINED FORECAST		
	2003	2010	2020	Change 2003-2020	2010	2020	Change 2003-2020
Passenger Carrier	6,056	7,320	9,910	64%	6,940	7,360	22%
All-Cargo	2,104	2,184	2,184	4%	2,184	2,184	4%
Non-Commercial Air Taxi	1,095	1,360	1,360	24%	1,260	1,360	24%
General Aviation	34,249	36,640	40,070	17%	36,640	40,070	17%
Military	210	210	210	0%	210	210	0%
<b>Total</b>	<b>43,714</b>	<b>47,614</b>	<b>53,734</b>	<b>23%<sup>1</sup></b>	<b>47,234</b>	<b>51,184</b>	<b>17%<sup>1</sup></b>
<b>Enplaned Passengers</b>	<b>45,583</b>	<b>58,900</b>	<b>82,500</b>	<b>81%<sup>1</sup></b>	<b>78,500</b>	<b>117,700</b>	<b>158%<sup>1</sup></b>

<sup>1</sup> Percentages are averages.

Notes: The constrained future condition assumes that the existing airport would remain in service as the only local airport, without facility improvements. The unconstrained forecast assumes that the future demand for air service would be fully met through the provision of required airport improvements and facilities.

The FAA reviewed the forecast prepared by Landrum & Brown for this EIS and stated that they believe the forecast assumptions and methodology used to prepare the forecast are reasonable based on sound analytical methods. E-mail to Consultant from Robert Bowles, FAA. June 17, 2004.

Sources: Landrum & Brown analysis, 2004.

Federal Aviation Administration, 2004 Terminal Area Forecast.  
 See **Appendix E, Aviation Activity Forecasts of the DEIS.**

## **2. PROPOSED AGENCY ACTIONS AND APPROVALS**

The FAA actions and approvals that require consideration under the National Environmental Policy Act (NEPA) are listed below. The FEIS constitutes the environmental review of the development of the proposed replacement airport at St. George, Utah depicted on **Exhibit 4.3** of the DEIS and **Exhibit R.1** of this ROD.

The specific FAA actions that are the subject of this ROD include the following:

1. Approval of the Airport Layout Plan (ALP) for construction and operation of the proposed replacement airport and associated development at St. George pursuant to 49 U.S.C § 40103(b) and 49 U.S.C § 47107(a)(16). The ALP, depicting the proposed replacement airport, has been processed by the FAA to determine conformance with FAA design criteria and implications for Federal grant agreements.
2. Determination of the effects of the proposed replacement airport project upon the safe and efficient utilization of navigable airspace pursuant to 14 CFR Part 77. The FAA performed an airspace review (Airspace Case No. 00-DEN-0245-NRA) of the proposed replacement airport at St. George and must determine that the proposed replacement airport is consistent with existing airspace utilization and procedures.
3. Approval of the construction, relocation, and/or upgrade of various navigational aids.
4. Development of air traffic control and airspace management procedures to establish and maintain safe and efficient handling and movement of air traffic into and out of the airport under 49 U.S.C. § § 40103, 40113, and 40120.
5. Determination under 49 U.S.C. § 44502(b) that the proposed airport development is reasonably necessary for use in air commerce or in the interest of national defense.
6. Determinations under 49 U.S.C. Sections 47106 and 47107 relating to eligibility of the proposed project for Federal funding under the Airport Improvement Program (AIP) and under 49 U.S.C. 40117, as implemented by 14 C.F.R. 158.25(c), to impose and use passenger facility charges (PFCs) for the proposed project.<sup>4</sup>
7. Approval of the appropriate amendments to the St. George Airport Certification Manual pursuant to 14 CFR Part 139.
8. Approval of the access road from the Southern Corridor Highway as depicted on the ALP.

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<sup>4</sup> Certain requirements for AIP funding overlap with environmental review requirements for approval of the ALP and so are addressed as part of the FEIS and ROD for the ALP. These determinations are a prerequisite to funding but do not complete the determinations that are necessary for funding. The decisions to approve AIP and PFC funding are completed in separate processes.

### 3. ALTERNATIVES ANALYSIS

Federal guidelines concerning the environmental review process require that all prudent, feasible, reasonable, and practical alternatives that might accomplish the objectives of a proposed replacement airport be identified and evaluated. NEPA guidelines require that the no-action alternative be evaluated along with the proposed replacement airport and other reasonable airport development alternatives.

At the initiation of this EIS process, the FAA reviewed the screening of alternatives for the proposed replacement airport that was exhaustively considered by the City of St. George and the FAA in the *1998 Master Plan* and the *2001 FEA* to determine the appropriateness of that range of alternatives to include within this EIS. It was determined by the FAA that this initial range of alternatives was reasonable and was incorporated into the EIS evaluations.

#### ALTERNATIVES EVALUATED

The *2001 FEA* and the *1998 Master Plan* identified a total of 15 potential replacement airport sites in the vicinity of St. George. From these 15 sites, six potential locations were retained for further analysis as part of this EIS. The six sites selected for further analysis were evaluated to determine their feasibility for development of a replacement airport capable of meeting FAA design standards and accommodating reference code D-III and commercial regional jet aircraft.

Three of the six sites were later eliminated due to limitations of the natural terrain, runway orientation constraints, or distance to the site from the City of St. George. The remaining three sites (designated 1, 1A, and 2, as shown in **Exhibit 4.2** in the DEIS) were further evaluated in greater detail. This further analysis included a preliminary environmental review.

In addition to evaluating these various site alternatives, the EIS also considered the No-Action Alternative, the use of other airports, and the use of other modes of transportation including highway and rail travel. However, it should be noted that under all these alternatives, the existing SGU would continue to operate. Greater discussion of the alternatives evaluation is described in **Chapter Four, Alternatives** of the DEIS.

#### PREFERRED ALTERNATIVE

The FAA has determined that the preferred alternative would be the development of the proposed replacement airport at site 1 in combination with the southern portion of site 1A, which brings the total land area to approximately 1,300 acres. This alternative was identified as the preferred alternative because it would allow for the development an airport that would fully accommodate forecast demand for air service in the community and meet all applicable FAA design standards. The proposed replacement airport alternative would meet the need to accommodate forecast demand levels and remedy current facility deficiencies that cannot be adequately addressed at the existing airport location.

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

In accordance with 40 CFR §1505.2(b), the environmentally preferred alternative should be identified in the ROD. The environmentally preferred alternative is the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources (see CEQ Memorandum, *Questions and Answers about the NEPA Regulations*, 46 Fed. Reg. 18026, March 23, 1981, as amended, 51 Fed. Reg. 15618, April 25, 1986, Question Number 6a). After considering these factors, including the long-term consequences of the proposed action, the FAA has determined the environmentally preferred alternative is the proposed replacement airport alternative because it would not result in any significant impacts to environmental resources (see **Table B.1** in the ROD and **Table 6.333** in the FEIS). Further, the other alternative evaluated in the EIS, the No Action Alternative, fails to meet the purpose and need for the proposed replacement airport. Therefore, the No Action Alternative is not considered a reasonable alternative to the proposed project.

## SELECTED ALTERNATIVE

The FAA selects the proposed replacement airport alternative for the following reasons:

- First, the proposed replacement airport alternative is consistent with the FAA's statutory and policy obligations, specifically the charter to encourage the safety of air commerce in the United States (49 U.S.C. § 40104) and Congressional declarations of policy to: (1) have as the highest priority the safe operation of the airport and airway system (49 U.S.C. § 47101(a)), (2) undertake airport construction and improvement projects to the maximum extent feasible to increase safety and efficiency (49 U.S.C. § 40101(a)(7)), and (3) comply with FAA design standards for runway safety areas required by 14 CFR part 139 (Pub. L. 109-115, Div. A, Title I, Nov. 30, 2005, 119 Stat. 2401)
- Second, the proposed replacement airport alternative has demonstrated the best ability to meet the purpose for the proposed replacement airport to: 1) fully accommodate forecast demand for air service in the community, and 2) meet all applicable FAA design standards. It has also demonstrated the best ability to meet the need for the replacement airport based on forecast demand levels, current facility deficiencies, and an inability to address these issues at the existing location.
- Third, in making this selection, the Agency was fully aware of the environmental consequences and the benefits as described throughout the DEIS, FEIS, and this ROD. Specifically, the FAA has identified the proposed replacement airport alternative as the environmentally preferred alternative. Additionally, the FAA gave full consideration to all comments regarding the DEIS and FEIS.

## 4. FEDERAL AGENCY FINDINGS

In accordance with applicable law, the FAA makes the following determinations for this project, based upon the appropriate information and data contained in the FEIS and the administrative record.

**A. The project is consistent with existing plans of public agencies for development of the area surrounding the airport [49 U.S.C. § 47106(a)(1) and Executive Order 12372].**

The FAA finds that the project is reasonably consistent with the existing plans of public agencies authorized by the state in which the airport is located to plan for the development of the area surrounding the airport. The FAA is satisfied that it has fully complied with 49 U.S.C. § 47106(a)(1).

The proposed expansion is also reasonably consistent with comprehensive plans that have been adopted by jurisdictions in the vicinity of the airport as described in **Section 6.3.4** of the DEIS. The FAA has also considered the efforts that the City of St. George has shown throughout the environmental process to consider the public's concern regarding the potential impact that the proposed replacement airport may have on surrounding communities. Implementation of the City of St. George's preferred alternative would not be expected to result in any significant increases of noise on land of neighboring jurisdictions.

In making its determination under 49 U.S.C. § 47106(a)(1), the FAA has considered the fact that local governments have been represented by the Dixie Metropolitan Planning Organization and the Five County Association of Governments and have participated as members of those organizations in its decision to support the new replacement airport at St. George.

**B. Fair consideration has been given to the interests of the communities in or near the project location [49 U.S.C. § 47106(b)(2)].**

The determination prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications. The regional planning process over the past decade and the environmental process for this project-specific EIS, which began in 2003 and extended to this point of decision, provided numerous opportunities for the expression of and response to issues put forward by communities in and near the project location. Nearby communities and their residents have had the opportunity to express their views during the DEIS public comment period, at a public hearing, as well as during the review period following public issuance of the FEIS. The FAA's consideration of these community views is set forth in the FEIS in **Appendix R** and in **Appendix A** of this ROD.

Thus, the FAA has determined that throughout the environmental process, beginning at its earliest planning stages, fair consideration was given to the interest of communities in or near the project location.

**C. Appropriate action, including the adoption of zoning laws, has been or will be taken to the extent reasonable to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations [49 U.S.C. § 47107(a)(10)].**

The sponsor assurance prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications. In addition to the actions described in Paragraph A of this section, the City of St. George has worked extensively with local jurisdictions to develop and implement plans and policies to ensure compatible land use in the airport vicinity.

**Section 5.6** of the DEIS describes the current status of zoning and land use planning for lands near the airport. As explained in the DEIS and FEIS, development of the project would not result in any increased significant impacts on non-compatible land uses.

Based upon the administrative record for this ROD, the FAA has concluded that existing and planned noise reduction programs at St. George provide for appropriate action to ensure compatible land use in the airport vicinity.

The FAA is satisfied that appropriate action, including the adoption of zoning laws, has been or will be taken to restrict, to the extent reasonable, the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.

**D. Effect on Natural Resources [49 U.S.C. § 47106(c)(1)(B)].**

Under this statutory provision, the FAA may approve funding of a new airport having a significant adverse effect on natural resources, only after determining that no possible and prudent alternative to the project exists and that every reasonable step has been taken to minimize the adverse effect.

The FAA finds that the selected alternative would not have significant adverse impacts in any natural resource impact category.

**E. Clean Air Act, Section 176(c)(1) Conformity Determination Regarding the Proposed Replacement Airport at St. George [42 U.S.C. § 7506(c)].**

The determination prescribed by this statutory provision is a precondition for Federal Agency support or approval of airport development projects. The USEPA regulations generally governing the conformity determination process are found at 40 CFR Part 93, Subpart B, Sections 93.154 through 93.159.

Washington County is designated as attainment for all the criteria pollutants; therefore, the projected net increase in emissions during the temporary construction period and the daily operation of the proposed replacement airport is not required to be reviewed under either the general conformity or transportation conformity regulations of the Clean Air Act (CAA). Further, an analysis to evaluate the proposed replacement airport for compliance to the National Ambient Air Quality Standards (NAAQS) is not required because the size of the airport indicates

a lack of potential for emissions to cause any NAAQS violations.<sup>5</sup> Therefore, no further analysis or evaluation is required under either the NEPA or the CAA for the construction and operation of the proposed replacement airport.

Based upon the air quality analysis in the DEIS and FEIS, the proposed construction and operation of a replacement airport at St. George would increase the annual rate of emissions of carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), and particulate matters (PM<sub>10/2.5</sub>) as indicated in **Table 6.19 and Table 6.23** of the FEIS. However, the projected increase in emissions due to construction would be temporary and would be distributed over a three-year construction period. Net emissions for day-to-day operation of the proposed replacement airport would be much lower than for construction. Furthermore, the net additional emissions with the proposed replacement airport are projected to decline through the forecast period, being less in 2020 than in 2010.

The CAA Amendments of 1977 provided for the classification of lands for the application of the Prevention of Significant Deterioration (PSD) program. Certain lands where existing good air quality would be considered to be of national importance were designated as Class I areas. In southwest Utah, Zion National Park is a Class I area and is located 20 miles northeast of the proposed replacement airport site. The PSD program applies to a specific list<sup>6</sup> of industries and industrial processes identified by the USEPA as "major emitting facilities."<sup>7</sup> The USEPA defines a major emitting facility as one that emits or has the potential to emit at least 100 tons per year of any of the criteria pollutants. The rule also applies to any stationary source that emits or has the potential to emit 250 tons per year of any of the criteria pollutants.<sup>8</sup> Neither the airport at St. George nor the proposed replacement airport operates or proposes to operate any industrial process (major emitting facility) included on the USEPA list. Further, the emissions inventory shows that the emissions from stationary sources under any of the proposed alternatives are far below the threshold of 250 tons per year. Therefore, the PSD program would not be applicable to either the existing airport or the proposed replacement airport.

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<sup>5</sup> The screening criteria specify that airports serving fewer than 2.6 million annual passengers, or providing for fewer than 180,000 annual combined general aviation and air taxi aircraft operations, lack the potential to cause adverse air quality impacts and would not be required to prepare an analysis to demonstrate compliance to the NAAQS. Annual passengers are counted as including enplanements and deplanements, including transfers, but excluding through passengers. (FAA and U.S. Air Force, *Air Quality Procedures for Civilian Airports & Air Force Bases*, Section 2.3.4 *NAAQS Assessment-General*, April 1997; FAA, *Environmental Impacts: Policies and Procedures*, Order 1050.1E, Appendix A, Section 2.1(c), June 8, 2004.)

<sup>6</sup> Industries the USEPA defines as "major emitting facilities" are limited to stationary sources listed under the USEPA Clean Air Act (CAA), Title 1, Part C, *Prevention of Significant Deterioration of Air Quality*, Subpart 1, Section 169. Information is available on the USEPA Web site at: <http://www.epa.gov/air/caa/caa169.txt>.

<sup>7</sup> USEPA, Clean Air Act (CAA), Title 1, Part C, *Prevention of Significant Deterioration of Air Quality*, Subpart 1, Section 167. Information is available on the USEPA Web site at: <http://www.epa.gov/air/caa/caa167.txt>.

<sup>8</sup> USEPA, Clean Air Act (CAA), Title 1, Part C, *Prevention of Significant Deterioration of Air Quality*, Subpart 1, Section 169. Information is available on the USEPA Web site at: <http://www.epa.gov/air/caa/caa169.txt>.

**F. The project conforms to all applicable floodplain protection standards [Executive Order 11988].**

The FAA has determined that the selected alternative would not involve an encroachment on a floodplain as defined in Department of Transportation (DOT) Order 5650.2, which implements Executive Order 11988. These Orders establish a policy to avoid supporting construction within a 100-year floodplain where practicable, and where avoidance is not practicable, to ensure that the construction design minimizes potential harm to or within the floodplain.

**Section 6.9** of the DEIS explains that construction and operation of the selected alternative is not in a floodplain and therefore would not result in an adverse floodplain impact.

**G. Relocation Assistance [42 U.S.C. § 4601 et seq.].**

These statutory provisions, imposed by Title II of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, require that state or local agencies, undertaking Federally-assisted projects which cause the involuntary displacement of persons or businesses, must make relocation benefits available to those persons impacted.

As detailed in the DEIS **Section 6.17**, the selected development alternative would not result in any displacements.

**H. There are no disproportionately high or adverse human health or environmental effects from the project on minority or low-income populations [Executive Order 12898].**

Environmental justice concerns were addressed in **Section 6.20** of the DEIS, and it was concluded that no minority or low-income group would be disproportionately affected by displacements occurring as a result of the selected alternative.

**Section 6.20** of the DEIS contains a discussion of environmental justice issues relative to the selected alternative.

**I. The FAA has given this proposal the independent and objective evaluation required by the Council on Environmental Quality [40 CFR § 1506.5].**

As described in the DEIS and FEIS, a lengthy process led to the ultimate identification of the selected alternative, disclosure of potential impacts, and selection of appropriate mitigation measures. This process began with the FAA's competitive selection of an independent EIS contractor, continuing throughout the preparation of the DEIS and FEIS, and culminating in this ROD. The FAA furnished guidance and participated in the preparation of the EIS by providing input, advice, and expertise throughout the planning and technical analysis, along with administrative direction and legal review of the project. The FAA has independently evaluated the EIS, and takes responsibility for its scope and content. From its inception, the FAA has taken a strong leadership role in the environmental

evaluation of this project and has maintained its objectivity. The FAA has on file a disclosure statement from the environmental contractor that satisfies the requirement of 40 CFR § 1506.3(c).

- J. For actions that involve the use of lands subject to Section 4(f) of the DOT Act, including significant historic sites, there is no feasible and prudent alternative to the use of such land; and the project includes all possible planning to minimize harm to such lands resulting from such use [49 U.S.C. § 303(c)].**

**Chapter Eight** of the DEIS and FEIS addressed the FAA's requirement under Section 4(f)/303(c) of the Department of Transportation Act (codified at 49 U.S.C. § 303) to determine whether the development of a replacement airport in St. George, Utah would require the use of publicly owned land of a public park, recreation area, wildlife or waterfowl refuge, or land of a historic site of national, state, or local significance. A transportation project that involves such a use can be approved by the DOT and its agencies (including the FAA) only if (1) there is no prudent and feasible alternative to using that land, and (2) the project includes all possible planning to minimize harm to the affected land from the proposed use.

The FAA has determined that the proposed replacement airport would not have a significant adverse effect upon or result in the use or constructive use of lands or historic properties protected under 49 U.S.C. § 303(c), commonly known as Section 4(f) of the Department of Transportation Act. The following paragraphs summarize the analysis and findings presented in the DEIS and FEIS.

**Section 4(f)/303(c) Review:** Once the properties meeting the definition above are located for a particular project, use of the property is determined. If there is an actual physical occupation of the land, then there generally is a 4(f)/303(c) use. Early evaluations determined that there would be no physical takings of any 4(f)/303(c) properties for the replacement airport at St. George, Utah.

"Use" within the meaning of Section 4(f)/303(c) includes not only actual physical takings of such lands, but also may include adverse indirect impacts ("constructive use"). See FAA Order 1050.1E, Appendix A, Section 6.2e. If there is no physical taking, but there exists the potential for a constructive use, the FAA must determine whether the indirect impacts would substantially impair the 4(f)/303(c) resource. Substantial impairment occurs only when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.<sup>9</sup>

Although the concept of takings law is not binding under a 4(f)/303(c) analysis, the similarities between the two legal frameworks are instructive in evaluating Section 4(f)/303(c) constructive use matters. Under Federal takings law, a permanent physical occupation of land by the government is a taking just as a physical appropriation of land under Section 4(f)/303(c) by a transportation agency is a use. Under both legal concepts, where there is no permanent physical

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<sup>9</sup> "With respect to aircraft noise, for example, the noise must be at levels high enough to have negative consequences of a substantial nature that amount to a taking of a park or portion of a part for transportation purposes." FAA Order 1050.1E, Appendix A, Section 6.2.f.

occupation of land, there may still be a taking and/or use. When government action does not physically occupy the land but still affects or limits the use of the land there may be a taking or constructive use (*Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922)). In general, where a regulation “denies all economically beneficial or productive use of land” compensation is required (*Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015 (1992)). Similarly, a “project that respects a park’s territorial integrity may still, by means of noise, air pollution, or otherwise, dissipate the park’s aesthetic value, harm its wildlife, defoliate its vegetation, and take it in every practical sense. For Section 4(f)/303(c) purposes, the impairment must be substantial. With respect to aircraft noise, for example, the noise must be at levels high enough to have negative consequences of a substantial nature that amount to a taking of a park or portion of a park for transportation purposes.” FAA Order 1050.1E, Appendix A, Section 6.2f.

We note, however, that this is a rough analogy of these two legal frameworks since, technically, takings law does not directly apply to FAA actions in this instance. The regulatory “takings” discussed above are based on elimination of all economic value from the land. For this project, “Use” under Section 4(f) does not relate to economic value of the land, but whether or not there was an adverse indirect impact (constructive use) of the land, such that the attributes of the resource that contribute to its enjoyment would be substantially diminished.

**Basis for FAA Section 4(f)/303(c) Determination:** The impact that is of concern with respect to the consideration of constructive use for the proposed replacement airport at St. George is project-related aircraft noise. The FAA relies on land use compatibility guidelines in 14 CFR Part 150 (“Part 150”) to determine whether there is constructive use under Section 4(f)/303(c) where the land uses specified in Part 150 are relevant to the value, significance, and enjoyment of the 4(f)/303(c) lands in question. These guidelines have been in existence and use for some time to determine noise impacts by relating land use type to certain airport noise levels. The Part 150 guidelines, which incorporate the day-night average sound level (DNL) metric, may be relied upon in evaluating constructive use of lands devoted to traditional recreational activities, as categorized in Part 150. In urban areas, the FAA typically relies on the DNL in Part 150 because DNL is the best measure of significant impact on the quality of the human environment, is the only noise metric with a substantial body of scientific data on the reaction of people to noise, and has been systematically related to Federal compatible land use guidelines.

The FAA also relies on Part 150 guidelines, as applicable, to evaluate 4(f)/303(c) constructive use with respect to noise impacts on historic sites. In addition, a historic property would not be used for Section 4(f)/303(c) purposes when there is a finding of no historic properties affected or no adverse effect under Section 106 of the National Historic Preservation Act (NHPA). Findings of adverse effect under Section 106 do not automatically trigger Section 4(f)/303(c) unless the effects substantially impair the affected resource’s historical integrity. The FAA is responsible for complying with Section 106 of the NHPA regardless of the disposition of Section 4(f)/303(c).

However, Part 150 guidelines do not adequately address the effects of noise on the expectations and purposes of people visiting areas within a national park or national wildlife refuge where other noise is very low and a quiet setting is a generally recognized purpose and attribute, or noise effects on wildlife. Likewise, Part 150 guidelines may not be sufficient to determine the noise impact on historic sites where a quiet setting is a generally recognized purpose and attribute. See FAA Order 1050.1E, Appendix A, Section 6, pp. A-20 and A-21.

Because a quiet setting is a generally recognized purpose and attribute of some of the Section 4(f)/303(c) properties evaluated in the EIS, the FAA is supplementing its reliance upon DNL and the Part 150 guidelines in making its constructive use determination. Paragraph 14.3 of Appendix A of FAA Order 1050.1E specifically provides that special consideration be given to the evaluation of noise impacts on noise-sensitive areas within national parks and similar properties with attributes of quiet settings.

The FAA has approved the supplemental metrics used in this EIS, with the caveat that such a supplemental noise analysis is not by itself a measure of adverse aircraft noise or significant aircraft noise impact (see also FAA Order 1050.1E, Appendix A, paragraph 14.5g). As explained in detail below, the FAA has conducted extensive grid point analyses using a variety of metrics to evaluate the replacement airport's potential noise effects. Among these supplemental metrics is an evaluation of Percent Time Above Ambient (%TAA) at Zion National Park within the context of current NPS soundscape goals for established "management zones" within the park, and subsequently, the proportion of each management zone that exceeds the soundscape of %TAA goal.

In reaching its 4(f)/303(c) conclusions here, the FAA has considered the data resulting from all noise analyses described in this EIS in order to better understand the relative nature and magnitude of project-related noise impacts in the overall context of noise and the values of the properties protected by Section 4(f)/303(c). The FAA's 4(f)/303(c) determination is based on whether the data supports the conclusion that project-related noise impacts would substantially impair the resources at issue, amounting to a taking of the 4(f)/303(c) property or part of the property for transportation purposes.

**Identification of Eligible Section 4(f)/303(c) Properties:** Under Section 4(f)/303(c), it is national policy that special effort be made to preserve the natural beauty of the countryside, public parks, recreation lands, wildlife and waterfowl refuges, and historic sites through additional scrutiny and the application of rigorous standards before the use of such properties in a transportation project can be approved. Coordination with the managing agencies of 4(f)/303(c) properties is a key component of this process. See **Appendix M** (in the DEIS), ***Coordination with Managing Agencies of Section 4(f)/303(c) Properties Located within the Initial Area of Investigation***, for a detailed accounting of this coordination.

As discussed in **Chapter Five, Section 5.1.4** (in the DEIS), an initial area of investigation (IAI) was established in order to determine the impacts of the replacement airport at St. George on a variety of resources. The IAI, shown in

**Exhibit 8.1** in the FEIS, covers approximately 9,200 square miles of portions of southwestern Utah, northwestern Arizona, and southeastern Nevada. To evaluate aircraft noise levels on 4(f)/303(c) properties owned by state and Federal governments within the area, three separate 4(f)/303(c) property groups ultimately were evaluated within this area of investigation: Zion National Park, Little Black Mountain Petroglyph Site, and 42 other Federal and state 4(f)/303(c) sites.

**Noise Analysis of 4(f)/303(c) Properties:** During the course of the evaluations conducted for the EIS, an extensive noise assessment was completed for the three groups of Section 4(f)/303(c) properties: Zion National Park, Little Black Mountain Petroglyph Site, and the other 42 Federal and state 4(f)/303(c) sites within the IAI, described in **Section 8.3** of the FEIS.

- **Noise Screening Analysis:** The analysis was conducted in two stages. A Screening Analysis was conducted first to determine approximate airport-related and cumulative aviation noise effects on numerous potential 4(f)/303(c) properties. The analysis was conducted for all such known properties within the IAI.

Each of the sites was assigned one or more overlying matrices of evaluation points called grid points. In some cases, one set of grid points was used to address more than one 4(f)/303(c) site, if those sites were in close proximity and both sites were covered by the physical layout of the grid. These grid points were designed to be regularly spaced at intervals of 1.5 nautical miles so that the area within the grid sets fully covered the associated property. This process is explained in **Chapter Six, Section 6.6, and Appendix B** in the DEIS.

In addition to the 4(f)/303(c) sites that were assessed during the Screening Analysis, five additional grid sets were developed to estimate noise levels along the eastern and southeastern borders of the IAI, under flight paths leading toward Bryce and Grand Canyon National Parks, respectively. It was assumed that any effects of noise indicated within these "gateway" grid sets would be the same or greater than the effects of St. George Airport traffic on any 4(f)/303(c) sites, including Bryce Canyon and Grand Canyon, located beyond the IAI where traffic would be at higher altitudes and more laterally dispersed than within the IAI.

The Screening Analysis was conducted to consider and compare the projected future aviation noise associated with traffic to and from the St. George existing and replacement airports, as well as other aviation noise sources known to be present within the IAI, including: enroute overflights, arrivals to and departures from Las Vegas area airports, flights to and from other airports within the IAI, military traffic, and flights operated by air tour operators. The combination of these aviation types constitute the cumulative aviation noise environment used for this assessment for future years.

The Screening Analysis used a broad series of supplemental metrics or descriptors to examine potential changes to the sound environment due to the project.<sup>10</sup> The analysis was designed to capture several different factors that could potentially cause noise disturbance, including cumulative

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<sup>10</sup> FAA Order 1050.1E, App. A, Section 14.5.

exposure, loudness, and/or the amount of time that aircraft could be heard. While all numerical values were analyzed, the focus of the analysis was on increases or decreases of 5 decibels (dBA) for cumulative exposure (DNL and equivalent sound level (Leq)),<sup>11</sup> 3 dBA for single event maximum loudness (L<sub>Amax</sub>),<sup>12</sup> and absolute increases or decreases in aircraft time and number of events above the ambient sound environment.

Overall, the Screening Analysis found that, at nearly all 4(f)/303(c) locations within the IAI, noise generated by aircraft operating from either the existing or replacement St. George Airport made minor contributions to the aviation noise levels already present within the IAI.

The Screening Analysis found that overflights and traffic to and from the area airports contribute the majority of the cumulative effect of aviation noise at nearly all grid points covering the 4(f)/303(c) sites, largely as a function of their volume of traffic. However, the Screening Analysis also found that the replacement airport would add more noise at the Little Black Mountain Petroglyph Site than would the existing airport. Because of this, the FAA decided to conduct an additional noise measurement program at that site.

The Screening Analysis conducted at the other 42 Section 4(f)/303(c) sites found no substantial change in noise impacts from operation of the replacement airport. These noise evaluations, coupled with the existence of noise measurement data taken at Zion National Park, indicated that no additional measurements were warranted elsewhere. The Screening Analysis results also did not suggest that an enlargement of the IAI would provide additional data of substance.

- **Noise Effects Analysis:** Subsequent to the Screening Analysis, aviation noise effects were evaluated for three separate property groups: Zion National Park, Little Black Mountain Petroglyph Site, and the 42 other 4(f)/303(c) sites. All of the available noise metrics contained in the FAA's Integrated Noise Model (INM) version 6.1 were computed in the Screening Analysis. Consequently, for purposes of the noise analyses in **Chapter Six** and **Chapter Seven**, the assessments conducted during the Screening Analysis were modified only to make minor corrections to flight track locations near the airport, climb and descent profiles for enroute aircraft, and to operations on flight tracks for portions of the data as a result of information discovered subsequent to preparation of the Screening Analysis. These "tweaks" to the data consisted of track input corrections, profile input definitions for enroute traffic, and operational assignments to enroute traffic. The data for each grid point was then recomputed and presented in this analysis. Little difference was noted between the Screening Analysis and final analysis results. The subsequent paragraphs summarize the results of the grid analysis for each of the three property groups. Acoustic results

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<sup>11</sup> FAA Order 1050.1E, App. A, Section 14.5(d) and (e), FICON, Vol. 2, Section 3.3.1.1, p.3-17 (August 1992).

<sup>12</sup> A change in L<sub>Amax</sub> (also referred to as L<sub>max</sub>) of less than 3 dBA is "barely perceptible," FICON, Vol. 2, Section 3.2.1, p. 3-1, and Section 3.3.1, p. 3-15 (August 1992); *Guide on Evaluation and Attenuation of Traffic Noise*, American Association of State Highway and Transportation Officials, Task Force for Environmental Design, Section 2.6, p. 6, 1974.

presented in the following paragraphs are all rounded to the nearest tenth of dBA and time above or numbers of events are rounded to the nearest whole minute or operation (if more than one) for discussion purposes.

**Discussion of Zion National Park Section 4(f)/303(c) Analysis and**

**Determination:** Zion National Park, located at the junction of the Colorado Plateau, Great Basin, and Mojave Desert provinces in southwestern Utah, is dominated by a dramatic landscape of sculptured canyons and soaring cliffs. Its 148,024 acres provided varied recreational experiences for 2,672,995 visitors in 2004. In addition to more than 80 miles of hiking trails, three visitor centers, and 33 miles of scenic drives, Zion National Park provides opportunities for camping, bicycling, climbing, and horseback riding. Zion National Park features stunning scenery, sandstone cliffs among the highest in the world, diverse plant and animal communities, and Ancestral Puebloan, Paiute, and Mormon pioneer history.

According to the NPS resource manager for the property, over 90 percent of the park was recommended to Congress as wilderness in 1978. NPS policy requires the park to manage these lands as follows:

*"The NPS will take no action that would diminish the wilderness suitability of an area possessing wilderness characteristics until the legislative process of wilderness designation has been completed. Until that time management decisions pertaining to lands qualifying as wilderness will be made in expectation of eventual wilderness designation." NPS Management Policies 2001 – 6.3.1, General Policy.*

*"In evaluating environmental impacts, the National Park Service will take into account wilderness characteristics and values, including the primeval character and influence of the wilderness; the preservation of natural conditions (including the lack of man-made noise); and assurances that there will be outstanding opportunities for solitude, that the public will be provided with a primitive and unconfined type of recreational experience, and that wilderness will be preserved and used in an unimpaired condition." NPS Management Policies 2001 – 6.3.4.3, Environmental Compliance.*

In 2001, Zion National Park completed its General Management Plan (GMP) for the next 20 years. The GMP outlines the purposes and significance of the park which range from preservation of the dynamic natural process of canyon formation and the scenic beauty of the park to providing a variety of opportunities and a range of experiences at the park from solitude to high use. See **Appendix N, Attachment N-3** (in the FEIS), the September 16, 2004 letter from Jock Whitworth, NPS, to Dennis Ossenkop, FAA.

The GMP developed a number of strategies to achieve the desired conditions mentioned above. Of particular interest, the NPS planned to work with the FAA and other aviation interests to minimize noise and visual impacts of aviation on the park. One method discussed by the GMP was to encourage aircraft to fly outside the park in light of a study reported to Congress titled *Report on Effects of Aircraft Overflights on the National Park System (1995)*. The study had noted that Zion

National Park was “an immediate priority area for maintaining or restoring natural quiet.” See **Appendix N, Attachment N-3** (in the FEIS), the September 16, 2004 letter from Jock Whitworth, NPS, to Dennis Ossenkop, FAA.

Detailed computations of cumulative aviation noise effects on Zion National Park are presented in **Appendix B** and summarized in **Chapter Seven** of the DEIS. Within the park, noise effects were evaluated against both  $L50_{(existing)}$  and  $L50_{(natural)}$  ambient noise levels. At the request of the NPS, a separate audibility analysis was conducted for Zion National Park using INM Version 6.2b.<sup>13</sup> The results of the audibility analysis are presented in **Appendix T, Audibility Evaluation for Zion National Park** in the FEIS. A sensitivity analysis was also conducted for Zion National Park and is presented in **Appendix U, 15-Hour Sensitivity Analysis** in the FEIS.

The results of the analyses for energy average summary metrics (DNL,  $Leq_{(24)}$ ,  $Leq_{(day)}$ , and Time Above) are shown in **Table R.2, Zion National Park – Cumulative Noise Effects**, (**Table 8.1** in the FEIS) and reproduced below (see the **Glossary** in the FEIS for a definition of the noise metrics used in these analyses).

- **DNL (Day-Night Average Sound Level):** Using the DNL metric, the expected range of cumulative noise across the park is, in 2010, 31.3 to 34.1 dBA for the existing and 31.3 to 34.2 for the replacement airport and in 2020, 32.8 to 35.6 dBA for both the existing and replacement airport conditions. The range of change across the grid points associated with the replacement airport is a decrease of 0.2 dBA to an increase of 0.3 dBA in 2010 and from a decrease of 0.2 dBA to an increase of 0.4 dBA in 2020. While the increase in DNL from 2010 to 2020 is the result of increasing traffic levels across the park from all aircraft sources, the range of change is associated specifically with the replacement airport construction.
- **$Leq_{(24)}$  (Equivalent Sound Level):** Utilizing the  $Leq_{(24)}$  metric the expected range of cumulative noise is, in 2010, 30.0 to 32.8 for both the existing and replacement airport, and in 2020, 31.5 to 34.3 dBA for both the existing and replacement airport conditions. The range of change across the grid points associated with the replacement airport is a decrease of 0.3 dBA to an increase of 0.3 dBA in 2010, and from a decrease of 0.9 dBA to an increase of 0.3 dBA in 2020. While the increase in  $Leq_{(24)}$  from 2010 to 2020 is the result of increasing traffic levels across the park from all aircraft sources, the range of change is associated specifically with the replacement airport construction.
- **$Leq_{(day)}$ :** Using the  $Leq_{(day)}$  metric the expected range of cumulative noise is, in 2010, 31.9 to 34.7 for both the existing and replacement airport, and in 2020, 33.4 to 36.2 dBA for both the existing and replacement airport conditions. The range of change across the grid points associated with the replacement airport is a decrease of 0.3 dBA to an increase of 0.3 dBA in 2010, and from a decrease of 0.9 dBA to an increase of 0.3 dBA in 2020.

<sup>13</sup> The audibility evaluation for this study was performed with the latest (beta) version of INM 6.2b, noted in this ROD with the suffix “b.”

While the increase in  $Leq_{(day)}$  from 2010 to 2020 is the result of increasing traffic levels across the park from all aircraft sources, the range of change is associated specifically with the replacement airport construction.

**Table R.2**  
**ZION NATIONAL PARK – CUMULATIVE NOISE EFFECTS**

<b>DNL (in dBA)</b>	<b>2010</b>	<b>2020</b>
Existing Airport Range Across All Grid Points	31.3 - 34.1	32.8 - 35.6
Replacement Airport Range Across All Grid Points	31.3 - 34.2	32.8 - 35.6
Change with Replacement Airport Across All Grid Points	(0.2) - 0.3	(0.2) - 0.4

<b>Leq<sub>(24)</sub> (in dBA) Across All Grid Points</b>	<b>2010</b>	<b>2020</b>
Existing Airport Range Across All Grid Points	30.0 - 32.8	31.5 - 34.3
Replacement Airport Range Across All Grid Points	30.0 - 32.8	31.5 - 34.3
Change with Replacement Airport Across All Grid Points	(0.3) - 0.3	(0.9) - 0.3

<b>TAA (in minutes per day) Across All Grid Points</b>	<b>2010</b>	<b>2020</b>
Existing Airport Range Across All Grid Points	1.5 - 295.5	2.3 - 404.4
Replacement Airport Range Across All Grid Points	1.5 - 296.7	2.3 - 406.7
Change with Replacement Airport Across All Grid Points	(0.1) - 1.7	0.0 - 4.1

<b>Leq<sub>(day)</sub> (in dBA) Across All Grid Points</b>	<b>2010</b>	<b>2020</b>
Existing Airport Range Across All Grid Points	31.9 - 34.7	33.4 - 36.2
Replacement Airport Range Across All Grid Points	31.9 - 34.7	33.4 - 36.2
Change with Replacement Airport Across All Grid Points	(0.3) - 0.3	(0.9) - 0.3

<b>Audibility (in potentially audible minutes of aircraft noise per day)</b>	<b>2010</b>	<b>2020</b>
Existing Airport Range Across All Grid Points	1557.7 – 2776.0	2506.5 - 3842.7
Replacement Airport Range Across All Grid Points	1555.4 – 2765.1	2510.3 - 3837.1
Change with Replacement Airport Across All Grid Points	(0.1) - (1.4)	(0.1) - (1.0)

<b>Number of Events Per Day – Range Across All Grid Points</b>						
<b>Noise Level Above</b>	<b>2010</b>			<b>2020</b>		
	<b>Existing</b>	<b>Replacement</b>	<b>Change</b>	<b>Existing</b>	<b>Replacement</b>	<b>Change</b>
20dBA	241 - 333	236 - 332	(6.2) - 1.2	331 - 456	323 - 456	(8.6) - 32.8
25dBA	170 - 265	168 - 266	(6.8) - 1.8	235 - 363	234 - 365	(9.4) - 3.2
35dBA	65 - 138	65 - 138	(5.5) - 1.3	89 - 190	91 - 190	(7.2) - 2.2
45dBA	9 - 34	9 - 34	(2.7) - 0.9	13 - 46	13 - 46	(43.8) - 1.6
55dBA	2 - 5	2 - 5	(0.1) - 0.3	2 - 6	2 - 6	(0.2) - 0.3
60dBA	1 - 2	1 - 2	(0.1) - 0.3	1 - 2	1 - 2	(0.1) - 0.3

Note: The change with the replacement airport indicates a range within a large group of grid points, while the noise range reflects the maximum and minimum noise levels of this metric within the same group of grid points. The greatest degree of changes does not necessarily occur at the points with the maximum or minimum noise level.

- **Time Above Ambient:** Ambient noise levels within Zion National Park were established by application of measured data collected by the NPS contractors in 2000/2001 at 13 separate locations representing a variety of soundscapes within the park. The measured data were used by acousticians at the Volpe National Transportation Systems Center to prepare a map of L50<sub>(existing)</sub> ambient levels within the park by applying measured levels to equivalent use/vegetation/wind regimes. The measured acoustical data was assessed in conjunction with observer logs of each site recorded during the measurement period to estimate the amount of measured noise energy that was associated with transient human activity. With the exception of noise from permanent roadways through the park, human-related noise was removed from the measured noise energy to result in a series of L50<sub>(natural)</sub> noise levels for the measured points. The natural ambient levels were also mapped by extrapolating the data to similar locations within the park.<sup>14</sup> The time that aircraft noise from cumulative aviation sources is expected to exceed the existing and natural ambient L50 noise levels with the existing and replacement airport was computed at the grid points used to evaluate all other metrics. Comparisons between the time results with the two airport locations in 2010 and 2020 were summarized in **Chapter Seven** and presented in detail in **Appendix B** in the DEIS. Additionally, **Appendix T** in the FEIS details the results of an audibility evaluation for Zion.

At the average grid point within the park, the replacement airport would increase the amount of time aviation noise is experienced above the existing or natural ambient levels by approximately one percent from that which would be experienced with the existing airport. In 2010, with the existing airport location, the various grid points within Zion National Park would be exposed to cumulative aviation noise above existing ambient levels between 1 and 296 minutes per day (132 minutes on average), and above natural ambient levels to between 1 and 400 minutes per day (169 minutes on average). The construction of the replacement airport would add, on average, less than one minute per day above existing and natural ambient noise to these totals. The range of change associated with the replacement airport in 2010 above existing ambient levels is a decrease of 0.1 to an increase of 1.7 minutes per day, while the range of change above natural ambient levels is a decrease of 0.3 to an increase of 2.0 minutes per day.

In 2020, with the existing airport location, the various grid points within Zion National Park would be exposed to cumulative aviation noise above existing ambient levels between 2 and 404 minutes per day (182 minutes on average), and above natural ambient levels to between 2 and 546 minutes per day (averaging 232 minutes). In 2020, the construction of the replacement airport would add, on average, approximately 2 minutes per day above both existing and natural ambient noise to these totals. The range of change in 2020 above existing ambient levels is no change to an increase of 4.1 minutes per day, while the range of change above natural ambient levels is a decrease of 0.1 to an increase of 5.1 minutes per day.

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<sup>14</sup> The process used to develop mapping of existing and natural L50 ambient levels is detailed in **Attachment B-1** of **Appendix B** of the DEIS.

- **Number of Events:** The cumulative Number of Events Above selected thresholds were evaluated to determine the worst case that could be expected throughout the 95 grid points within the park. The data presented in **Chapter Seven** and in **Appendix B** indicate that the greatest number of cumulative average daily events to which any grid point within the park would be exposed from either the existing or replacement airport in 2010 is approximately 333 above 20 dBA, 265 above 25 dBA, 137 above 35 dBA, 34 above 45 dBA, 4 above 55 dBA, and 1 above 60 dBA. Of greater interest may be the degree of change associated with the replacement airport compared to the existing airport. The maximum increase in the number of events above various noise levels at any site within the park resulting from the replacement airport in 2010 was: 1.2 above 20 dBA, 1.8 above 25 dBA, 1.3 above 35 dBA, 0.9 above 45 dBA, 0.3 above 55 dBA, and 0.3 above 60 dBA.

By 2020, the greatest number of cumulative average daily events to which any grid point within the park would be exposed from either the existing or replacement airport is approximately 456 above 20 dBA, 364 above 25 dBA, 190 above 35 dBA, 46 above 45 dBA, 6 above 55 dBA, and 2 above 65 dBA. The maximum increase in the number of events above various noise levels resulting from the replacement airport in 2020 was: 2.8 above 20 dBA, 3.2 above 25 dBA, 2.2 above 35 dBA, 1.6 above 45 dBA, 0.3 above 55 dBA, and 0.3 above 65 dBA. On average the replacement airport would result in an increase of less than one percent in the cumulative number of events experienced at the Zion National Park grid points in 2010 or 2020.

- **Audibility**<sup>15</sup>: As computed against existing ambient conditions, all sites in 2010 would be exposed to less time of audible noise with the replacement airport than with the existing airport. As computed, the various sites that would be exposed to less time audible for existing ambient conditions would receive ½ to 36 fewer minutes per day (6 to 58 percent less time) with the replacement airport. By 2020, across all sites, the range of time audible would be reduced by 1 to 35 minutes (9 to 62 percent decrease) with the replacement airport. These reductions reflect the transition from propeller to jet aircraft used by the commuter operator at the St. George Airport occasioned by the longer runway length available at the replacement airport.

Against natural ambient conditions, none of the 89 Zion grid points in either 2010 or 2020 would be exposed to more time of audible noise with the replacement airport than with the existing airport. The sites would experience less time audible, ranging from 5 to 35 fewer minutes per day (18 to 57 percent less time) in 2010, and from 11 to 60 percent less audible noise per day (8 to 37 minutes less time).

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<sup>15</sup> The audibility metric was only used in the analysis for Zion National Park due to the availability of ambient noise data that had been previously collected by Zion National Park resource managers. Without such readily available ambient data, it would not have been reasonably possible for the FAA to conduct this more detailed analysis during the course of the EIS process. No other 4(f)/303(c) resources within the EIS study area had equivalent data for use in the noise modeling.

In accordance with FAA Order 1050.1E, special consideration was given to the evaluation of Zion National Park due to the potential for significant noise impacts on the noise-sensitive areas within the park. In light of the extensive noise modeling detailed above (also see **Chapters Six and Seven** and **Appendices B, T, and U**), the FAA finds no substantial impairment of any activity, feature, or attribute of Zion National Park that contributes to the park's significance or enjoyment.

Zion National Park, with the replacement airport in place at the proposed site, generally would experience average 24-hour aircraft noise levels that remain below both the Existing Ambient and Natural Ambient noise levels mapped throughout the property. In other words, there would be no change in cumulative aircraft noise above ambient noise levels. In addition, the property would experience only slight increases in the time above ambient noise levels resulting from the development of the replacement airport. The cumulative DNL level would increase a maximum of 0.4 dBA by 2020 while both  $Leq_{(24)}$  and  $Leq_{(day)}$  would increase by no more than 0.3 dBA in 2020.

In regard to number of events above various noise level thresholds, the average change associated with the replacement airport tends to reduce the number of events at the lower noise levels with only slight or no increases at the higher noise levels. The cumulative amount of time that aviation noise would be above the existing or natural ambient levels would increase by one percent. In 2010, the change would be an increase of less than one minute a day and in 2020, the change would be approximately two minutes a day. None of these increases would result in a substantial incremental change in aircraft related noise impacts to Zion National Park and would not substantially impair any resource of the park.

The noise environment resulting from aviation activity is comprised of operations at the existing or proposed replacement airport, operations in the enroute environment (high altitude overflights), activity to and from other airports, and operations by general aviation, military, and commercial users that may operate at any altitude, to the extent that these flights can be quantified. These additional aircraft operations projected for the replacement airport would result in minor incremental changes in noise at various locations, but the negligible increase in noise, incrementally and cumulatively, would not rise to the level of a substantial impairment.

The FAA has concluded, after consultation with NPS (see **Appendix N** in the FEIS and **Appendix A** of the ROD) and using any reasonable measure, that the above-referenced quantitative data, reflecting, at most, very minor increases in cumulative noise do not approach a substantial impairment of the values of this 4(f)/303(c) property. The projected minor increases in project-related overflight noise reflected by this quantitative data do not amount to a "taking" of these properties for transportation purposes. Therefore, the FAA finds no constructive use under Section 4(f)/303(c). This determination is further supported by the audibility analysis in **Appendix T** in the FEIS, which shows that compared to the existing airport, the proposed replacement airport would result in less time of audible aircraft noise over Zion National Park.

**Discussion of Little Black Mountain Petroglyph Site Section 4(f)/303(c)**

**Analysis and Determination:** The Little Black Mountain Petroglyph Site is located approximately 1.5 miles southeast of the proposed airport site. Little Black Mountain is approximately 200 acres in size and rises approximately 750 feet above the valley floor. The lower slopes of Little Black Mountain are part of the Moenkopi Formation and are highly erodible. The higher rocky ledges are part of the Shinarump Member of the Chinle Formation. Large blocks of this sandstone layer have broken off and tumbled down the mountain.

The rock art area features approximately 50 boulders containing 800 petroglyphs carved by people of several past native cultures of the Great Basin, Western Anasazi, and Lower Colorado River. Some of the representations of turtles, lizards, and bear paws may be symbols with social or religious meanings now lost in time.

The 200-acre rock art site was designated in the BLM Arizona Strip District Resource Management Plan (1992) as an Area of Critical Environmental Concern (ACEC) and as a Public Use Site because of its significant cultural resources. See **Appendix M, Attachment M-1** (in the DEIS), December 10, 2004 letter from Roger Taylor, BLM, to Dennis Ossenkop, FAA. The BLM, the managing resource agency, has managed this ACEC as a public use site for the interpretation of these cultural resources.

The site is accessed by a local dirt road. The BLM has constructed a parking lot, restroom, surfaced trails, and protective fencing. The primary activity within this protective fencing is viewing of the rock art. Some visitors have noted that they appreciate the cultural resources as well as the solitude, natural quiet, and remote setting of the site. However, the majority of the remainder of the property is used for off-road recreational vehicles, which can be heard from the rock art area. BLM visitor records show that 1,181 people visited the site in 2003. See **Chapter Five, Section 5.7.2.1, Traditional Cultural Properties** (in the DEIS), for additional information.

As suggested by the Screening Analysis results, a noise measurement program was conducted at the Little Black Mountain Petroglyph Site. Results indicated that summary noise metrics (DNL,  $Leq_{(24)}$ ,  $Leq_{(day)}$ , and Time Above) were elevated at the site relative to existing L50 ambient levels, owing to activity during the measurement period by all-terrain vehicles and motorbikes. These average levels are significantly influenced by the noise energy associated with high dBA events by these recreational vehicles, which occasionally exceeded a L<sub>Amax</sub> of 90 dBA. Because summary noise metrics are based on a logarithmically derived energy average, a limited number of very high events can drive a summary average noise level well above the level actually heard most of the time at the site. The measured L50<sub>(existing)</sub> level at the site was approximately 20 dBA for the winter measurement period, a level even lower than the measured existing and natural ambient levels at Zion National Park. Measurements during other periods of the year might, as was the case at Zion National Park, result in greater average L50 ambient levels.

Using the summary noise metrics (DNL,  $Leq_{(24)}$ ,  $Leq_{(day)}$ , and Time Above), **Table R.3, Little Black Mountain – Noise Effects**, presents the noise changes anticipated to occur with the replacement airport at the Little Black Mountain Petroglyph Site in the years 2010 and 2020.

**Table R.3**  
**LITTLE BLACK MOUNTAIN PETROGLYPH SITE – CUMULATIVE NOISE EFFECTS**

<b>DNL (in dBA)</b>	<b>2010</b>	<b>2020</b>
Existing Airport	33.7	35.0
Replacement Airport	36.0	37.0
Change with Replacement Airport	2.3	2.0

<b><math>Leq_{(24)}</math> (in dBA)</b>	<b>2010</b>	<b>2020</b>
Existing Airport	34.2	33.7
Replacement Airport	34.3	35.5
Change with Replacement Airport	0.1	1.7

<b><math>Leq_{(day)}</math> (in dBA)</b>	<b>2010</b>	<b>2020</b>
Existing Airport	34.2	35.6
Replacement Airport	36.1	37.0
Change with Replacement Airport	1.9	1.4

<b>TAA (in minutes per day)</b>	<b>2010</b>	<b>2020</b>
Existing Airport	354.1	473.5
Replacement Airport	507.2	647.9
Change with Replacement Airport	153.1	174.4

<b>Number of Events</b>						
<b>Noise Level Above</b>	<b>2010</b>			<b>2020</b>		
	<b>Existing</b>	<b>Replacement</b>	<b>Change*</b>	<b>Existing</b>	<b>Replacement</b>	<b>Change*</b>
20 dBA	425	441	16	564	583	19
25 dBA	290	310	19	381	403	22
35 dBA	74	134	60	102	169	67
45 dBA	11	34	23	15	41	26
55 dBA	3	4	2	4	8	4
65 dBA	0.7	0.7	0	1	1.5	0.4

Note: The degree of change may not exactly compute due to rounding. Owing to the small area of the Little Black Mountain Petroglyph Site, a single grid point was established to allow estimation of aircraft noise levels for the site.

- **DNL:** The 2+ dBA changes represent an increase in acoustic energy from aviation sources by approximately 60 percent. The growth of the cumulative aircraft DNL would be the result of substantially more aircraft operations in close proximity to the site than are now present, largely conducted at noise levels of 25 to 65 dBA of L<sub>Amax</sub>. The replacement airport aircraft events are not as loud as the recreational vehicles that are now, and are expected to

continue to be present at the site, and would likely have little effect on the cumulative average noise levels at the site from all sources (including those from both aviation and non-aviation activity).

- **Leq<sub>(24)</sub>:** In 2020, the 1.7 dBA increase in Leq<sub>(24)</sub> represents a 50 percent increase in aviation acoustic energy, all of which would be associated with the construction of the replacement airport. However, measured Leq<sub>(24)</sub> values at the site ranged from 38.9 to 49.5 dBA from a combination of both non-aviation and aviation sources, or between 5.2 and 14 dBA more than the projected cumulative aircraft Leq<sub>(24)</sub> levels at the site.
- **Leq<sub>(day)</sub>:** The cumulative aviation Leq<sub>(day)</sub> level at the site is projected to increase by 1.9 dBA in 2010 and in 2020, by 1.4 dBA. These increases represent, respectively, additions of 38 percent and 51 percent to the amount of acoustic energy present from aviation activity – all of which is associated with the replacement airport facility. In contrast, the average Leq<sub>(day)</sub> recorded during the measurement of the site was between 40.9 and 51.5 dBA from both non-aviation and aviation sources at the three locations assessed.
- **Time Above Ambient:** The amount of time to which the Little Black Mountain Petroglyph Site is exposed to cumulative aircraft noise above existing L50 ambient levels (20 dBA) is projected to increase by approximately 2.5 hours per day in 2010 and by approximately 2.9 hours per day in 2020 if the replacement airport is constructed. With continuation of the existing airport location, the time of total exposure to aircraft noise above the existing ambient is projected to be approximately 5.9 hours in 2010 and approximately 7.9 hours in 2020, while with the replacement airport in place, the time increases to 8.5 and 10.8 hours per average day for the two years, respectively. These changes with the replacement airport represent an increase of 44 percent for 2010 and 37 percent for 2020 in the amount of time the site is exposed to noise above the existing L50 ambient level by aviation noise.
- **Number of Events:** The number of events over the Little Black Mountain Petroglyph Site is expected to increase if the proposed replacement airport is constructed. The total number of events, indicated in **Table R.3**, is cumulative (i.e., the number of events at each successively lower noise level includes the events indicated at all higher levels).

While the cumulative number of events above 20 dBA of L<sub>Amax</sub> in each year is very similar for the airport in its existing or replacement location, there is a noticeable shift in the number of events at slightly higher levels with the replacement airport than the existing airport. The cumulative number of events falling between 35 and 45 dBA and between 45 and 55 dBA increase substantially with the replacement airport, while decreasing at the levels less than 35 dBA of L<sub>Amax</sub>.

As stated previously, the primary purpose in visiting the petroglyph site itself is to view the historically and culturally important rock art. Although some visitors have stated that they appreciate the quiet and solitude of the petroglyph site, the

remainder of the area is used for loud off-road recreational vehicles which can clearly be heard while standing at the rock art. The presence of these vehicles would appear to contradict any claim that this is a particularly noise-sensitive area.

The noise analysis revealed that the existing noise levels at Little Black Mountain are generally louder than the forecast replacement airport related noise levels. The exception to this is found in the Time Above metrics that show an increase of approximately two hours where airplane noise would be heard at the site. However, in light of the primary purpose of the site and the existing noise from motorized vehicles, the FAA finds that the additional noise from the replacement airport project would not substantially diminish any activities, features, or attributes of Little Black Mountain that contribute to its significance or enjoyment, and thus would not result in a constructive use of the property.

In addition, under FAA Order 1050.1E, "a historic property would not be used for Section 4(f)/303(c) purposes when the FAA issues a finding of. . . No Adverse Effect under Section 106 of the National Historic Preservation Act." (FAA Order 1050.1E, Appendix A, p. A-21.) Early consultation with the Arizona SHPO and the BLM concluded that the Little Black Mountain site is within the "Area of Potential Effect" potentially impacted by operation of the replacement airport. The FAA also concluded that the site was eligible for inclusion on the National Register for Historic Places under three of the four evaluation criteria.

On June 22, 2005, the FAA made a No Adverse Effect finding for the entire Little Black Mountain site. This determination was submitted to the Arizona SHPO and the 22 tribal contacts for review (see **Appendix I** in the DEIS). On July 20, 2005, the BLM concurred with the FAA's finding of No Adverse Effect and submitted this concurrence to the Arizona SHPO. Subsequently, the 30-day response period for comment from the Arizona SHPO has since expired (see 36 CFR 800.5(c)) without response. Therefore, in addition to the noise analysis above, the comments received regarding the determination of No Adverse Effect and based upon the FAA's Section 106 determination that the replacement airport would not adversely affect this historic property, the FAA finds that there would not be a constructive use of the Little Black Mountain Petroglyph Site.

It is important to note, in any event, that steps have been taken to lessen the overflights over this important resource. A "Fly Friendly" practice is assumed in the development of noise patterns near this property. Flight tracks developed for the proposed replacement airport were designed to route flights around Little Black Mountain. Airport signage and notices to airmen would also be used to inform pilots to avoid direct overflight by turning on departure north of the mountain or to extend the takeoff courses straight out along the extended centerline until beyond the mountain before turning on course. The measures are reflected in the noise analysis. See **Chapter Six, Exhibit 6.5, Exhibit 6.6, and Exhibit 6.7** in the DEIS.

**Discussion of the Other Federal/State Section 4(f)/303(c) Sites Analysis and Determination:** The 42 other designated 4(f)/303(c) sites evaluated within the IAI included:

- Four National Monuments
- Eleven Wilderness Areas
- Seventeen Wilderness Study Areas
- Six State Parks
- Two National Forests
- One National Recreation Area
- One Instant Study Area

The lead agencies for these lands include individual Indian tribes for reservation lands, the BLM, the NPS, the U.S. Forest Service, the State of Utah, the State of Arizona, and the State of Nevada. For more detailed information about the different public lands and Indian reservations in the IAI, see **Chapter Five, Table 5.2 and Table 5.3** (in the FEIS), and **Section 5.3.1 through Section 5.3.8** in the FEIS. See also **Exhibit 5.1** (in the DEIS) for a map of the public lands in the investigation area and **Appendix M and Appendix O** in the DEIS and **Appendix N** in the FEIS for coordination information with management agencies.

FAA NEPA policies normally define the parameters of a noise analysis study based upon the location of noise-sensitive areas incompatible with airport operations. Following this accepted policy, these areas are generally located within or adjacent to the 65 DNL contours. For this EIS, those areas are all in the immediate vicinity of the proposed replacement airport, and all such areas received a traditional NEPA noise analysis.

However, FAA NEPA policy also recognizes that special consideration needs to be given to the evaluation of the significance of noise impacts on noise-sensitive areas such as national parks and other areas protected under Section 4(f)/303(c). Thus, in this EIS, the FAA defined a greatly expanded noise study area, referred to as the IAI, using a noise screening analysis to identify the location of all Section 4(f)/303(c) properties which had any reasonable potential to be significantly impacted by the replacement airport project. Once the Section 4(f)/303(c) properties within the IAI were identified, the FAA applied the supplemental noise analysis metrics approved for this EIS to these properties.

Specifically, the cumulative noise levels for each of the 42 other 4(f)/303(c) sites within the IAI were evaluated for each summary metric, as well as the amount of time experienced above the average existing L50 (29.1 dBA) level measured in Zion National Park by the NPS contractor, and the number of cumulative aircraft events above 20, 25, 35, 45, 55, and 65 dBA of L<sub>Amax</sub>. As previously discussed, grid matrices were overlaid so that each noise-sensitive Federal or state property was assessed with one or more grid points. Details of cumulative noise effects are summarized in **Chapter Seven**, presented in tables in **Chapter Six, Section 6.6**,

and detailed in both text and tables in **Appendix B** in the DEIS. Maps of the degree of change between the existing and replacement airport cumulative noise levels are presented in **Appendix B**.

Based on the noise analysis conducted, slight incremental noise increases would occur in only nine of the 42 other 4(f)/303(c) resources; however these slight increases would not rise to the level of substantial impairment. These minute increases, individually or cumulatively, do not substantially impair any defining characteristic or attribute of any of these sites.

As described in **Chapters Six and Seven** and **Appendix B** the 42 additional public land areas received an enhanced level of noise analysis using both NEPA and Section 4(f)/303(c) noise criteria. Other properties, not provided protection under Section 4(f)/303(c), were not included in the enhanced noise analysis. Based on this noise analysis, the slight incremental noise increases that the proposed replacement airport would cause in the nine 4(f)/303(c) resources discussed in the preceding section do not rise to the level of substantial impairment. These minute increases would not substantially diminish the activities, features or attributes of any of these areas. Therefore, the FAA concludes that the proposed replacement airport would not result in a constructive use of these resources under Section 4(f)/303(c).

## 5. MITIGATION

In accordance with 40 CFR § 1505.3, the FAA will take appropriate steps, through Federal funding grant assurances and conditions, and ALP approvals, to ensure that mitigation actions identified in the FEIS are implemented during project development, and will monitor the implementation of these mitigation measures as necessary to assure that representations made in **Chapter Six, Section 6.28** of the FEIS, with respect to mitigation, are carried out. (**Section 6.28** is reproduced in this ROD as **Appendix B**, see **Table B.2**). The approvals contained in this ROD are conditioned on the completion of all mitigation measures.

The following mitigation commitments would be implemented with construction and operation of the proposed replacement airport at St. George. These mitigation measures would be implemented by the City of St. George or in combination with the FAA Northwest Mountain Region Office and/or the FAA Airports District Office in Denver.

**Water Quality and Waters of the U.S.:** To initiate construction, the City of St. George would file a Notice of Intent with the Utah Division of Water Quality (UDWQ) to obtain coverage for construction activities under the Utah Pollution, Discharge and Elimination System (UPDES) General Permit for Storm Water Discharges Associated with Construction Activity and develop a Stormwater Pollution Prevention Plan (SWPPP) for the replacement airport. The City of St. George would require that construction of the proposed replacement airport follow the procedures outlined in FAA AC 150/5370-10, *Standards for Specifying Construction of Airports*. The city would require the contractor to install oil traps and waste oil tanks to manage petroleum wastes during construction, and also to use absorbent materials to remove small spills from work areas.

The City of St. George would also request authorization for the placement of fill materials within waters of U.S.<sup>16</sup> on the airport site under a General Permit issued by the US Army Corps of Engineers (USACE) and under a 401 water quality certification issued by the Utah Department of Environmental Quality (UDEQ). Compensatory mitigation required to offset impacts to waters of the U.S. would be determined through discussions between the city and USACE at the time permit authorization is obtained. Once airport construction is complete, the City of St. George would obtain an UPDES permit from the UDWQ for the discharge of stormwater resulting from normal airport operations.

**Biological Resources, Threatened and Endangered Species:** Potential unavoidable impacts to state-listed sensitive reptile species - the desert tortoise, burrowing owl, kit fox, and migratory birds (i.e., raptors) – would be mitigated by the FAA/City of St. George through continued coordination with the U.S. Fish and Wildlife Service (USFWS) and the Utah Division of Wildlife Resources (UDWR).

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<sup>16</sup> Due to the recent Supreme Court ruling regarding the determination of wetland jurisdiction, it is unclear as to whether or not the 0.246-acre dry washes impacted by the proposed project would be considered under Clean Water Act jurisdiction or not. In this ROD, the FAA recognizes this uncertainty, however, due to the small size of the potential impact, it is anticipated that the permit requirement would still fall under a Nationwide permit (see *Rapanos et ux., et al. vs. United States*, 126 S. Ct. 2208 (US 2006)).

Mitigation commitments include: conducting additional surveys prior to initiating construction to identify the presence or absence of the above listed species; relocating individual animals or nests/borrows, as deemed necessary by the FWS/UDWR; installing barriers to the construction site to limit access by certain protected species; providing access from the construction site for other species; and coordinating monitoring and removal of species during construction with the FWS and UDWR per existing conservation plans.

The City of St. George would conduct additional surveys of the airport site for invasive species prior to initiating construction and would require the construction contractor to wash equipment prior to entering the construction site and to stabilize and seed cleared areas with native plant species to minimize the introduction of invasive species.

**Construction Impacts:** As described under the ***Water Quality and Waters of the U.S.*** in the ***Mitigation*** section (see above), the appropriate permits would be obtained by the City of St. George to initiate construction. In terms of fugitive dust, the City of St. George would require the contractor to use best management practices (BMPs) to minimize impacts on water quality and air quality. Exposed/disturbed surfaces, haul roads, and construction staging areas would be wetted down to minimize the generation, stirring, and entrapment of fugitive dust. In addition, covered trucks would be used where feasible and practical to transport waste, fill, or construction materials to and from the construction site. Haul roads would be designated to minimize the impact of construction traffic on local traffic patterns.

## 6. ACTIONS TO PROMOTE AMICABLE COMMUNITY RELATIONS AND HELP PRESERVE PARK RESOURCES AND VALUES

The FAA will take appropriate steps, through Federal funding grant assurances and conditions, and ALP approvals, to ensure that cooperative actions identified in the FEIS are implemented during project development, and will monitor the implementation of these actions as necessary to assure that representations made in the **Section 6.28** of the FEIS and reproduced in this ROD as **Appendix B**, are carried out. The approvals contained in this ROD are conditioned on the completion of these measures.

The following actions are designated to increase community and agency acceptance of the proposed new airport and to address concerns of the NPS and other parties. These cooperative actions have been agreed to by the City of St. George.

### **Airport Noise and Department of Transportation 4(f)/Section 303(c)**

**Properties and Resources:** Although the FAA has determined that no significant noise impacts will result as part of the proposed project, the FAA has elected to establish an aircraft instrument approach procedure for the replacement airport designed to keep aircraft as high as possible and west of Zion National Park without negatively affecting final approach minimums and, by this action, will establish a less intrusive path than would be present without the instrument procedure (see **Exhibit 1-3** in the DEIS). In addition, the City of St. George in cooperation with the FAA will develop voluntary noise abatement initiatives involving a pilot education program, commercial operator agreements, printed informational materials, and follow-up monitoring. The FAA will ensure that the City of St. George will work with the NPS and the BLM to monitor the success of these initiatives. The FAA will work with NPS in future Air Tour Management planning for Zion National Park. Other appropriate resource management agencies will be invited to participate in this coordination.

**Pilot Education and Sensitive Area Avoidance:** Pilots using the replacement airport would be encouraged to avoid flying over Zion National Park as well as the Little Black Mountain site. Commercial operators would be able to fly departure routes from the replacement airport that do not cross over the center of Zion National Park. These are voluntary options, but the City of St. George has agreed to develop a pilot education program to address the concern. (See **Appendix X, Monitored Noise Abatement Initiatives** in the FEIS).

## 7. DECISION AND ORDERS

In **Section ES.4.3** of the Final Environmental Impact Statement, the Federal Aviation Administration identified the proposed replacement airport alternative as the FAA's "preferred alternative." In this Record of Decision the Federal Aviation Administration identified the proposed replacement airport alternative as the environmentally preferred alternative. The Federal Aviation Administration must now select one of the following choices:

- Approve agency actions necessary to implement the proposed project, or
- Disapprove agency actions to implement the proposed project.

Approval would signify that applicable Federal requirements relating to airport development and planning have been met and would permit the City of St. George to proceed with the proposed development and be eligible to receive Federal funding and/or approval to impose and use Passenger Facility Charges for eligible items. In addition, the City of St. George is required to comply with FAA grant assurances upon acceptance of a grant offer. Not approving these agency actions would prevent the City of St. George from proceeding with implementation of the proposed replacement airport.

**Decision:** I have carefully considered the Federal Aviation Administration's goals and objectives in relation to the various aeronautical aspects of the proposed replacement airport at St. George discussed in the Draft Environmental Impact Statement and Final Environmental Impact Statement. The review included: the purpose and need that this project would serve; the alternative means of achieving the purpose and need; the environmental impacts of these alternatives; and the mitigation to preserve and enhance the human, cultural, and natural environment, and the costs and benefits of achieving these purposes and needs in terms of the Federal Actions being approved in this Record of Decision. I have also considered comments received by the Federal Aviation Administration on the social, environmental, and economic impacts of the Proposed Actions.

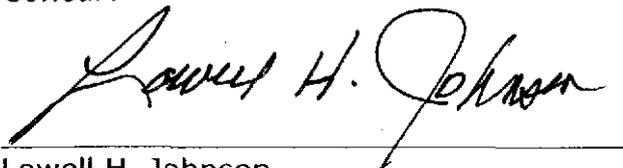
Under the authority delegated to me by the Administrator of the Federal Aviation Administration, I find that the project in this Record of Decision is reasonably supported and should be approved. I therefore direct that action be taken to carry out the following agency actions discussed more fully in **Section 2, Proposed Agency Actions and Approvals**, of this Record of Decision including:

1. Approval of the Airport Layout Plans to depict the proposed replacement airport improvements and various other airfield development components pursuant to 49 U.S.C. §§ 40103(b) and 47107(a)(16). The Airport Layout Plan, depicting the proposed improvements, has been reviewed by the Federal Aviation Administration to determine conformance with Federal Aviation Administration design criteria and implications for Federal grant agreements (refer to Title 14, CFR Part 77).
2. Determination and actions, through the aeronautical study process, of the effects of the proposed projects upon the safe and efficient utilization of navigable airspace pursuant to 14 CFR Part 77.

3. Approval of the construction, relocation, and/or upgrade of various navigational aids.
4. Development and approval of air traffic control and airspace management procedures to effect the safe and efficient movement of air traffic to and from the proposed new runway, including the development of a system for the routing of arriving and departing traffic and the design, establishment, and publication of standardized flight operating procedures, including instrument approach procedures and standard instrument departure procedures.
5. Eligibility for Federal grant-in-aid funds and/or to impose and use passenger facility charges for the proposed replacement airport and aviation-related development.
6. Approval of the appropriate amendments to the St. George Airport Certification Manual, pursuant to 14 CFR Part 139.
7. Approval of the access road from the Southern Corridor highway as depicted on the Airport Layout Plan.

Finally, based upon the administrative record of this project, I certify, as prescribed by 49 U.S.C. § 44502 (b), that implementation of the proposed project is reasonably necessary for use in air commerce or in the interest of national defense.

Concur:



Lowell H. Johnson  
Manager Airports Division  
Northwest Mountain Region

8/21/06

Date

Approved:



Douglas R. Murphy  
Regional Administrator  
Northwest Mountain Region

8-21-06

Date

**RIGHT OF APPEAL**

This decision constitutes the Federal approval for the actions identified above and any subsequent actions approving a grant of Federal funds to the City of St. George. Today's action is taken pursuant to 49 U.S.C. Subtitle VII, Parts A and B, and constitutes a Final Order of the Administrator, subject to review by the Courts of Appeals of the United States, in accordance with the provisions of 49 U.S.C. § 46110.