APPENDIX C
AIR TOUR OPERATOR SURVEY REPORT

C.1 PURPOSE OF THE AIR TOUR OPERATOR SURVEY

The Environmental Impact Statement (EIS) for the proposed replacement St. George Municipal Airport is being developed to consider the potential environmental impacts to the environs surrounding the proposed replacement airport site, as well as considering the potential environmental impacts to national parks proximate to the proposed replacement airport. Part of the analysis of potential impacts associated with the development of the proposed replacement airport is an assessment of air tour operations within national park units located near the proposed replacement airport site.

The following items are attached to this Appendix:

LIST OF ATTACHMENTS

Attachment	Items
Attachment C-1: **Purpose of the Air Tour Survey**	Survey questionnaire forms sent to Air Tour Operators and sample pre-coordination letter from the FAA to the Air Tour Operators
Attachment C-2: **Air Tour Survey Scope Proximate National Park Units**	Completed Air Tour Operator survey questionnaires and notes from Air Tour Operator interviews

C.2 AIR TOUR OPERATOR SURVEY SCOPE – PROXIMATE NATIONAL PARK UNITS

Air tour operators (ATOs) were identified from Federal Aviation Administration (FAA) Flight Standards District Office (FSDO) listings provided by the FAA Northwest Mountain Region (ANM) Airports Division (ANM-600). The park of primary interest to the proposed replacement airport is Zion National Park (Zion), as it is the nearest national park unit, located approximately 26 miles northeast of the proposed replacement airport site. Furthermore, analysis of the cumulative effects of aircraft noise in Zion, with and without the proposed replacement airport at St. George, was specifically required in the court decision that led to the FAA's decision to undertake this EIS.

Information about air tour operations was also gathered for Cedar Breaks National Monument, which is located in the initial area of investigation for this EIS - an area extending approximately 40 miles north, south, east, and west of St. George; approximately 45 miles northeast of the proposed replacement airport, and Bryce Canyon National Park, which is located approximately 75 miles northeast of the City of St. George. The Zion tour routes used by several of the operators are tied to air tours of Bryce Canyon. Further, the National Park Service (NPS) Regional Office registered its concerns about general aviation and air tour activity over both Bryce

Canyon and Zion National Park in its scoping letter submitted to the FAA (See **Appendix K, *Notice of Intent to Prepare an EIS and Scoping Comments***). It was therefore considered prudent to collect air tour information for Bryce Canyon in addition to the national park units within the initial area of investigation.

The majority of air tour operations that affect any of these NPS sites are associated with Grand Canyon National Park and are already highly regulated by statute (i.e., Grand Canyon National Park Special Federal Aviation Regulation (SFAR) 50-2). None of these areas are served by air tours originating from St. George. In fact, no certified ATOs are based in St. George. Further, with the exception of flights over Lake Mead that originate from, or head to the Las Vegas area, air traffic to and from St. George are typically at or near cruising altitudes when overflying these areas, and therefore, produce little noise on the ground. Finally, a special noise screening analysis was undertaken to determine the potential for substantial changes in aircraft noise levels with the proposed replacement airport south and east of the initial area of investigation, the results of which revealed negligible changes at the edges of the initial area of investigation.

C.3 AIR TOUR OPERATIONS IN NATIONAL PARKS – REGULATORY BACKGROUND

The National Parks Air Tour Management Act of 2000 (the Act), enacted on April 5, 2000 as Public Law 106-181, instituted formal regulation of air tours over national parks. By definition, the Act applies to commercial air tour operations occurring over units of the national park system or tribal lands within or abutting a national park. A commercial air tour operation is defined in the Act as any flight conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over a national park, within one half-mile outside the boundary of any national park, or over tribal lands, during which the aircraft flies:

(i) Below 5,000 feet above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft), or

(ii) Less than one mile laterally from any geographic feature within the park (unless more than one-half mile outside the boundary).

Subsequent to the Act, air tours over national parks, national monuments, and national recreation areas have been conducted in coordination with FAA FSDO and associated FSDO Principal Operations Inspectors throughout the country. The FAA's Western Pacific Regional office keeps documented information relative to the numbers of flights authorized to these national park sites. Certificates were issued by the controlling regional FAA FSDO facilities for specific carriers to conduct set numbers of operations to the various NPS sites at which these operators had previously operated air tours (i.e., identified as existing ATOs). These specified operations numbers for each ATO for specific national park sites are the basis for an interim operating authority until Air Tour Management Plans (ATMP) are developed for each national park, monument, or recreation area.

C.4 AIR TOUR MANAGEMENT ACT OF 2000 – DEFINITION OF INTERIM OPERATING AUTHORITY

All ATOs are operating under an "interim operating authority" until ATMPs are developed for each affected NPS site. Interim operating authority is defined in the Act as follows:

"Interim operating authority granted under this subsection --

(A) Shall provide annual authorization only for the greater of:

(I) The number of flights used by the operator to provide the commercial air tour operations within the 12-month period prior to the date of the enactment of this section; or

(II) The average number of flights per 12-month period used by the operator to provide such operations within the 36-month period prior to such date of enactment, and, for seasonal operations, the number of flights so used during the season or seasons covered by that 12-month period;

(B) May not provide for an increase in the number of commercial air tour operations conducted during any time period by the commercial air tour operator above the number that the air tour operator was originally granted unless such an increase is agreed to by the Administrator and the Director;

(C) Shall be published in the Federal Register to provide notice and opportunity for comment;

(D) May be revoked by the Administrator for cause;

(E) Shall terminate 180 days after the date on which an air tour management plan is established for the park or tribal lands;

(F) Shall promote protection of national park resources, visitor experiences, and tribal lands;

(G) Shall promote safe commercial air tour operations;

(H) Shall promote the adoption of quiet technology, as appropriate; and

(I) Shall allow for modifications of the interim operating authority based on experience if the modification improves protection of the national park resources and values and of tribal lands."[1]

As listed in **Table C.1**, twenty ATO companies were identified through a search of the Interim Operating Authority Data (provided by the FAA) for ATOs certificated for operations at any of the three national park units of interest in this study (i.e., Zion National Park, Bryce Canyon National Park, and Cedar Breaks National Monument).

[1] Public Law 106-181, Subsection 803 (c) Interim Operating Authority (2) Requirements and limitations.

Table C.1
AIR TOUR OPERATORS CERTIFICATED FOR OPERATIONS OVER ZION NATIONAL PARK, BRYCE CANYON NATIONAL PARK, OR CEDAR BREAKS NATIONAL MONUMENT

#	Addressee	Company	FSDO	Address	City	State	Zip Code
1	Dan Lawler	Air Grand Canyon	Las Vegas	6000 Janine Drive	Prescott	AZ	86301
2	James Cruson	Air Vegas Airlines	Las Vegas	2642 Airport Drive, Suite 101	N. Las Vegas	NV	89032
3	Ron Williams	AirStar Helicopters	Las Vegas	P.O. Box 3379	Grand Canyon	AZ	86023
4	Larry Wright	American Aviation	Salt Lake City	337 North 2370 West	Salt Lake City	UT	84116
5	Paul Cox	Bryce Canyon Airlines & Helicopters[1]	Salt Lake City	P.O. Box 640004	Bryce	UT	84764
6	John Blau	Contango Air[2]	Las Vegas	2601 S. Pavilion Center Drive, # 1235	Las Vegas	NV	89135
7	Paul Branch	Grand Canyon Airlines	Las Vegas	P.O. Box 3038	Grand Canyon	AZ	86023
8	Nigel Turner	Heli USA Airways	Las Vegas	275 E. Tropicana Avenue, Suite 200	Las Vegas	NV	89109
9	David King	King Airelines	Las Vegas	1400 Executive Airport Drive, Suite K	Henderson	NV	89052
10	Art Gallenson	Lake Mead Air[2]	Las Vegas	P.O. Box 60035	Boulder City	NV	89006-0035
11	Gerald Shlesinger	Las Vegas Helicopters	Las Vegas	3712 Las Vegas Blvd S.	Las Vegas	NV	89109
12	Stephen Winters	M & S Aero	Salt Lake City	P.O. Box 191	Tropic	UT	84776
13	Greggory Rochna	Maverick Helicopters	Las Vegas	6075 Las Vegas Blvd S.	Las Vegas	NV	89119
14	Jean-Marc Eloy	Makarion Air[3]	Scottsdale	6801 N. Glen Harbor Blvd., Suite 200	Glendale	AZ	85307
15	James Carrick	Papillon Airways	Las Vegas	245 E. Tropicana, Suite 121	Las Vegas	NV	89109
16	Sidney Hurst	Scenic Airlines	Las Vegas	2705 Airport Drive	N. Las Vegas	NV	89032
17	Eric Brunner	Solid Edge Aviation	Scottsdale	1225 Airport Road	Sedona	AZ	86336
18	Bruce Adams	Southwest Safaris	Albuquerque	P.O. Box 945	Santa Fe	NM	87504
19	John Sullivan	Sundance Helicopters	Las Vegas	5596 Haven St	Las Vegas	NV	89119
20	Robert Logan	Windrock Aviation	Las Vegas	6000 Janine Drive	Prescott	AZ	86301

[1] Formerly Aero-copter of Arizona.
[2] Lake Mead Air and Contango Air are out of business at this time.
[3] Formerly The Global Group.

Source: Northrop Grumman Information Technologies, 2004.

C.5 AIR TOUR OPERATOR DATA COLLECTION

C.5.1 DATA COLLECTION FORM (SURVEY DEVELOPMENT)

The data collection forms for the ATO surveys were initially developed and coordinated with the consultant's environmental analysis team and then coordinated with the FAA's Northwest Mountain (ANM) Region Airports Division. Once ANM comments were incorporated into the list of questions for the ATO survey, the questions were coordinated with the NPS point of contact at Zion National Park to solicit input on the questions to be proffered. These comments were incorporated into a final list of questions, and a set of three surveys was developed to assess ATO activities in relation to the proposed replacement airport at St. George, Utah. The three surveys are presented in **Attachment C-1** of this appendix.

C.5.2 DATA COLLECTION APPROACH

The current environment for the ATOs as National Airspace System stakeholders is one of increasing constraints and regulations, which are viewed by many ATOs as threatening their long-term growth and sustainability. Pursuant to the Act, ATOs are presently operating under an interim operating authority until ATMPs are developed for each national park. Many operators view the future as very uncertain. The cumulative effect of these issues has made many ATOs cautious about offering information about their operations to any but bona fide government regulatory authorities.

Being aware of these challenges, the team evaluated a number of approaches for coordinating the surveys with the ATOs in a manner that would elicit candid and open information related to the proposed replacement airport at St. George. The approach ultimately adopted was for the FAA ANM Airports Division Office to send letters to each ATO of interest along with a copy of the survey, asking the operator to review the survey in advance of a telephone call from a member of the EIS contractor support team to set up an interview date/time to complete the survey.

This approach was thought to provide the environmental contractor with the necessary government (i.e., FAA) backing and support necessary to elicit greater survey/interview participation than would have been realized through a cold call approach. A generic version of the ANM Airports Division letter mailed with each survey is provided in **Attachment C-1** of this appendix. The FAA ANM Airports Division office sent the letters and surveys during the first week of April 2004.

C.5.3 AIR TOUR OPERATOR INTERVIEW SCHEDULING

Frequent calls were made to ATOs during the second and third weeks of April 2004 in an effort to schedule in-person or telephone interviews to complete the surveys. The geographic location of each ATO was also taken into consideration when attempting to schedule interviews so that the maximum number of ATOs could be interviewed when visiting one general area.

Initially, it was envisioned that two teams of two persons would interview the majority of ATOs over a one-week period. However, as contacting the ATOs to schedule interviews became problematic, it was determined that only one team of two persons was needed to complete the interviews, due to the low number of ATO interviews that were successfully scheduled. Interviews with eight of the twenty ATOs of interest were successfully completed during the last week of April 2004. The majority of the remaining ATOs were subsequently interviewed by telephone in the following weeks.

C.5.4 AIR TOUR OPERATOR INTERVIEW - DATA COLLECTION SUMMARY

Table C.2 lists the original 20 ATOs of interest and identifies the data collection status of each company. A synopsis of the information included in **Table C.2** is presented in the following sections.

C.5.4.1 Air Tour Operators - Information Collected via In-Person Interview

The following seven ATOs provided varying levels of information on their air tour operations during an in-person interview.

- Air Vegas Airlines, Las Vegas, NV
- AirStar Helicopters, Las Vegas, NV
- M&S Aero, Tropic, UT
- Maverick Helicopters, Las Vegas, NV
- Papillon Airways, Las Vegas, NV
- Scenic Airlines, Las Vegas, NV
- Sundance Helicopters, Las Vegas, NV

Four of these operators provided detailed information, completed the survey in a timely manner, and were very helpful in accessing and providing background material related to their operations. Three of these operators provided some limited data in the interviews, but did not complete the survey despite telephone calls made in an attempt to gather the information.

Table C.2
AIR TOUR OPERATOR DATA COLLECTION STATUS

				Interim Operating Authority -- Allowable Operations per Year		
#	Company	City, State	Data Collection Status	Zion NP	Bryce Canyon NP	Cedar Breaks NM
1	Air Grand Canyon	Prescott, AZ	Limited Data Extrapolated[4]	25	15	9
2	Air Vegas Airlines	N. Las Vegas, NV	Detailed Data[3]	123	123	123
3	AirStar Helicopters	Grand Canyon, AZ	Limited Data Extrapolated[3]	6	6	6
4	American Aviation	Salt Lake City, UT	Limited –Data Extrapolated[4]	29	138	27
5	Bryce Canyon Airlines & Helicopters	Bryce, UT	Extrapolated Data[2]	10	1,166	0
6	Contango Air	Las Vegas, NV	Not applicable	Now out of business		
7	Grand Canyon Airlines	Grand Canyon, AZ	Limited –Data Extrapolated[4]	3	211	0
8	Heli USA Airways	Las Vegas, NV	Extrapolated Data[2]	6	6	0
9	King Airlines	Henderson, NV	Extrapolated Data[2]	12	9	0
10	Lake Mead Air	Boulder City, NV	Not applicable	Now out of business		
11	Las Vegas Helicopters	Las Vegas, NV	Extrapolated Data[1]	12	12	0
12	M & S Aero	Tropic, UT	Detailed Data[3]	326	326	0
13	Maverick Helicopters	Las Vegas, NV	Limited –Data Extrapolated[3]	15	15	15
14	Makarion Air	Glendale, AZ	Limited Data Extrapolated[4]	40	40	0
15	Papillon Airways	Las Vegas, NV	Limited Data Extrapolated[3]	12	12	0
16	Scenic Airlines	N. Las Vegas, NV	Detailed Data[3]	547	1,094	0
17	Solid Edge Aviation	Sedona, AZ	No Data[1]	1	1	0
18	Southwest Safaris	Santa Fe, NM	No Data[1]	15	23	15
19	Sundance Helicopters	Las Vegas, NV	Detailed Data[3]	12	12	24
20	Windrock Aviation	Prescott, AZ	Limited Data Extrapolated[4]	3	1	1
			TOTAL	**1,197**	**3,210**	**220**

[1] Declined participation in the survey/interview process.
[2] Repeated attempts to contact ATO to complete survey or schedule an interview were unsuccessful.
[3] Interview completed in-person.
[4] Interview completed via telephone or FAX.

Source: Northrop Grumman Information Technologies, 2004.

C.5.4.2 Air Tour Operators - Limited Information Collected via Telephone Interview and/or FAX

The following five ATOs provided limited data during brief telephone interviews or faxed data relative to the survey.

- Air Grand Canyon, Prescott, AZ
- American Aviation, Salt Lake City, UT
- Grand Canyon Airlines, Las Vegas, NV
- Makarion Air (formerly The Global Group), Glendale, AZ
- Windrock Aviation, Prescott, AZ

One of these operators (Makarion Air) is certificated for 40 yearly operations into Zion National Park. American Aviation is certificated for 29 and Grand Canyon Airlines for three yearly operations into Zion National Park. Air Grand Canyon and Windrock Aviation are managed by the same parent company, and are exclusively performing Grand Canyon National Park air tours with an occasional specialty tour to Monument Valley. These two ATOs operate from Prescott, Arizona (southeast of the proposed replacement airport site at St. George) and do not currently conduct air tours over Zion National Park, Bryce Canyon National Park, or Cedar Breaks National Monument, although they do hold operating certificates for tours of those places.

C.5.4.3 Air Tour Operators - Consultant Unable to Coordinate with ATO to Schedule Interview or Collect Survey

The following four ATOs were unable to be contacted to either collect the survey information or schedule an in-person or telephone interviews.

- Bryce Canyon Airlines and Helicopters (formerly Aero-Copter of Arizona), Bryce, UT
- Contango Air, Las Vegas, NV (no longer in business)
- Heli USA, Las Vegas, NV
- King Airelines, Henderson, NV

These operators were contacted numerous times over an extended period. Bryce Canyon Airlines is certificated for 10 operations in Zion and 1,166 in Bryce Canyon. Heli USA is certificated for six operations in both Zion and Bryce Canyon. King Airelines is certificated for 12 operations in Zion and nine in Bryce Canyon. Contango Air was found to be out of business. Operations profiles were reasonably estimated for these operators from data provided by other air tour operators based in or near the same areas.

C.5.4.4 Air Tour Operators - Declined Participation in Survey/Interview Process

The following four ATOs declined to participate in the survey/interview process.

- Lake Mead Air, Boulder City, NV (no longer in business)
- Las Vegas Helicopters, Las Vegas, NV
- Solid Edge Aviation, Sedona, AZ
- Southwest Safaris, Santa Fe, NM

One of these operators, Lake Mead Air, was found to be no longer in business. Of these operators, one was certificated for 25 yearly operations into Zion National Park and four were certificated for 12 or fewer yearly operations into Zion National Park. Las Vegas Air was certificated for 12 operations each in Zion and Bryce Canyon. Since it is based in Las Vegas, Nevada, its operation profile was reasonably estimated based on data collected from other air tour operators in the same area. Solid Edge Aviation, based in Sedona, AZ, is certificated for only one operation each in Zion and Bryce Canyon. Southwest Safaris is certificated for 15 operations in Zion and Cedar Breaks and 23 in Bryce Canyon. These two non-responsive operators account for only one percent of all certificated operations at Zion and Bryce Canyon and seven percent at Cedar Breaks. These proportions are low enough to have negligible effects on the cumulative aircraft noise analysis. Thus, the absence of information for these operators was not considered critical to the study.

Of the twenty operators identified in **Table C.2**, 12 participated in the survey, two are out of business, and six declined to participate in the survey/interview process or were unable to be contacted. Data for the six non-reporting ATOs was extrapolated from flight routing data for similar air tour operations.

In total, the 18 ATOs of interest accounted for 1,197 yearly certificated allowable flight operations at Zion National Park, 3,210 yearly certificated allowable operations at Bryce Canyon National Park, and 220 yearly certificated allowable operations at Cedar Breaks National Monument, as shown in **Table C.2**.

C.6 AIR TOUR OPERATORS – RELEVANCE OF PROPOSED REPLACEMENT AIRPORT AT ST. GEORGE, UTAH

All of the ATOs interviewed indicated that the proposed development of a replacement airport at St. George would not effectively change their present air tour operations, the airport where they would base their aircraft, or their planned air tour operations for the future.

The majority of Las Vegas ATOs focus on the Grand Canyon National Park and scenery proximate to Las Vegas. For a number of Las Vegas fixed-wing operators, Zion National Park is part of a larger tour package that typically includes Bryce Canyon National Park and Grand Canyon National Park. One operator, M&S Aero, out of Tropic, UT, bases his aircraft at Bryce Canyon Airport and has a significant

number of Zion National Park flight allocations. However, this operator indicated that he rarely flies his Zion National Park allocated flights and when he does, he does not actually over-fly the park.

Fixed-wing ATOs operating from the Las Vegas area typically have the fuel necessary to operate past St. George proceeding to Zion National Park, Bryce Canyon Airport/Bryce Canyon National Park, and other standard tour destinations. Some of the rotor-wing operators use St. George as a refueling safety stop, especially in the summer due to limits on fuel load given density altitude considerations when operating in the high desert. This involves a relatively low number of operations, which are not expected to grow. This is because of the relatively high operating costs of conducting helicopter air tours of Zion National Park and Bryce Canyon National Park from the primary marketing location in Las Vegas, Nevada. These flights cost significantly more than flights to other popular destinations closer to Las Vegas, such as Grand Canyon National Park, for example. Another reason is the existing limitation on interim operating authority under which ATOs must operate, as discussed previously. These interim operating authority certificates are only valid until ATMPs are developed for each national park unit. Finally, no ATO reasonably expects that the ATMPs, when developed, would be more liberal than the interim operating authorities in granting access to national parks.

While the ATOs interviewed seem supportive of the development of the proposed replacement airport at St. George, many agree that this new facility would not effectively change their current or near-term future business plans. This is not to say that long-term sustained population and associated economic growth in the St. George area would not at some point in the future, be capable of sustaining a viable level of air tour operations from the proposed replacement airport. Given the range in size and capability of companies performing air tours, some entity might respond to a viable market demand for air tour operations out of a replacement St. George Airport. However, it is more likely that the Las Vegas area would remain the primary source of regional air tour travel demand in the future, and would, therefore, likely remain the major base of operations for most air tour companies serving the area.

C.7 AIR TOUR OPERATOR – OPERATIONAL DATA

Table C.3 through Table C.17 detail the available data on air tour operations over Zion National Park, Bryce Canyon National Park, and Cedar Breaks National Monument as collected through ATO survey process. Actual survey data and interview notes are included in **Attachment C-2** of this appendix.

Table C.3
AIR GRAND CANYON AND WINDROCK AVIATION

Point of Contact: Dan Lawler

Certificated FSDO Operations Limits		Aircraft Type(s)	2004 Baseline Yearly Flights	Route of Flight	Altitude(s)	Assumptions
Zion	**28**	Cessna T207 & 182	0	NA	1,000 - 1,500 AGL	
		Bell 206 Jet Ranger Helicopter	0		500' - 1,000' AGL (GCNP exception)	
Bryce	**16**	DHC-8	0		1,000 - 1,500 AGL	
Cedar Breaks	**10**		0			Assuming no Cedar Breaks tours would be operated.

Notes: 2010 projection assumes that 50% of Bryce Canyon allocation will be used for joint Bryce-Zion tours. 2020 projection assumes that 100% of Bryce Canyon allocation will be used for joint Bryce-Zion tours. Since Zion tends to be less popular than Bryce as air tour destination, it is assumed that the remaining Zion allocation will not be used for Zion-only tours.	**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
	Cessna T207 & 182 DHC-8	Zion-Bryce **4** Zion-Bryce **4**	See **Exhibit C.1**. Prescott, AZ (PRC) at altitude (~11,000 MSL) towards Grand Canyon Airport (GCN), cross Canyon via Dragon Corridor-SFAR -- past Kanab to Zion, then northeast to Bryce Canyon Airport (BCE). Route south of BCE past Bryce Canyon NP similar to M&S Aero. Then return, then heading back to PRC retracing outbound flight path.	1,000 - 1,500 AGL	Assuming half of the certificated air tour operations limit for Bryce would be flown in 2010 in a Zion/Bryce dual tour. Operator did not explicitly state that these allocations would be used in the future. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future.
	Bell 206 Jet Ranger Helicopter	0		500' - 1,000' AGL (GCNP exception)	Assuming no helicopter operations due to distance/cost
	Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
	Cessna T207 & 182 DHC-8	Zion-Bryce **8** Zion-Bryce **8**	Same as 2010. See **Exhibit C.1**.	1,000 - 1,500 AGL	Assuming 100% of certificated air tour operations for Bryce would be flown in 2020 in a Zion/Bryce dual tour.
	Bell 206 Jet Ranger Helicopter	0		500' - 1,000' AGL (GCNP exception)	Assuming no helicopter operations due to distance/cost

Comments: Mr. Lawler indicated in a brief telephone conversation that Air Grand Canyon and Windrock Aviation are presently flying only Grand Canyon air tours. Consultant has made the assumption that Air Grand Canyon/Windrock will operate Zion/Bryce tours from Prescott in the future. Routing is based on consultant assumptions relative to other air tour operator routes.

Table C.4
AIR VEGAS AIRLINES

Point of Contact: James E. Cruson						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**123**	Beechcraft C-99 (King Air)	Zion-Bryce **24**	See **Exhibit C.2**.	Altitudes are generally around 9,500 MSL	
Bryce	**123**					
Cedar Breaks	**123**	0	NA			
Notes: Seasonal variation is 26% Summer, 34% Fall, 19% Winter, and 21% Spring.		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Beechcraft C-99 (King Air)	Zion-Bryce **60**	See **Exhibit C.2**.	Same as 2004.	No explicit indication from Air Vegas Airlines that these additional flights would be operated in the future. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Beechcraft C-99 (King Air)	Zion-Bryce **123**	See **Exhibit C.2**.	Same as 2004.	Same as 2010, but assumed increased tour demand through 2020.

Comments: There was no indication from Mr. Cruson that Air Vegas Airlines saw existing or future viability in conducting air tour operations to Cedar Breaks National Monument.

Table C.5
AIRSTAR HELICOPTERS

Point of Contact: Ron Williams						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**6**	AS-350 (B2) Helicopter	0	NA	NA	
Bryce	**6**		0	NA	NA	
Cedar Breaks	**6**		0	NA	NA	
Notes:		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 (B2) Helicopter	Zion **3** Bryce **3**	From Grand Canyon Airport (GCN) via Dragon Corridor - SFAR- to Kanab to Zion, Bryce & return. Routing within Zion/Bryce is estimated by Consultant based on responses from other operators. See **Exhibit C.1**.	500-1,000 AGL	Operator did not explicitly state that these allocations would be used in the future. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future. Assuming no Cedar Breaks flights based on discussions with operators indicating little demand for this tour.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 (B2) Helicopter	Zion **6** Bryce **6**	Same as 2010. See **Exhibit C.1**.	500-1,000 AGL	Same as 2010, but assumed increased growth in Bryce/Zion tour demand through 2020.

Comments: Mr. Williams is not presently operating Zion, Bryce or Cedar Breaks Tours. Three packaged Grand Canyon Tours (within the guidelines set forth in SFAR 50-2) presently account for the majority of AirStar Operations.

Table C.6
AMERICAN AVIATION

Point of Contact: Larry Wright						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**29**		**0**			
Bryce	**138**	Cessna 172 (1) Cessna 206 (1) Cessna 207 (2)	Bryce **10** Bryce **10** Bryce **10**	**Bryce** - Page AZ Airport (PGA) to Rainbow Bridge to Bryce Canyon NP then Bryce Airport (BCE) and back to PGA. See **Exhibit C.3**.	1,000 AGL	Presently no Zion flights being conducted.
Cedar Breaks	**27**		0			
Notes: Seasonal business from April through October.		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 172 (1) Cessna 206 (1) Cessna 207 (2)	Bryce **30** Zion **0** Bryce **30** Zion **9** Bryce **30** Zion **9**	**Bryce / Zion** - Page AZ Airport (PGA) to Rainbow Bridge to Bryce Canyon NP then Bryce Airport (BCE). For Zion Extension Tour - BCE to Zion and then back to PGA. See **Exhibit C.3**.	1,000 AGL	Assuming these future flights would use same routing as M&S Aero. Assuming increased demand for Bryce and Zion tours in the future. Operator did not explicitly state that these allocations would be used in the future. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion and Bryce air tours.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 172 (1) Cessna 206 (1) Cessna 207 (2)	Bryce **46** Zion **9** Bryce **46** Zion **10** Bryce **46** Zion **10**	Same as 2010. See **Exhibit C.3**.	1,000 AGL	Same as 2010 but assumed increased growth through 2020.

Comments: Mr. Wright agreed to short telephone interview. Operates a few flights per year to Bryce primarily from Page AZ (occasionally from SLC). He is not presently flying to Zion. General assumptions for near term (2010) and out year (2020) have been made relative to this ATO. Assuming aircraft departing from Page, AZ. Routing based on consultant assumptions for other air tour operators.

Table C.7
BRYCE CANYON AIRLINES & HELICOPTERS

Point of Contact: Paul Cox						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**10**	Bell 206 Jet Ranger Helicopter	Zion-Bryce **5**	Combined Zion/Bryce helicopter tours conducted from Ruby's Inn Airport. See **Exhibit C.4**.	300'-500' AGL	Data based on extrapolation of other air tour operators providing similar service from Las Vegas area to Zion and Bryce.
Bryce	**1166**	Bell 206 Jet Ranger Helicopter	Bryce **300**	Bryce helicopter tours conducted from Ruby's Inn Airport. See **Exhibit C.4**.	300'-500' AGL	Same as above.
		Cessna 206	Bryce **65**	Bryce fixed–wing operations conducted from Bryce Canyon Airport (BCE). See **Exhibit C.4**.	1,000' – 1,500 AGL	Same as above.
Cedar Breaks	**0**		NA			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Bell 206 Jet Ranger Helicopter	Zion-Bryce **10**	Same as 2004. See **Exhibit C.4**.	300'-500' AGL	Assumed demand for Zion tours would increase to allow use of full allocation.
		Bell 206 Jet Ranger Helicopter	Bryce **600**	Same as 2004. See **Exhibit C.4**.	300'-500' AGL	Assumed doubling in demand for Bryce tours from 2004 based on consultant supposition that tour allocations would be valued.
		Cessna 206	Bryce **130**	Same as 2004. See **Exhibit C.4**.	1,000' – 1,500 AGL	Same as above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Bell 206 Jet Ranger Helicopter	Zion-Bryce **10**	Same as 2004. See **Exhibit C.4**.	300'-500' AGL	Same as 2010.
		Bell 206 Jet Ranger Helicopter	Bryce **900**	Same as 2004. See **Exhibit C.4**.	300'-500' AGL	Assumed 50% increase based on consultant supposition that tour allocations would be valued.
		Cessna 206	Bryce **195**	Same as 2004. See **Exhibit C.4**.	1,000' – 1,500 AGL	Same as above.

Comments: Mr. Cox was not available to participate in survey or interview. Assumptions for current and future operations (2010 and 2020) were made for this ATO. Assuming fixed-wing aircraft departing from Bryce Canyon Airport (BCE) and rotor wing aircraft depart from Ruby's Inn Resort for Zion/Bryce and Bryce-only tours. Routing based on consultant assumptions relative to other air tour operator routes.

Table C.8
GRAND CANYON AIRLINES

Point of Contact: Mr. Craig Sanderson						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**3**	DHC-6 Twin Otter	0	NA		
Bryce	**211**		0			
Cedar Breaks	**0**		NA			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		DHC-6 Twin Otter	Zion **3**	From Grand Canyon Airport (GCN) across Canyon via Dragon Corridor -SFAR- to Kanab, to Zion, to Bryce Airport (BCE). View Bryce Canyon NP; return to GCN on same route as outbound trip. See **Exhibit C.1**.	1,000 - 1,500 AGL	Operator did not explicitly state that these allocations would be used in the future. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future.
		DHC-6 Twin Otter	Bryce **50**	From GCN across Canyon via Dragon Corridor –SFAR- to south edge of Bryce Canyon NP, to BCE and return via same route. See **Exhibit C.1**.	1,000 – 1,500 AGL	Bryce tour route like M&S Aero. Also see assumption for Zion above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		DHC-6 Twin Otter	Zion **3**	Same as 2010.	1,000 - 1,500 AGL	Same as 2010.
		DHC-6 Twin Otter	Bryce **211**	Same as 2010.	1,000 - 1,500 AGL	Consultant assumed continued growth in demand for Bryce tours using full allocation by 2020.

Comments: Mr. Sanderson indicated over brief telephone conversation that Grand Canyon Airlines was not presently operating air tours to either Zion or Bryce.

Table C.9
HELI USA AIRLINES

Point of Contact: Nigel Turner						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**6**	AS-350 Helicopter	Zion-Bryce **6**	Bryce & Zion operations conducted as one air tour from Las Vegas. Stops at Bryce Canyon Airport (BCE) and St. George (SGU) for fuel. See **Exhibit C.5**.	300'-500' AGL	Data based on extrapolation of other air tour operators providing similar service from Las Vegas to Zion and Bryce.
Bryce	**6**					
Cedar Breaks	**0**		NA			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 Helicopter	Zion-Bryce **6**	Same as 2004. See **Exhibit C.5**.	300'-500' AGL	Same as 2004.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 Helicopter	Zion-Bryce **6**	Same as 2004. See **Exhibit C.5**.	300'-500' AGL	Same as 2004.

Comments: Mr. Turner was not available to participate in either the survey or interview. General assumptions with regard to current and forecast operations were made for this ATO assuming that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future. Assuming aircraft departing from Las Vegas McCarran Airport (LAS). Routing based on consultant assumptions for other air tour operators out of Las Vegas area.

Table C.10
KING AIRELINES

Point of Contact: David King						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**12**	Cessna 206	Zion-Bryce **4**	Bryce & Zion operations conducted as one air tour from Las Vegas, Henderson Field (HND). See **Exhibit C.6**.	1,000' - 1,500' AGL	Data based on extrapolation of other air tour operators providing similar service from Las Vegas to Zion and Bryce.
		Cessna 207	Zion-Bryce **4**	Same as above.	Same as above.	Same as above.
		Cessna 402	Zion-Bryce **1**	Same as above.	Same as above.	Same as above.
Bryce	**9**					
Cedar Breaks	**0**		NA			
Notes: 2004, 2010 & 2020 operation projections assume full use of Bryce allocation for joint Bryce-Zion tours. Zion-only tours are not expected to be undertaken for the three residual Zion tour allocations.		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 206	Zion-Bryce **4**	Same as 2004. See **Exhibit C.6**.	1,000' - 1,500' AGL	Same as 2004.
		Cessna 207	Zion-Bryce **4**	Same as above.	Same as above.	Same as above.
		Cessna 402	Zion-Bryce **1**	Same as above.	Same as above.	Same as above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 206	Zion-Bryce **4**	Same as 2004. See **Exhibit C.6**.	1,000' - 1,500' AGL	Same as 2004.
		Cessna 207	Zion-Bryce **4**	Same as above.	Same as above.	Same as above.
		Cessna 402	Zion-Bryce **1**	Same as above.	Same as above.	Same as above.

Comments: Contacted Mr. King at Henderson Field in April, but not able to connect with his point of contact for information. Consultant made general assumptions with regard to present day and forecast operations for this ATO based on information and impressions gained from interviews with other operators. Assuming aircraft departing from Las Vegas Henderson Field (HND). Routing based on consultant assumptions for other air tour operators out of Las Vegas area.

Table C.11
LAS VEGAS HELICOPTERS

Point of Contact: Gerald Shleshinger						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**12**	AS-350 Helicopter	Zion-Bryce **3**	Bryce & Zion operations conducted as one air tour from Las Vegas Strip. See **Exhibit C.6**.	300'-500' AGL	Data based on extrapolation of other air tour operators providing similar service from Las Vegas area to Zion and Bryce.
		Bell 407 Helicopter	Zion-Bryce **3**	Same as above.	Same as above.	Same as above.
Bryce	**12**					
Cedar Breaks	**12**		0			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 Helicopter	Zion-Bryce **6**	Same as 2004. See **Exhibit C.6**.	Same as above.	Same as 2004.
		Bell 407 Helicopter	Zion-Bryce **6**	Same as above.	Same as above.	Same as above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 Helicopter	Zion-Bryce **6**	Same as 2004. See **Exhibit C.6**.	300'-500' AGL	Same as 2004.
		Bell 407 Helicopter	Zion-Bryce **6**	Same as above.	Same as above.	Same as above.

Comments: Mr. Shleshinger declined to participate in survey or interview process. Consultant made general assumptions with regard to current and forecast operations for this ATO based on information and impressions gained from interviews with other operators. Assuming aircraft departing from Las Vegas, NV strip. Consultant assumed that Las Vegas helicopters will operate Zion/Bryce combined tours from Las Vegas strip similar to Sundance Helicopters. Future flights in 2010 and 2020 based on consultant supposition that limited flight allocations will be valued and in demand for Zion and Bryce air tours in the future. Consultant assumed that, as with other air tour operators, Cedar Breaks National Monument air tours would not materialize significant demand.

Table C.12
M&S AERO

Point of Contact: Steven Winters						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**326**	Cessna 182 Skylane	Zion **10**	Zion tours are operated as extension of Bryce route and do not actually fly over Zion, but approach the eastern edge of the park. See **Exhibit C.4**.	Depart Bryce Airport @ 7,600 MSL; 8,500 MSL @ north end of Bryce Canyon to 9,000-9,500 MSL @ south end; 9,000-9,500 for Zion portion of route.	Very little demand presently for Zion tours.
Bryce	**326**	Cessna 182 Skylane	Bryce **300**	See **Exhibit C.4**.	8,500 MSL @ north end of Bryce Canyon to 9,000-9,500 MSL @ south end.	Demand for Bryce tours is starting to pick-up (post 9/11). Tours include many foreign visitors.
Cedar Breaks	**0**		NA			
Notes: No nighttime operations. Seasonal variation is 75% Summer, 15% Fall and 5% Winter/Spring.		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 182 Skylane	Zion **50**	Same as 2004. See **Exhibit C.4**.	Same as 2004.	Operator did not explicitly offer forecasts. Nevertheless, consultant assumed that limited flight allocations for Zion tours will be valued and in demand for in the future. Assumed a five-fold demand increase for Zion tours from 2004.
		Cessna 182 Skylane	Bryce **326**	Same as 2004.	Same as 2004.	Operator did not explicitly offer forecasts. Demand for Bryce tours assumed @ FSDO certification limit.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Cessna 182 Skylane	Zion **100**	Same as 2004. See **Exhibit C.4**.	Same as 2004.	Consultant assumed doubling of demand for Zion tours from 2010 based on supposition that limited flight allocations would be valued.
		Cessna 182 Skylane	Bryce **326**	Same as 2004.	Same as 2004.	Same as 2010.

Comments: Mr. Steven Winters is owner/operator of M&S Aero. Operates one (1) Cessna 182 Skylane.

Table C.13
MAVERICK HELICOPTERS

Point of Contact: Dale Cowley						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**15**	AS-350 B2 Helicopter	Zion/Bryce **2**	Highly variable in Zion - operator could not specify "typical" route. See **Exhibit C.5**	500 – 2,000 AGL	Assume similar routing as other Las Vegas operators - i.e., Sundance. Inside Zion, routing could be varied based on desires of tourists, pilots.
		EC-130 B4 Helicopter	Zion/Bryce **2**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.
		Bell 206 B III Helicopter	Zion/Bryce **1**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.
Bryce	**15**					
Cedar Breaks	**15**		0			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 B2 Helicopter	Zion/Bryce **3**	Same as 2004. See **Exhibit C.5**	500 – 2,000 AGL	Operator did not make explicit statements regarding forecast operations. Nevertheless, consultant assumed that limited flight allocations will be valued and in demand for Zion/Bryce tours in the future.
		EC-130 B4 Helicopter	Zion/Bryce **3**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.
		Bell 206 B III Helicopter	Zion/Bryce **4**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 B2 Helicopter	Zion/Bryce **5**	Same as 2004. See **Exhibit C.5**	500 – 2,000 AGL	Assumed increase to use full allocation of Bryce/Zion tours in 2020.
		EC-130 B4 Helicopter	Zion/Bryce **5**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.
		Bell 206 B III Helicopter	Zion/Bryce **5**	Same as above. See **Exhibit C.5**	500 – 2,000 AGL	Same as above.

Comments: Maverick Helicopters is not presently or in the future planning to fly Cedar Breaks National Monument air tours. Consultant has made the assumption that Maverick Helicopters will operate Zion/Bryce combined tours from Las Vegas similar to what Sundance Helicopters does from a routing perspective.

Table C.14
MAKARION AIR (FORMERLY THE GLOBAL GROUP)

Point of Contact: Mark Heinzman						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**40**	B-1900 Beech King Air	0	NA	NA	
Bryce	**40**		0			
Cedar Breaks	**0**		NA			
Note: Company would like to get into the air tour business at some point in the future; however there are no immediate plans for these of operations in the near future.		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		B-1900	Zion-Bryce **20**	From Glendale, AZ (GEU) @ ~11,000 MSL toward Grand Canyon Airport (GCN) then across Canyon via Dragon Corridor -SFAR- past Kanab to Zion, Bryce & return via outbound flight route. See **Exhibit C.1**.	1,000 - 1,500 AGL	Operator did not explicitly forecast future operations. Nevertheless, consultant assumed half of the limit for certificated air tour operations would be flown in 2010 based on supposition that allocations would be valued.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		B-1900	Zion-Bryce **40**	Same as 2010. See **Exhibit C.1**.	1,000 - 1,500 AGL	Assumed the full limit of certificated air tour operations would be flown in 2020.

Comments: Mr. Heinzman indicated in a brief telephone conversation that Makarion Air is presently operating only an air ambulance service with a single Beech King Air. Future flights in 2010 and 2020 based on consultant supposition that limited flight allocations will be valued and in demand for Zion & Bryce air tours in the future. Mr. Heinzman did not explicitly state he would use these allocations in the out years, but indicated a desire to participate in air tour operations in the future. See Exhibit C.1 for map of Makarion Airways potential flight routes. –Routing based on consultant assumptions for other air tour operator routes.

Table C.15
PAPILLON AIRWAYS

Point of Contact: John Becker						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**12**		0	NA	NA	NA
Bryce	**12**		0			
Cedar Breaks	**0**		NA			
		Aircraft Type(s)	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		Bell 206 Helicopter	Zion-Bryce 3	Bryce & Zion operations conducted as one air tour from Las Vegas. Stops at Bryce Canyon Airport (BCE) and St. George (SGU) for fuel. See **Exhibit C.5.**	300'-500' AGL	Operator did not explicitly forecast future operations. Nevertheless, consultant assumed half of the limit for certificated air tour operations would be flown in 2010 based on supposition that allocations would be valued.
		EC-130 Helicopter	Zion-Bryce 3	Same as above See **Exhibit C.5.**	Same as above	Same as above.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		EC-130 Helicopter	Zion-Bryce 12	Same as 2010. See **Exhibit C.5.**	300'-500' AGL	Assumed Papillon will have converted to all EC-130 aircraft in 2020 and will be using full allocation of tours.

Comments: Papillon is not presently operating Zion or Bryce Tours. Grand Canyon tours (within the guidelines set forth in SFAR 50-2) presently account for the majority of Papillon operations. Assuming that Papillon will operate Zion/Bryce combined tours from Las Vegas similar to what Sundance Helicopters does from a routing perspective.

Table C.16
SCENIC AIRLINES

Point of Contact: Sidney Hurst						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**547**	DHC-6 Twin Otter	Zion-Bryce **441**	Zion tours are a subset of the Bryce and Grand Canyon tours. North Las Vegas to Hoover Dam then to Zion. Landing @ Bryce Canyon Airport (BCE), then south over Bryce Canyon and on to Grand Canyon West Airport. See **Exhibit C.2**.	Altitudes are generally between 9,500 and 10,500 MSL.	Note: Daily or sometimes twice daily (summer; June-August) flight(s) departs @ approximately 06:00 am (spring-fall); 07:00 am (winter). Timing is such that 06:00 am departures would probably not reach Zion boundary until 07:00 am or later.[1]
Bryce	**1094**					
Cedar Breaks	**0**		NA			
Notes: Seasonal variation is 40% Summer (2 daily departures), 20% Fall (1 daily departure), 20% Winter (1 daily departure), and 20% Spring (1 daily departure).		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		DHC-6 Twin Otter	Zion-Bryce 547	Same as 2004. See **Exhibit C.2**.	Same as 2004.	Same as 2004.
		DHC-6 Twin Otter	Additional Bryce flights up to **another 547** could be added.	Assume same route as for combined Zion/Bryce tours, except that aircraft would avoid direct overflights of Zion. See **Exhibit C.2**.	Same as 2004.	No indication from Scenic Airlines that these additional flights would be operated in the future.
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		DHC-6 Twin Otter	Zion-Bryce **547**	Same as 2004. See **Exhibit C.2**.	Same as 2004.	Same as 2004.
		DHC-6Twin Otter	Up to **another 547** Bryce flights could be added.	Same as 2010. See **Exhibit C.2**.	Same as 2004.	No indication from Scenic Airlines that these additional flights would be operated in the future.

Comments: (1) 06:00 am departures travel approximately 140 nm (161 sm) before entering airspace over Zion NP. DHC-6 has a cruise speed of approximately 154 mph, putting aircraft near Zion boundary after 07:00. (Assuming no tail wind that would boost the groundspeed to 161 mph or higher). During the winter, flights do not depart North Las Vegas until 07:00 am. Additional future flights in 2010 and 2020 to Bryce-only were not assumed based on consultant supposition that flight allocations to both Zion and Bryce would be in demand. Mr. Hurst did not explicitly state he would or would not use the additional Bryce-only allocations in the out years.

Table C.17
SUNDANCE HELICOPTERS

Point of Contact: John Sullivan						
Certificated FSDO Operations Limits		**Aircraft Type(s)**	**2004 Baseline Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
Zion	**12**	AS-350 Helicopter	Zion-Cedar Breaks **12**	Zion tours conducted in conjunction w/ Cedar Breaks tours. See **Exhibit C.7**.	300 to 500 AGL	Very little demand presently for Zion/Cedar Breaks tours (time/cost).
Bryce	**12**	AS-350 Helicopter	Bryce **12**	Ref. Sundance (Bryce) Route Map. See **Exhibit C.7**.	300 to 500 AGL	Very little demand presently for Bryce tours (time/cost).
Cedar Breaks	**24**					
Notes: No nighttime operations associated with Zion. Bryce or Cedar Breaks. AS-350 Helicopter (Single Engine -3 blade rotor) EC-130 Eurocopter (Single Engine -3 blade rotor) Note; Aircraft data claims "A noise level 7db below ICAO's Chapter 8 level". Seasonal Distribution; 25% Summer, 30% Fall, 15% Winter & 30% Spring		**Aircraft Type(s)**	**2010 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		AS-350 Helicopter	Zion-Cedar Breaks **8**	Same as 2004. See **Exhibit C.7**.	Same as 2004.	Assumed increased demand for Zion/Cedar Breaks tours to FSDO certification limit (12/year) based on consultant supposition that limited flight allocations would be valued.
		EC-130 Helicopter	Zion-Cedar Breaks **4**			
		AS-350 Helicopter	Bryce **8**	Same as 2004. See **Exhibit C.7**.	Same as 2004.	Same as above.
		EC-130 Helicopter	Bryce **4**			
		Aircraft Type(s)	**2020 Yearly Flights**	**Route of Flight**	**Altitude(s)**	**Assumptions**
		EC-130 Helicopter	Zion-Cedar Breaks **12**	Same as 2004. See **Exhibit C.7**.	Same as 2004.	Same as 2010.
		EC-130 Helicopter	Bryce **12**	Same as 2004. See **Exhibit C.7**.	Same as 2004.	Same as 2010.

Comments Mr. John Sullivan (part owner of company and pilot) was interviewed. Sundance presently operates 14 AS-350 aircraft out of LAS w/ 1 in Los Angeles. The plan is to add 1 aircraft / year over next 5 to 10 years, and start to change fleet from AS-350s to EC-130s in two years. Much of Sundance's activity involves tours of the Grand Canyon and shuttles for Grand Canyon rafting trips.

C.8 AIR TOUR OPERATOR - FLIGHT ROUTES

ATO route information is presented in **Exhibit C.1 through Exhibit C.7**. Information on typical flight routes and altitudes was obtained through the interviews. For those operators declining to participate, route and altitude information was based on other operators based in the same general area and operating similar types of aircraft.

C.8.1 FLIGHT ROUTE FROM LAS VEGAS TO BRYCE CANYON

Scenic Airlines, based in the Las Vegas area, has a greater number of allocated operations for Bryce Canyon National Park (1,094) than for Zion National Park (547). Scenic is currently operating joint Bryce-Zion tours and is not exceeding its total Zion tour allocation, nor is it projected to exceed its Zion allocation in the 2010 and 2020 forecast years. If Scenic should decide to provide Bryce-only tours after reaching its full Zion allocation, they would either have to fly around Zion or climb to at least 5,000 feet above Zion when they fly over on their way to Bryce Canyon. (Zion lies directly along the route from Las Vegas to Bryce Canyon.) This would require an aircraft altitude of approximately 13,000 feet mean sea level (MSL). Scenic currently operates the DHC-6 Twin Otter, a fixed-wing aircraft that could climb to this altitude and overfly Zion. The operator could also choose to fly at a lower altitude, to provide better views of the scenery and avoid Zion, using the potential route shown in **Exhibit C.2**. While this issue is important to understand, it has no implications for the EIS noise modeling because Scenic is not forecast to exceed its Zion tour allocation by 2020; thus Bryce-only tours are not forecast during the planning period.

Sundance Helicopters also operates from the Las Vegas area, providing tours of Bryce, Cedar Breaks, and Zion. Sundance is anticipated to continue providing Zion tours jointly with tours of Cedar Breaks. Separately, it is expected to provide Bryce-only tours. Because it has the same number of certificated trips to Zion and Bryce, Sundance will have to avoid direct overflights of Zion on its way to Bryce. Since it operates only helicopters, Sundance will have to fly around Zion. Helicopters cannot efficiently climb to the altitudes required to overfly Zion without violating the overflight rules for air tour operators. The Zion bypass route is shown on **Exhibit C.7**. Bryce-only tours by Sundance have been projected for all three study years. The Zion bypass route shown in **Exhibit C.7** was used for modeling these operations in the noise analysis.

ATTACHMENT C-1

SURVEY QUESTIONNAIRE FORMS SENT TO AIR TOUR OPERATORS AND SAMPLE PRE-COORDINATION LETTER FROM FAA TO AIR TOUR OPERATORS

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INTRODUCTION

Three slightly different versions of the survey were distributed among the air tour operators (ATOs). All versions had the same questions with respect to national park air tour operations. The variations among the surveys dealt with a range of questions relating to tourism and airport facility usage. The intent was to use the survey process to gain a richer understanding of the regional general aviation and tourism industry without burdening all respondents with all of these ancillary questions.

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SURVEY QUESTIONNAIRE FORM A

St. George Municipal Airport Relocation
Environmental Impact Statement

Survey of Air Tour Operators

The St. George Airport Environmental Team is assisting the Federal Aviation Administration (FAA) in the preparation of an Environmental Impact Statement (EIS) for a replacement airport at St. George, Utah. The EIS includes assessment of the potential for flights from the relocated airport and other airports near or over Zion National Park, as well as other national, state, tribal and local resources in the area. (The study area covers a radius of approximately 40 miles around St. George.)

As part of this study, we are trying to assess air tour operations within the study area on the basis of what routes are used (IFR & VFR portions), with what frequency and with what equipment. This information will assist the environmental analysis team in establishing and forecasting realistic data supporting the St. George Airport Environmental Impact Statement.

We look forward to contacting you to set up an interview in the near future. The attached questionnaire lists the questions we wish to discuss with you and describes the kinds of data we would like to secure.

Thank you for your consideration.

The St. George EIS Consultant Team
Landrum & Brown, Inc.
Northrop Grumman Information Technology

Air Tour Operator Profile **Air Tour Operator Company Name**

_____

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT	No	Yes	SGU
Las Vegas, NV	No	Yes – Airport(s)	_____
Salt Lake City, UT	No	Yes – Airport(s)	_____
Scottsdale, AZ	No	Yes – Airport(s)	_____
Albuquerque, NM	No	Yes – Airport(s)	_____

Other Cities/Airports in the Study Area

_____

G2 In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

		Total Operations	Night Operations (If Applicable) (10:00 PM to 06:59 AM)
A.	St. George	_____	_____
B.	Boulder City	_____	_____
C.	Bryce Canyon	_____	_____
D.	Cedar City	_____	_____
E.	Clear Creek Ranch	_____	_____
F.	Colorado City	_____	_____
G.	Grassy Meadows Sky Ranch	_____	_____
H.	Hurricane	_____	_____
I.	Kanab	_____	_____
J.	Las Vegas Henderson	_____	_____
K.	Las Vegas McCarran	_____	_____
L.	Mesquite	_____	_____
M.	North Las Vegas	_____	_____
N.	Panguitch	_____	_____
O.	Parowan	_____	_____
P.	Cal Black	_____	_____
Q.	Other airports (specify)	_____	_____

G3 What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport
  _____
- Multi-engine Type(s)/Airport
  _____
- Turboprop Type(s)/Airport
  _____
- Jet Type(s)/Airport
  _____
- Helicopter Type(s)/Airport
  _____

Usage Patterns (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport _____ Operations _____

Secondary Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

TOTAL AIR TOUR OPERATIONS: _____

U2. Do you fly an even distribution of flights on a seasonal basis?
_____

If not, provide percentage by season:

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____
Fall (Sep-Nov)_____ Spring (Mar-May)_____

U3. What is your primary means of navigation?

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

U6. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VOR-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).
- Those portions of VFR flight (Reference map to draw the routes as typically flown).
- Altitude above ground for various legs of flight.

U7. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? _____
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Z3. What route(s) do you typically fly for flights near/over Zion?

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

Z 5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

Other National Parks, National Monuments, Wilderness Areas, and Other Points of Interest (NP)

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? _____
If answer is "yes," please list those other places.
(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

NP3. What route(s) do you typically fly for these other places?

NP4. At what altitude(s) do you typically fly for these other places?

NP5. What is the average number of daily (or weekly) flights, by season that you fly over these places?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____
Fall (Sep-Nov)_____ Spring (Mar-May)_____

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

LO2. What destination(s) and route(s) do you typically fly for these operations?

LO3. At what altitude(s) do you typically fly these point-to-point operations?

LO4. Are these operations typically conducted during day or night?

Airport Facility Issues (A)

A1. Plans for the relocated SGU call for a precision instrument approach to Runway 22, although the type of approach system is not yet specified. As a potential airport user, would you prefer a conventional Instrument Landing System or a Differential GPS approach?

A2. Are your aircraft equipped to use a DGPS approach (requiring a LAAS receiver)?

A3. Are you anticipating keeping your company based at your current airport or are you considering relocating in the next few years?

A4. What are the aviation services at your base airport that are most important to you?

Respondent (Name)

_____

Position

_____

Telephone Number

_____

Best Time to Contact
For Additional Information
Or Clarification (Local Time) _____

SURVEY QUESTIONNAIRE FORM B

St. George Municipal Airport Relocation
Environmental Impact Statement

Survey of Air Tour Operators

The St. George Airport Environmental Team is assisting the Federal Aviation Administration (FAA) in the preparation of an Environmental Impact Statement (EIS) for a replacement airport at St. George, Utah. The EIS includes assessment of the potential for flights from the relocated airport and other airports near or over Zion National Park, as well as other national, state, tribal and local resources in the area. (The study area covers a radius of approximately 40 miles around St. George.)

As part of this study, we are trying to assess air tour operations within the study area on the basis of what routes are used (IFR & VFR portions), with what frequency and with what equipment. This information will assist the environmental analysis team in establishing and forecasting realistic data supporting the St. George Airport Environmental Impact Statement.

We look forward to contacting you to set up an interview in the near future. The attached questionnaire lists the questions we wish to discuss with you and describes the kinds of data we would like to secure.

Thank you for your consideration.

The St. George EIS Consultant Team
Landrum & Brown, Inc.
Northrop Grumman Information Technology

Air Tour Operator Profile **Air Tour Operator Company Name** _____

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT	No	Yes	SGU
Las Vegas, NV	No	Yes – Airport(s)	?_____
Salt Lake City, UT	No	Yes – Airport(s)	?_____
Scottsdale, AZ	No	Yes – Airport(s)	?_____
Albuquerque, NM	No	Yes – Airport(s)	?_____

Other Cities/Airports in the Study Area

_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

		Total Operations	Night Operations (If Applicable) (10:00 PM to 06:59 AM)
A.	St. George	_____	_____
B.	Boulder City	_____	_____
C.	Bryce Canyon	_____	_____
D.	Cedar City	_____	_____
E.	Clear Creek Ranch	_____	_____
F.	Colorado City	_____	_____
G.	Grassy Meadows Sky Ranch	_____	_____
H.	Hurricane	_____	_____
I.	Kanab	_____	_____
J.	Las Vegas Henderson	_____	_____
K.	Las Vegas McCarran	_____	_____
L.	Mesquite	_____	_____
M.	North Las Vegas	_____	_____
N.	Panguitch	_____	_____
O.	Parowan	_____	_____
P.	Cal Black	_____	_____
Q.	Other airports (specify)	_____	_____

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport
  _____
- Multiengine Type(s)/Airport
  _____
- Turboprop Type(s)/Airport
  _____
- Jet Type(s)/Airport
  _____
- Helicopter Type(s)/Airport
  _____

Usage Patterns, General (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport _____ Operations _____

Secondary Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

TOTAL AIR TOUR OPERATIONS: _____

U2. Do you fly an even distribution of flights on a seasonal basis? _____
If not, provide percentage by season:

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

U3. What is your primary means of navigation?

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

U6. Do your air tour operations typically cover standard preplanned routing(s), or are flights conducted in a manner that provides air tour clients with customized itineraries and flight routes?

U7. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VOR-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).
- Those portions of VFR flight (Reference map to draw the routes as typically flown).
- Altitude above ground for various legs of flight.

U8. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? _____
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Z3. What route(s) do you typically fly for flights near/over Zion?

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

Z5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? _____
If answer is "yes," please list those other places.
(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

NP3. What route(s) do you typically fly for these other places?

NP4. At what altitude(s) do you typically fly for these other places?

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

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0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

LO2. What destination(s) and route(s) do you typically fly for these operations?

LO3. At what altitude(s) do you typically fly these point-to-point operations?

LO4. Are these operations typically conducted during day or night?

Tourism (T)

T1. Please estimate, as a percentage of the total, where your customers come from.

The local area _____

West Coast _____

Elsewhere in the US _____

Latin America _____

Asia _____

Europe _____

Canada _____

Other _____

T2. Based on the response of your clientele, what are the most popular air tour destinations? (List in descending order.)

_____

_____

_____

_____

_____

T3. As a tourism-based company, do you have an opinion about the potential for the relocated SGU to serve as a base for air tour operators and as a destination for tourism charter flights? Please explain.

Respondent (Name)

_____

Position

_____

Telephone Number

_____

Best Time to Contact
For Additional Information
Or Clarification (Local Time) _____

SURVEY QUESTIONNAIRE FORM C

St. George Municipal Airport Relocation Environmental Impact Statement

Survey of Air Tour Operators

The St. George Airport Environmental Team is assisting the Federal Aviation Administration (FAA) in the preparation of an Environmental Impact Statement (EIS) for a replacement airport at St. George, Utah. The EIS includes assessment of the potential for flights from the relocated airport and other airports near or over Zion National Park, as well as other national, state, tribal and local resources in the area. (The study area covers a radius of approximately 40 miles around St. George.)

As part of this study, we are trying to assess air tour operations within the study area on the basis of what routes are used (IFR & VFR portions), with what frequency and with what equipment. This information will assist the environmental analysis team in establishing and forecasting realistic data supporting the St. George Airport Environmental Impact Statement.

We look forward to contacting you to set up an interview in the near future. The attached questionnaire lists the questions we wish to discuss with you and describes the kinds of data we would like to secure.

Thank you for your consideration.

The St. George EIS Consultant Team
Landrum & Brown, Inc.
Northrop Grumman Information Technology

Air Tour Operator Profile **Air Tour Operator Company Name** _____

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

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Salt Lake City, UT	No	Yes – Airport(s)	?_____
Scottsdale, AZ	No	Yes – Airport(s)	?_____
Albuquerque, NM	No	Yes – Airport(s)	?_____

Other Cities/Airports in the Study Area

_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

		Total Operations	Night Operations (If Applicable) (10:00 PM to 06:59 AM)
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C.	Bryce Canyon	_____	_____
D.	Cedar City	_____	_____
E.	Clear Creek Ranch	_____	_____
F.	Colorado City	_____	_____
G.	Grassy Meadows Sky Ranch	_____	_____
H.	Hurricane	_____	_____
I.	Kanab	_____	_____
J.	Las Vegas Henderson	_____	_____
K.	Las Vegas McCarran	_____	_____
L.	Mesquite	_____	_____
M.	North Las Vegas	_____	_____
N.	Panguitch	_____	_____
O.	Parowan	_____	_____
P.	Cal Black	_____	_____
Q.	Other airports (specify)	_____	_____

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport _____
- Multiengine Type(s)/Airport _____
- Turboprop Type(s)/Airport _____
- Jet Type(s)/Airport _____
- Helicopter Type(s)/Airport _____

G4. Do you plan on upgrading/changing aircraft/equipment over the course of the next 5 or 10 years? _____ Please explain.

Usage Patterns (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport _____ Operations _____

Secondary Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

Other Airport _____ Operations _____

TOTAL AIR TOUR OPERATIONS: _____

U2. Do you fly an even distribution of flights on a seasonal basis?

_____

If not, provide percentage by season:

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

U3. What is your primary means of navigation?

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

U6. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VOR-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).
- Those portions of VFR flight (Reference map to draw the routes as typically flown).
- Altitude above ground for various legs of flight.

U7. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

U8. Are there any particular areas where you avoid conducting air tour operations due to environmental issues (noise or other), or due to bird populations and an associated increased potential for bird strikes?

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? _____
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Z3. What route(s) do you typically fly for flights near/over Zion?

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

Z5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

Z9. If you do operate your aircraft in the vicinity of National Parks National Monuments, or Wilderness Areas, do you currently operate your aircraft in a manner that attempts to mitigate the potential for noise impacts (e.g., reduced throttle settings, peripheral park boundary flight paths etc.)? Please explain.

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest (NP)

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? _____
If answer is "yes," please list those other places.
(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

NP3. What route(s) do you typically fly for these other places?

NP4. At what altitude(s) do you typically fly for these other places?

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places?

NP9. Do you plan on seeking certification to operate air tours over other National Parks in the near future (say, within three years)? If so, for what parks?

NP10. If you do operate your aircraft in the vicinity of National Parks National Monuments, or Wilderness Areas, do you currently operate your aircraft in a manner that attempts to mitigate the potential for noise impacts (e.g., reduced throttle settings, peripheral park boundary flight paths etc.)? Please explain.

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

LO2. What destination(s) and route(s) do you typically fly for these operations?

LO3. At what altitude(s) do you typically fly these point-to-point operations?

LO4. Are these operations typically conducted during day or night?

Respondent (Name)

_____

Position

_____

Telephone Number

_____

Best Time to Contact
For Additional Information
Or Clarification (Local Time) _____

St. George Environmental Impact Statement
Pre-Coordination Letter Between FAA and Air Tour Operators

To: Air Tour Operator *X*

The FAA, in association with the U.S. Army Corps of Engineers, the National Park Service, and the City of St. George, Utah is assessing the potential for environmental impact as a result of replacing the St. George Airport in southwest Utah. The Environmental Impact Statement for a replacement airport is being prepared in accordance with the National Environmental Policy Act (NEPA) that requires the environmental analysis of all major Federal actions prior to the implementation of any such actions. As part of the Council on Environmental Quality (CEQ) regulations, the FAA is assessing the potential for impact that all aviation use, including air tour operations, could have on the St. George vicinity and other National, State and Local resources in the area proximate to the proposed airport. Future Air Carrier, other Air Taxi, General Aviation, as well as Military operations are also being assessed to identify existing and forecast operations levels that will be used to identify potential airport and airspace usage patterns in the environs surrounding the potential new airport.

As part of this study, we are trying to assess the air tour operations in the study area on the basis of what routes are used (IFR & VFR portions), with what frequency and with what equipment. This information will assist the environmental analysis team in establishing and forecasting realistic activity data and noise exposures within the study area.

The consultants retained to develop this study, Landrum & Brown and Northrop Grumman Information Technology, have initially received information from the FAA that identifies the air tour operators certified to operate over national parks and other special resource areas in the study area. Your company appears on that list.

Since the air tour operators make up a crucial part of this study, we would appreciate it if you would consent to be interviewed by our consultant on this project. We are interested in gathering information about your use of the existing St. George Airport and your potential to use the relocated St. George Airport. We are also interested in gathering information about your operations over national parks, national monuments, and Federal wilderness areas in the study area. A copy of the questionnaire that our consultant will use during this interview is attached. A member of our consultant team will be contacting a representative of your company in the near future to set up this interview.

I should point out that this request is related solely to the environmental impact statement for the proposed relocation of St. George Municipal Airport. It is unrelated to the recently published Notice of Proposed Rulemaking related to air tour operator safety standards.

Please call me if you have any questions or concerns about this request. Thanks in advance for your cooperation in this matter.

Sincerely,
Dennis Ossenkop,
FAA Northwest Mountain Region (ANM)
ANM Airports Division, (ANM-611)

Attachment C-2

Completed ATO Survey Questionnaires & Notes from ATO Interviews

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Air Tour Operator Profile **Air Tour Operator**
Company Name: Air Vegas Airlines

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT **No** _____

Las Vegas, NV **Yes** – Airport(s) ? **VGT**
100%_____

Salt Lake City, UT **No** _____

Scottsdale, AZ **No** _____

Albuquerque, NM **No** _____

Other Cities/Airports in the Study Area _____**None**_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

	Airport Name & ID Code	*Total Operations*	*Night Operations (10:00 PM to 06:59 AM)*
A.	St. George (SGU)	_____	_____
B.	Boulder City (61B)	_____	_____
R.	Bryce Canyon (BCE)	_____	_____
S.	Cedar City (CDC)	_____	_____
T.	Clear Creek Ranch (Pvt)	_____	_____
U.	Colorado City (AZC)	_____	_____
V.	Grassy Meadows Sky Ranch (Pvt)	_____	_____
W.	Hurricane (1L8)	_____	_____
X.	Kanab (KNB)	_____	_____
Y.	Las Vegas Henderson (HND)	_____	_____
Z.	Las Vegas McCarran (LAS)	___**5**_	_____
AA.	Mesquite (67L)	_____	_____
BB.	North Las Vegas (VGT)	**6004**_	_____
CC.	Panguitch (U55)	_____	_____
DD.	Grand Canyon NP (GCN)	**2941**_	_____
EE.	Grand Canyon West (I64)	**1257**_	_____
FF.	Clark Memorial Field (P32)	___**9**_	___**0**_

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

– Single engine Type(s)/Airport

_____

– Multiengine Type(s)/Airport
_____

– Turboprop Type(s)/Airport ____**BE-C99 VGT**
_____

– Jet Type(s)/Airport
_____

– Helicopter Type(s)/Airport
_____

Usage Patterns, General (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport	___**VGT**_	Operations	_____**6004**____
Secondary Airport	___**GCN**_	Operations	_____**2941**____
Other Airport	___**I 64** _	Operations	_____**1257**____
Other Airport	___**P 32**__	Operations	_____**9**___
Other Airport	___**LAS**_	Operations	_____**5**____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
TOTAL AIR TOUR OPERATIONS:			_____

U2. Do you fly an even distribution of flights on a seasonal basis? ____**No**_____
If not, provide percentage by season:

Summer (Jun-Aug)_**26%**_ Winter (Dec-Feb)__**19%**_

Fall (Sep-Nov)_**34%**_ Spring (Mar-May)__**21%**_

U3. What is your primary means of navigation?

VFR

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

NO

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

N/A

U6. Do your air tour operations typically cover standard preplanned routing(s), or are flights conducted in a manner that provides air tour clients with customized itineraries and flight routes?

Standard Preplanned Routing (SFAR SO-2)

U7. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VORs-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).

N/A

- Those portions of VFR flight (Reference map to draw the routes as typically flown).

- Altitude above ground for various legs of flight.

Variable 500 ft to 3,000 ft MSL

U8. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

Air Vegas airlines plans to move back to Henderson Airport (HND) sometime in the future.

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? __**YES**___
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

BE-C-99

Z3. What route(s) do you typically fly for flights near/over Zion?

Mesquite, Interstate 15 over Virgin River Forge, to BCE, Route is South of Town of St. George and SGU

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

9,500 MSL

Z5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug) Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

NEGLIGIBLE

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Variable, 2 Max

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 __**All Flights** 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

No

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? __**Yes**___
If answer is "yes," please list those other places.

Lake Mead Recreation Area, Grand Canyon National Park, Glen Canyon Recreation Area, Monument Valley

(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

BE-C-99

NP3. What route(s) do you typically fly for these other places?

VGT to Page to Ktyonta (OVD)

NP4. At what altitude(s) do you typically fly for these other places?

9,500 MSL

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places? **VARIABLE**

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

1 or 2

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 __**X**_ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

Occasional Charter

LO2. What destination(s) and route(s) do you typically fly for these operations?

None typical - could be anywhere in Southwest

LO3. At what altitude(s) do you typically fly these point-to-point operations?
Either 9,500 or 10,500 MSL

LO4. Are these operations typically conducted during day or night?

DAY

Tourism (T)

T1. Please estimate, as a percentage of the total, where your customers come from.

The local area _____	Asia ____**60%**_
West Coast _____	Europe _**10%**_
Elsewhere in the US __**30%**_	Canada _____
Latin America _____	Other _____

T2. Based on the response of your clientele, what are the most popular air tour destinations? (List in descending order.)

___**GCN**___
_____
_____
_____
_____

T3. As a tourism-based company, do you have an opinion about the potential for the relocated SGU to serve as a base for air tour operators and as a destination for tourism charter flights? Please explain.

No opinion. Will not affect Air Vegas.

Respondent (Name) ___**James E. Cruson**_____

Position ___**Director of Operations**_____

Air Tour Operator Profile **Air Tour Operator**
Company Name: Maverick Helicopters

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT	**No**		_____
Las Vegas, NV	**Yes** – Airport(s)	?	__**LAS**_____
Salt Lake City, UT	**No**		_____
Scottsdale, AZ	**No**		_____
Albuquerque, NM	**No**		_____

Other Cities/Airports in the Study Area

_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

	Airport Name & ID Code	*Total Operations*	*Night Operations (10:00 PM to 06:59 AM)*
A.	St. George (SGU)	**34**	_____
B.	Boulder City (61B)	**61**	_____
C.	Bryce Canyon (BCE)	**21**	_____
D.	Cedar City (CDC)	**30**	_____
E.	Clear Creek Ranch (Pvt)	**0**	_____
F.	Colorado City (AZC)	**0**	_____
G.	Grassy Meadows Sky Ranch (Pvt)	**0**	_____
H.	Hurricane (1L8)	**0**	_____
I.	Kanab (KNB)	**0**	_____
J.	Las Vegas Henderson (HND)	**41**	_____
K.	Las Vegas McCarran (LAS)	**6,000+**	_____
L.	Mesquite (67L)	**16**	_____
M.	North Las Vegas (VGT)	**30**	_____
N.	Panguitch (U55)	**26**	_____
O.	Parowan (1L9)	**0**	_____
P.	Cal Black (U96)	**0**	_____
Q.	Grand Canyon West (I64)	**6,000+**	_____

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport
  _____
- Multiengine Type(s)/Airport
  _____
- Turboprop Type(s)/Airport
  _____
- Jet Type(s)/Airport
  _____
- Helicopter Type(s)/Airport ____**AS 350 B2 / EC 130 B4 / 206 B III**____

Usage Patterns, General (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport	__**LAS**___	Operations	_**20/day 140/week**_
Secondary Airport	__**I64**_____	Operations	_**20/day 140/week**_
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
TOTAL AIR TOUR OPERATIONS:			_____

U2. Do you fly an even distribution of flights on a seasonal basis? _____**Yes**_____
If not, provide percentage by season:

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

U3. What is your primary means of navigation?

Map - GPS

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

No

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

None

U6. Do your air tour operations typically cover standard preplanned routing(s), or are flights conducted in a manner that provides air tour clients with customized itineraries and flight routes?

10% Custom

U7. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VORs-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).

N/A

- Those portions of VFR flight (Reference map to draw the routes as typically flown).

- Altitude above ground for various legs of flight.

3-500 ft. AGL

U8. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

No

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? __**Yes**_____
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

All

Z3. What route(s) do you typically fly for flights near/over Zion?

It is never the same

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

500 – 2000 ft. AGL

Z5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)_**10**__ Winter (Dec-Feb)___**5**___
Spring (Mar-May)_**10**___ Fall (Sep-Nov)__**5**____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

1 - 2

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _**Any time**____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

We hope so

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? __**Yes,**
If answer is "yes," please list those other places.
Zion and Bryce National Parks

(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

All

NP3. What route(s) do you typically fly for these other places?

Various

NP4. At what altitude(s) do you typically fly for these other places?
500 – 2000 ft. AGL

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Summer (Jun-Aug)__**5**___ Winter (Dec-Feb)___**3**___

Fall (Sep-Nov)__**3**____ Spring (Mar-May)__**3**___

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

1

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) __**All**___

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Yes, we are in a growing market

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

Photo / Contract / DOD / DOE

LO2. What destination(s) and route(s) do you typically fly for these operations?

Various

LO3. At what altitude(s) do you typically fly these point-to-point operations?

500 – 2000 ft. AGL

LO4. Are these operations typically conducted during day or night?

Day

Tourism (T)

T1. Please estimate, as a percentage of the total, where your customers come from.

The local area ___10%_____	Asia _____**15%**____
West Coast __**20%**____	Europe ____**25%**__
Elsewhere in the US __**15%**____	Canada ___**10%**_____
Latin America ___**5%**_____	Other _____

T2. Based on the response of your clientele, what are the most popular air tour destinations? (List in descending order.)

_____
_____
_____
_____
_____

T3. As a tourism-based company, do you have an opinion about the potential for the relocated SGU to serve as a base for air tour operators and as a destination for tourism charter flights? Please explain.

I like SGU because it is close to the city for med room rec. (medical room emergencies)

Respondent (Name) ___***Dale Cowley***_____

Position ___**Director Operations**_____

Air Tour Operator Profile

Air Tour Operator Company Name: **Scenic Airlines**

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT **No** _____

Las Vegas, NV **Yes** – Airport(s) ? **VGT** _____

Salt Lake City, UT **No** _____

Scottsdale, AZ **No** _____

Albuquerque, NM **No** _____

Other Cities/Airports in the Study Area _____**None**_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

	Airport Name & ID Code	*Total Operations*	*Night Operations (10:00 PM to 06:59 AM)*
A.	St. George (SGU)	_____	_____
B.	Boulder City (61B)	**34**	**0**
C.	Bryce Canyon (BCE)	**884**	**0**
D.	Cedar City (CDC)	_____	_____
E.	Clear Creek Ranch (pvt)	_____	_____
F.	Colorado City (AZC)	_____	_____
G.	Grassy Meadows Sky Ranch (pvt)	_____	_____
H.	Hurricane (1L8)	_____	_____
I.	Kanab (KNB)	_____	_____
J.	Las Vegas Henderson (HND)	_____	_____
K.	Las Vegas McCarran (LAS)	**101**	**4**
L.	Mesquite (67L)	_____	_____
M.	North Las Vegas (VGT)	**37,183**	**3098**
N.	Panguitch (U55)	_____	_____
O.	Parowan (1L9)	_____	_____
P.	Cal Black (U96)	_____	_____
Q.	Monument Valley, AZ	**13,800**	____

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport _____
- Multiengine Type(s)/Airport _____**CESSNA 402**_____
- Turboprop Type(s)/Airport ____**DHC-6, B-1900**_____
- Jet Type(s)/Airport _____
- Helicopter Type(s)/Airport _____

Usage Patterns, General (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport	___**VGT**_	Operations	_____**23,542**__
Secondary Airport	___**LAS**_	Operations	_____**20**___
Other Airport	___**Bryce** _	Operations	_____**881**_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
TOTAL AIR TOUR OPERATIONS:			_____

U2. Do you fly an even distribution of flights on a seasonal basis? ____**No**_____
If not, provide percentage by season:

Summer (Jun-Aug)_**40%**_ Winter (Dec-Feb)__**20%**_

Fall (Sep-Nov)_**20%**_ Spring (Mar-May)__**20%**_

U3. What is your primary means of navigation?

VFR – Pilotage And LORAN
IFR - VOR

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

Only if IFR – no IFR to BCE

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

U6. Do your air tour operations typically cover standard preplanned routing(s), or are flights conducted in a manner that provides air tour clients with customized itineraries and flight routes?

Standard

U7. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VORs-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).

- Those portions of VFR flight (Reference map to draw the routes as typically flown).

- Altitude above ground for various legs of flight.

U8. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? __**YES**___
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

From SW corner to NE corner

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Both DHC-6 and Cessna 402

Z3. What route(s) do you typically fly for flights near/over Zion?

BLD direct to BCE

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

10,500 MSL

Z5. What is the average number of **daily** (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug) __**2**__ Winter (Dec-Feb)__**1**___

Fall (Sep-Nov)__**1**____ Spring (Mar-May)__**1**___

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Two

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900:
1@0700daily 1500 to 1800 _____

0900 to 1200 __ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

No

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? __**Yes**___
If answer is "yes," please list those other places.

Grand Canyon National Park, Hoover Dam, Bryce Canyon, Monument Valley, Glen Canyon, Rainbow Bridge

(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Both

NP3. What route(s) do you typically fly for these other places?

SFAR Routes

NP4. At what altitude(s) do you typically fly for these other places?

5,500 – 10,500 MSL

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Spring (Mar-May)_____ Winter (Dec-Feb)_____
Summer (Jun-Aug)_____ Fall (Sep-Nov)_____

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 __**100%**___ 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Yes

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

VGT – ELY
VGT – PMD
VGT - MCE

LO2. What destination(s) and route(s) do you typically fly for these operations?

Victor airways primarily
VGT-ELY: LAS.V394.mmm.V21.Beryl.V293.ELY
VGT-MCE: LAS.FUZZY.J86.BTY.J92.OAL.MOD.KMCE

LO3. At what altitude(s) do you typically fly these point-to-point operations?

DHC-6 - 12,000 MSL
B1900 - FL210 - 220

LO4. Are these operations typically conducted during day or night?

Both

Tourism (T)

T1. Please estimate, as a percentage of the total, where your customers come from.
The local area ____1%____
West Coast ___**2%**__
Elsewhere in the US __**12%**_
Latin America **Less than 1%**_
Asia ____**30%**_
Europe _**55%**_
Canada _____
Other __**Pacific Australia, N.Zealand**_____

T2. Based on the response of your clientele, what are the most popular air tour destinations? (List in descending order.)

___**GCN**___
__**Monument Valley**_____
__**Bryce Canyon/Zion**_____
_____
_____

T3. As a tourism-based company, do you have an opinion about the potential for the relocated SGU to serve as a base for air tour operators and as a destination for tourism charter flights? Please explain.

No

Respondent (Name) ___Sidney Hurst_____

Position ___VP Maintenance & Operations__

Air Tour Operator Profile Air Tour Operator

Company Name: ***Slickrock Air Guides Inc.***

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT		**No** -	_____
Las Vegas, NV		**No**	_____
Salt Lake City, UT	**No**		_____
Scottsdale, AZ		**No**	_____
Albuquerque, NM	**No**		_____

Other Cities/Airports in the Study Area

_____

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

	Airport Name & ID Code	*Total Operations*	*Night Operations (10:00 PM to 06:59 AM)*
A.	St. George (SGU)	__**0**__	_____
B.	Boulder City (61B)	__**0**__	_____

C.	Bryce Canyon (BCE)	**0**			
D.	Cedar City (CDC)	**0**			
E.	Clear Creek Ranch (Pvt)	**0**			
F.	Colorado City (AZC)	**0**			
G.	Grassy Meadows Sky Ranch (Pvt)	**0**			
H.	Hurricane (1L8)		**0**		
I.	Kanab (KNB)	**0**			
J.	Las Vegas Henderson (HND)	**0**			
K.	Las Vegas McCarran (LAS)	**0**			
L.	Mesquite (67L)		**0**		
M.	North Las Vegas (VGT)		**0**		
N.	Panguitch (U55)	**0**			
O.	Parowan (1L9)		**0**		
P.	Cal Black (U96)		**0**		
Q.	Other airports (specify)				

G3 What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- **Single engine** Type(s)/Airport ____**Canyonlands Field (KCNY)**_____
- Multiengine Type(s)/Airport
  _____
- Turboprop Type(s)/Airport
  _____
- Jet Type(s)/Airport
  _____
- Helicopter Type(s)/Airport
  _____

Usage Patterns (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport	_____	Operations	____**N/A**_____
Secondary Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
TOTAL AIR TOUR OPERATIONS:			_____

U2. Do you fly an even distribution of flights on a seasonal basis? ____**Yes**_____
If not, provide percentage by season:

Summer (Jun-Aug)_**100%** Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

U3. What is your primary means of navigation?

Pilotage –Dead Reckoning

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

No

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

N/A

U6. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know: **N/A**

- Typical VORs-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).

  N/A

- Those portions of VFR flight (Reference map to draw the routes as typically flown).

N/A

- Altitude above ground for various legs of flight.

N/A

U7. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? _**No**____
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Z3. What route(s) do you typically fly for flights near/over Zion?

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

Z 5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)_____ Winter (Dec-Feb)_____

Fall (Sep-Nov)_____ Spring (Mar-May)_____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____ 1200 to 1500 _____
0900 to 1200 _____ 1800 to 2100 _____
1500 to 1800 _____ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

No

Other National Parks, National Monuments, Wilderness Areas, and Other Points of Interest (NP)

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? _**Yes**___
If answer is "yes," please list those other places.

Canyonlands, Glen Canyon, Monument Valley

(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

NP 2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Cessna 200 Series Aircraft

NP3. What route(s) do you typically fly for these other places?

River Corridors

NP4. At what altitude(s) do you typically fly for these other places?

7,500 – 8,000 MSL

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Summer (Jun-Aug)_**X**___ Winter (Dec-Feb)_____
Fall (Sep-Nov)_____ Spring (Mar-May)_____

5 Flights Weekly

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

3 Flights

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____**N/A** 1500 to 1800 _____

0900 to 1200 _____ 1800 to 2100 _____

1200 to 1500 _____ Other (specify) _____

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places? Please explain.

Visitor demand will dictate

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

Air Taxi – OAS Vendor (Air Attack)

LO2. What destination(s) and route(s) do you typically fly for these operations?

Southeast Utah

LO3. At what altitude(s) do you typically fly these point-to-point operations?

7,500 – 8,500

LO4. Are these operations typically conducted during day or night?

Day

Airport Facility Issues (A)

A1. Plans for the relocated SGU call for a precision instrument approach to Runway 19, although the type of approach system is not yet specified. As a potential airport user, would you prefer a conventional Instrument Landing System or a Differential GPS approach?

Either one will work

A2. Are your aircraft equipped to use a DGPS approach (requiring a LAAS receiver)?

No

A3. Are you anticipating keeping your company based at your current airport or are you considering relocating in the next few years?

Same Airport

A4. What are the aviation services at your base airport that are most important to you?

Fuel

Respondent (Name) ___Gene Boyle_____

Position __Director of Operations_____

Air Tour Operator Profile **Air Tour Operator**
Company Name: Sundance Helicopters

General (G)

G1 Do you presently operate or plan to operate aircraft as an air tour operator out of any of the following cities/associated airports? If yes please specify airport(s)and rank frequency of use by percentage of total operations.

St. George, UT **No** _____

Las Vegas, NV **Yes** – Airport(s) ? **LAS (McCarran Intl.)**

Salt Lake City, UT **No** _____

Scottsdale, AZ **No** _____

Albuquerque, NM **No** _____

Other Cities/Airports in the Study Area **GCW (Grand Canyon West – Hualapai Indian Reservation)**

G2. In addition, our study involves a group of airports in the area surrounding St. George. We would like to know how many of your operations last year were to or from any of these airports in our survey area.

	Airport Name & ID Code	*Total Operations*	*Night Operations (10:00 PM to 06:59 AM)*
A.	St. George (SGU)	**20**	**0** **Air Tours**
B.	Boulder City (61B)	**100**	**0** **Air Tours**
C.	Bryce Canyon (BCE)	**12**	**0** **Air Tours**
D.	Cedar City (CDC)	**6**	**0** **Non Air Tour –** Fires or Charters
E.	Clear Creek Ranch (Pvt)	_____	_____
F.	Colorado City (AZC)	_____	_____
G.	Grassy Meadows Sky Ranch	_____	_____
H.	Hurricane	_____	_____
I.	Indian Springs, NV	**100**	**0** **Non Air Tour – Military/Support**
J.	Las Vegas Henderson (HND)	**100**	**0** **Non-Training**
K.	Las Vegas McCarran (LAS)	**20,000**	**1,000** **Air Tours**
L.	Mesquite (67L)	**20**	**0** **Non Charter**
M.	North Las Vegas (VGT)	**20**	**0** **Non Charter**
N.	Panguitch (U55)	_____	_____
O.	Parowan (1L9)	_____	_____
P.	Cal Black (U96)	_____	_____
Q.	Grand Canyon West (GCW)	**29,000**	**0** **Tours**
R.	Jean, NV (0L7)	**100**	**0** **Training**

G3. What type(s) of aircraft and out of which airport(s)) do you use these aircraft to conduct air tour operations?

- Single engine Type(s)/Airport _____
- Multiengine Type(s)/Airport _____
- Turboprop Type(s)/Airport _____
- Jet Type(s)/Airport _____
- Helicopter Type(s)/Airport __**Bell 206, LAS-Jean (Training)**_____
  AS 360/350 at above airport

G4. Do you plan on upgrading/changing aircraft/equipment over the course of the next 5 or 10 years? __**Yes**____ Please explain.

Plan to add 1 aircraft/year
Plan to start changing from AS 350 to EC 130 in 2 years

Usage Patterns (U)

U1. Approximately how many air tour operations (takeoffs and landings) did you conduct at each airport in the past year? (or avg. per day/week)

Primary Airport	__**LAS**___	Operations	__**20,000**_____
Secondary Airport	__**GCW**__	Operations	__**29,000**_____
Other Airport	**Bryce Canyon**	Operations	____**24**_____
Other Airport	**St. George**___	Operations	____**24**_____
Other Airport	**Furnace Creek, CA**	Operations	_**12**____
Other Airport	**Boulder City, CO**	Operations	**200**____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____
Other Airport	_____	Operations	_____

Other Airport _____ Operations _____
TOTAL AIR TOUR OPERATIONS: **52,200**

U2. Do you fly an even distribution of flights on a seasonal basis? **No**
If not, provide percentage by season:

Summer (Jun-Aug) **25%** Winter (Dec-Feb) **15%**

Fall (Sep-Nov) **30%** Spring (Mar-May) **30%**

U3. What is your primary means of navigation?

GPS

U4. For each airport used to conduct air tour operations, do you file an IFR flight plan for some portion of the air tour flight?

Never, VFR only

U5. What is the typical routing out of the reference airport(s) for the IFR portion of the air tour?

N/A

U6. Please describe the route you take to and from the point that an IFR flight plan is cancelled and/or initiated (for the return trip) and identify where the VFR portion of the air tour operation begins. (Reference map provided at the interview to draw the routes as typically flown.) Need to know:

- Typical VORs-radials, waypoints etc. (i.e., describe any navigational aids for typical routes of flight for IFR portions).

N/A

- Those portions of VFR flight (Reference map to draw the routes as typically flown).

N/A

- Altitude above ground for various legs of flight.

N/A

U7. In the foreseeable future, do you have any plans to relocate your aircraft to another airport, change aircraft, add aircraft, or vary the routing and/or altitudes typically flown?

There is a plan for Clark County, NV to build a heliport 20 miles South of McCarran airport 6 years from now to accommodate air tour operators

U8. Are there any particular areas where you avoid conducting air tour operations due to environmental issues (noise or other), or due to bird populations and an associated increased potential for bird strikes?

We route all of our air tours to avoid people as much as possible including routing around Meadville, AZ, routing in the Lake Mead National Recreation Area, Grand Canyon, Zion and Bryce Canyon National Parks and Valley of Fire State Park

Zion National Park (Z)

Z1. Do your flight routes ever take you near/over Zion National Park? _**Yes**___
(Interviewer: If answer is "yes," please mark up the map of Zion to describe the typical route(s) of flight. Note any landmarks referred to by the operator. Ask the following questions.)

Z2. If you have more than one type of aircraft in your fleet, what type do you use on these flights? **Bell 206, AS 350**

Z3. What route(s) do you typically fly for flights near/over Zion?

Fly a route NE bound about 2 miles North of the main Zion Canyon

Z4. At what altitude(s) do you typically fly for flights near/over Zion?

1000 AGL

Z5. What is the average number of daily (or weekly) flights, by season, that you fly near/over Zion?

Summer (Jun-Aug)__**3**___ Winter (Dec-Feb)__**1**____

Fall (Sep-Nov)__**4**____ Spring (Mar-May)_**4**____

Z6. What is the peak number of daily flights during the peak season that you fly near/over Zion?

Rare Flights – 1/month

Z7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _**Never**____ 1500 to 1800 __**X**___

0900 to 1200 __**X**___ 1800 to 2100 __**Never**__

1200 to 1500 __**X**___ Other (specify) _____

Z8. In the foreseeable future, do you plan to increase your number of flights near/over Zion?

No

Z9. If you do operate your aircraft in the vicinity of National Parks National Monuments, or Wilderness Areas, do you currently operate your aircraft in a manner that attempts to mitigate the potential for noise impacts (e.g., reduced throttle settings, peripheral park boundary flight paths etc.)? Please explain.

Route all flights to mitigate the impact. Doubt there has ever been a complaint about us in 19 years of doing business

National Parks, National Monuments, Wilderness Areas, and Other Points of Interest (NP)

NP1. Do your flight routes ever take you over any other National Parks, National Monuments, Wilderness Areas or other Points of Interest? __**Yes**____
If answer is "yes," please list those other places.
(Interviewer: Mark sectional charts or generally describe the typical route(s) of flight. Note any landmarks referred to by the operator.)

Grand Canyon National Park, Zion, Bryce Canyon, Death Valley National Park, Lake Mead National Recreation Area, Valley of Fire State Park, Hualapai Indian Reservation

NP2. If you have more than one type of aircraft in your fleet, what type do you use on these flights?

Both Bell 206 and AS 350

NP3. What route(s) do you typically fly for these other places?

NP4. At what altitude(s) do you typically fly for these other places?

1000 AGL

NP5. What is the average number of daily (or weekly) flights, by season, that you fly over these places?

Summer (Jun-Aug)__**60**___ Winter (Dec-Feb)__**40**____

Fall (Sep-Nov)__**70**____ Spring (Mar-May)__**70**___

NP6. What is the peak number of daily flights during the peak season that you fly near/over these places?

80

NP7. What are the approximate times of day that you fly near/over Zion? Please estimate percentage of total average daily operations. If this varies seasonally, please explain.

0600 to 0900 _____	1500 to 1800 _____
0900 to 1200 __**50%**__	1800 to 2100 _____
1200 to 1500 __**50%**___	Other (specify) _____

1 flight monthly

NP8. In the foreseeable future, do you plan to increase your number of flights near/over these places?

No

NP9. Do you plan on seeking certification to operate air tours over other National Parks in the near future (say, within three years)? If so, for what parks?

No

NP10. If you do operate your aircraft in the vicinity of National Parks National Monuments, or Wilderness Areas, do you currently operate your aircraft in a manner that attempts to mitigate the potential for noise impacts (e.g., reduced throttle settings, peripheral park boundary flight paths etc.)? Please explain.

Yes

Other Local Operations -- Non-Air Tour Operations (LO)

LO1. What other operations do you conduct within or outside the study area (e.g., point to point air taxi service)?

In Southern Utah: very small number of charter flights maybe 10/year
Some firefighting depending on conditions

LO2. What destination(s) and route(s) do you typically fly for these operations?

Extensive flights in Nellis Bombing Range Complex
Southern Utah flights wherever they maybe, aerial filming occasionally in Southern Utah, St. George Area

LO3. At what altitude(s) do you typically fly these point-to-point operations?

500 AGL

LO4. Are these operations typically conducted during day or night?

Day only

Respondent (Name) ___*John Sullivan*_____

Position _____**CEO**_____

Air Tour Operator Interview Notes

The following pages represent a compilation of the handwritten notes collected while interviewing the various air tour operators. The level of detail and completeness of these notes typically correlates with the amount of time a particular air tour operator was able to spend with the interview team. Many operators were only able to provide an overview of their operation in the interview process (15 minutes or less), due to their being involved in operational matters when the interview team arrived to conduct the interview. Other operators were able to spend over an hour answering questions posed by the interview team and detailing various aspects of their operation.

Sundance Helicopters

04/26/04 Interview with John Sullivan of Sundance Helicopters – @ Sundance office, LAS Airport. (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

Discussion about St. George Bluff (relative to limitations for expansion capabilities).

Sundance Helicopters fleet distribution: 14 in LAS, 1 in LAX.
Sundance belongs to Tour Operators Program of Safety (TOPS) – good self-regulation of tour operators that goes above and beyond the typical measures presently required by the FAA.

Operation is either a takeoff or landing (Ref. To how Questionnaire was filled out).

GCNP Indian Reservation – sizeable operations out there (shuttle from rim to canyon floor – supporting Hualapai rafting trips).

International tourists on occasion want to go out to Bryce or Zion, not realizing distance from LAS; cost is usually a factor in limiting the number of tourists that want to pay for this type of trip.

Sundance flies to Grand Canyon West Airport (Airport supports Hualapai tour operations).

GC flights all VFR – canned routes (Special FAR (SFAR) 50-2).

Helicopters in LAS have a dedicated air traffic controller because of volume
(Reference **Las Vegas ATCT/TRACON LOA for Helicopter operations into and out of Class B airspace**, on page CA2-41.
3 procedures described in Letter of Agreement (LOA) are used for arrivals and departures (Sundance typically uses the Tropicana (2), departure procedure).

Tropicana Departure Procedures - Consists of detailed routing instructions starting from two locations on McCarran Airport.

Callville Arrival Procedures - Consists of detailed routing instructions starting from Callville Bay marina.

Arden Arrival/Departure - Consists of detailed routing instructions from the edge of LAS Class B airspace.

Between Class B airspace around LAS and Grand Canyon, the airspace is uncontrolled, but there is a voluntary route system.

Letter of Agreement system – 10 miles out.
Voluntary system – 40 miles.
SFAR – 50/2 system – mandatory system in effect around GCNP, enter SFAR – 50/2 at 5000 ft (rim at 4600 ft).
SFAR – basically ensures that 80% of GCNP is flight free.

Grand Canyon West Airport Operations - 150 to 200 people a day – 15-minute flight from Grand Canyon West airport to a point on the canyon floor near the river – 40 ops a day, 28,000 a year (shuttle for rafting /river tours – run by Hualapai).

Trips to Bryce in summer refuel twice – Bryce and St. George (on the way back) – low load of fuel on return because of height of 7000 to 10000 ft, as well as typically high load factor (5-6) people does not justify full load of fuel while returning from Bryce. (Note that these trips are very infrequent).

General comments on Grand Canyon Operations

Airplane operators go to South Rim.
Helicopter East End operations from Tucson.
Helicopter West End operators from LAS.

Niche operations in this business where there are a lot of similarities, but many differences also.

New FAA Safety Rule for Helicopters could be bad for business: levying requirements on all operators regardless of the specific type of operation that they run. (Note that NPRM was being assessed that would set safety standards for air tour operators.)
Public hearing – May 21st at LAS.

Lake Mead Air Tour Management Plan (ATMP)

Scoping session on Tuesday night for Lake Mead Tour operators – supposedly an exemption for those (LAS) operators over-flying Lake Mead National Recreational Area en route to conduct tours of Grand Canyon.

FAA granted the Hualapai Indians an exemption authority to allocate flights within the GCNP over 107 miles of the Grand Canyon River (which flows through Indian reservations).

The FAA has allocated 2500 operations, whereas the Hualapai has offered 8800 ops to Sundance helicopters (payment only when flown).

Sundance helicopters have been around for about 20 years – John Sullivan joined in 1981.

Air Vegas Airlines

04/27/04 Interview with Jim Cruson of Air Vegas Airlines – Fixed Wing Operator based out of North Las Vegas (VGT) (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

Operate 10 aircraft all based in North Vegas – 15 passenger turboprops – Beech C-99.
Established 20 years ago.

Jim received survey form – not filled out – will complete before survey team leaves Las Vegas.

Used to go to Bryce Canyon. When flying to Bryce Canyon, they would over-fly area around City of St. George, South of St. George airport.

National Parks Service - Air Tour Management Plan(s) will effectively limit the options for air tour operators in a manner that will constrain future growth.

Flights are conducted as VFR flight operations; IFR routing/clearance ends up being very slow, as in-trail restrictions are sometimes 30 miles, and can severely limit ability of carrier to get sequenced into the ATC system out of VGT.

Typical Zion Routing
Route over I-15 – do not fly very close to Zion Visitor Center.

Mostly Air tours – few charters.
Grand Canyon SFAR operations are the bread and butter of Air Vegas.
Operator will Land at both CG airports; Grand Canyon East & West Airports.

Grand Canyon tours degraded – not much of a tour due to the SFAR 50-2 constraints.

Lots of business originally from Asia – Japan travel bureau would be a direct marketing tie that was a source of sustained business.
International business dropped considerably after 9/11.

Maverick Helicopters

04/27/04 Interview with Dale Cowley of Maverick Helicopters – LAS Airport. (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

Maverick Helicopters – Fleet of primarily Aerospatiales, EC 130 and a Bell.

Mr. Cowley noted that he had mailed the completed questionnaire back to Dennis Ossenkop in the ANM Regional office.

Stop in once or twice a month at St. George airport for refueling, since fuel is relatively inexpensive.
Mesquite is the preferred stop/over-fly point since it is west of St. George and on flight path.
To Cedar Breaks NM and Arches NP are the northern most destination(s) that are traveled once in a while.
Fly within 10 miles of Zion, not over visitor center – Note: Mr. Cowley could not provide "typical" routing over Zion, as he indicated flight tracks are highly variable depending on what a particular customer wants to see.

New helicopter laws becoming a problem for air tour operators (i.e., proposed Air Tour Safety Standards; e.g., mandatory personal floatation devices seem unnecessary when most times one is flying over land - but because of the Colorado River these may be required).

If safety needs to be improved, then better and more diverse flight and emergency procedures training might help, rather than adding additional devices to the rotorcraft fleet.

Maverick deals with Hualapai Indian Tribe for operations allotments into GCNP west end operations.
Grand Canyon West airport belongs to the Hualapai – current runway being moved, old one will be a taxiway.

Scenic Airlines

04/28/04 Interview with Sidney Hurst of Scenic Airlines – Fixed Wing Operator based out of North Las Vegas (VGT). (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

Interview team focused primarily on questionnaire form and Scenic Airlines provided flight route mapping details.

Lake Mead Air Traffic Management meeting went off well.

Route to Bryce: Fly south over Hoover Dam, then north over Lake Mead, Zion and to Bryce – Reference detailed map depictions of Scenic Airlines routes.

Do not fly IFR.

Do not presently fly tours to Cedar Breaks.

St. George, UT is Sky West's headquarters.
St. George, UT is retirement community – good place to live in.
Valley floor rises to 10,000 ft within 15 miles – hazardous to air traffic.
Twin Otters require only 3000 ft. of runway.

Papillon Helicopters

04/29/04 Interview with Dave Muher & John Becker of Papillon Helicopters at GCNP East Airport. (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

GCNP Airport has a curfew – can fly only between 9 am and 5pm, (Oct 1 to April 30); and between 8am and 6pm, (May 1 to Sep 30).

Do not fly towards Bryce or Zion, only once in the past 15 years have flown towards Four Corners, Bryce and Zion.

Fly Bell 206s – 18, A-Stars and EC-130s.

GCNP Tours – Short, Long, Havasupai and Bar 10.

GCNP Long Tour is via Zunni and Dragon Corridor.
SFAR is now called SFAR 50-2.

Grand Canyon Helicopters is sister company to Papillon.

Fly 300 to 500 ft. AGL upon departure.
Above Colorado River 7500 msl – river is 2200 msl.
South Rim is 6800 msl and North rim is 8400 msl.

Best season for really seeing Grand Canyon National Park is winter – park is breathtaking after fresh snow. Tourist season begins towards the end of March, beginning of April

Airplanes fly 1000 to 1500 feet above helicopter routes.

Papillon has a fire service contract in St. George (1 helicopter dedicated to this) – Schedule is of course highly variable as is any routing.

1 or 2 helicopter operators fly over Lake Mead, Hoover Dam - Rogers Helicopters is one.

20 tour groups have filed flight plans for air tours of GCNP, Lake Mead etc.

$950/flight hour – L-10.
$6 is GCNP over flight fee – goes to NPS – GCNP.

Helicopters 90 – 105 knots.
Papillon belongs to Tour Operators Program of Safety (TOPS) – good self-regulation of tour operators that goes above and beyond the typical measures presently required by the FAA.

AirStar Helicopters

04/29/04 Interview with Ron Williams of AirStar Helicopters at GCNP Airport. (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

Air Star in business for 25 years, Mr. Williams has been involved for approximately 15 years.

In 1996 – 32,000 passengers, now 20,000 passengers.
Drop due to FAA, NPS – their curfews, environmental policies etc.

AirStar presently operates a limited number of charter flights (not standard flight routes) to a number of different locations. Charter flights are for those customers who want to avoid crowded areas.

Early days of air tour industry – operators were arrogant, and were not necessarily good neighbors – (e.g., fly all over the park).
In ~ 1986 tragic mid air – Bell Jet Ranger helicopter with a DeHavilland twin otter – 25 people dead.

Environmentalists had a field day; and their agenda could be enacted, although now using safety as the primary issue to heavily regulate operations in GCNP.

SFAR 50-1 (Now SFAR 50-2) – Operations in GCNP
SFAR Rulemaking allocated 90,000 ops altogether.
Air Star authorized 5480 based on recent past ops at that time, actual operating 4000 ops currently.
Walk-ins account for 98% of their business.

Tour operation hours; 8 am to 6pm (May 1 to Sep 30), 9 am to 5 pm (Oct 1 to April 30).

AirStar Fleet

Fleet consists of Eurocopter (from merger between Aerospatiale & MBB), Fleet – 3 aircraft.
Capacity 6 passengers & 1 pilot, Air Star variably employs pilots based on the seasonal demand in the air tour business.

American Aviation

05/04/04 Telephone Interview with Larry Wright – American Aviation based out of Page, AZ. (Interviewed by Michael T. Johnson & Ram Nagendran; Northrop Grumman Information Technology)

MJ gives background about St. George EA and EIS.

American Aviation uses St. George occasionally as a charter operator – 15 to 20 ops per year.

Go to Bryce but not to Zion this year.

All VFR ops.

Flight path from Page, AZ – to Rainbow Bridge, Monument Valley and deadhead to Bryce Canyon. Fly back via Pension Valley (Paria River Valley).

Fly at 5000 to 6000 msl (about 1000 agl).

Aircraft operated: Cessna 206 (1), Cessna 207 (2), 172 (1), once in a while they will subcontract Twin Otters for charter work.

Fly some flights for National Firefighting service.

Primary airport Page, AZ, although some tours from SLC Airport.

Business seasonal – April through Oct in Page & SLC.

Fly IFR once in a while to get to destination based on localized bad weather.

Was interested in operations from St. George at one time, but dropped it. No business plans at the moment to expand there, but never know if new airport comes up.

LAS ATCT / TRACON Letter of Agreement for Helicopter Operations into and out of Class B Airspace

Nov 20 03 06:00p LAS ATCT (702)739-5816 P.1

NO 151

POSTED 11-28-03 1800 HRS HALL

Las Vegas Airport Traffic Control Tower (ATCT), Las Vegas Terminal Radar Approach Control (L30), North Las Vegas ATCT (VGT), and *

Changes are Highlighted

LETTER OF AGREEMENT

EFFECTIVE: November 26, 2003

SUBJECT: HELICOPTER OPERATIONS IN LAS VEGAS CLASS B AIRSPACE

1. PURPOSE. This letter of agreement (LOA) defines procedures and practices for helicopter operations within the Las Vegas Class B Airspace.

2. CANCELLATION. Las Vegas ATCT L30 VGT LOA with *, and **dated September 3, 2003** is hereby canceled.

3. SCOPE. To define helicopter coded departure and arrival procedures. This agreement does not constitute authorization to operate contrary to the requirements prescribed in Federal Aviation Regulations.

4. DEFINITIONS.

a. Las Vegas ATCT (LAS). Las Vegas Airport Traffic Control Tower (ATCT)

b. Las Vegas Tracon (L30). Las Vegas Terminal Radar Approach Control

c. METRO. Las Vegas Metropolitan Police, Air Support Search and Rescue Helicopters.

d. Strip Tour Area. That area between Koval and Paradise Road, north to US95, to west of Industrial, south to Russell Road. ***NOTE: When the altitude is stated at or below 3,000 feet MSL, the intent is that the aircraft will fly the specified route at 3,000 feet MSL.***

e. North Las Vegas ATCT (VGT). North Las Vegas Airport Traffic Control Tower (ATCT).

5. RESPONSIBILITIES.

a. Signatories *shall*: Ensure that all pilots in their employ, including any operating under subcontract, are familiar with and comply with the procedures and practices contained herein.

b. Pilots *shall*:

(1) Ensure they receive the current McCarran International Airport Terminal Information System (ATIS) prior to requesting departure from McCarran International Airport.

(2) Ensure they do not enter the Class B airspace without authorization.

(3) Operate in visual flight rules (VFR) conditions at all times and ***shall*** inform Las Vegas ATCT/ TRACON whenever terrain and/or weather conditions preclude compliance with air traffic control (ATC) instruction.

(4) Be responsible for providing their own terrain separation.

(5) Ensure they do not operate in the Strip Tour area unless otherwise instructed.

(6) Contact the appropriate ATC facility prior to lift-off. Helicopters located off McCarran International Airport may climb to an altitude not to exceed 200 feet above ground level (AGL) to establish two-way radio communication with Las Vegas ATCT.

(7) Ensure they remain clear of the Runway 19 and Runway 25 arrival and departure paths, except for **METRO**, when on **CODE 3.**

(8) Maintain at or below 3,000 feet mean sea level (MSL) within the Las Vegas Class B airspace unless otherwise requested and approved, except for the following areas:

(a) West of Rainbow Boulevard at or below 3,500 feet MSL.

(b) Boulder Highway southeastbound at or below 2,500 feet MSL.

NOTE: Pilots shall notify ATCT when they will be operating west of Rainbow BLVD.

(9) Inform Las Vegas ATCT of requested altitude and destination, if other than McCarran International Airport.

(10) Pilots ***shall*** report landing assured to the tower when on final and 100 feet AGL. *Exception:* Las Vegas Helicopter, Inc., ***shall*** report landing assured crossing I-15.

(11) Use pre-assigned beacon codes, in accordance with Attachment 1, when departing on a Tropicana Departure, Arden Departure, Strip Tour, or "C" Tour.

c. Las Vegas TRACON, Las Vegas ATCT *shall*:

(1) Not issue traffic information unless the pilot specifically requests, however, safety alerts ***shall*** be issued.

(2) Provide METRO priority over all traffic, except emergency aircraft, when METRO is responding to a "Call For Assistance, Code 3."

(3) L30 ***shall*** transfer communication of Callville Arrivals no Later than 5 DME east of Las Vegas VOR.

6. PROCEDURES. Unless otherwise cleared or requested, pilots ***shall*** comply with the following coded departure and arrival procedures.

a. Strip Tour.

(1) Cleared through the Las Vegas Class Bravo Airspace. Departing McCarran International Airport proceed north to the MGM parking garage, thence...

(2) Cleared to enter the Las Vegas Class Bravo Airspace. Entering Class B airspace from the west proceed southbound over I-15 then proceed west of I-15 prior to Flamingo, no further south than Russell Road, thence...

(3) Cleared to enter the Las Vegas Class Bravo Airspace. Entering Class B airspace from the east proceed to MGM parking garage, thence...

...**proceed northbound along Koval Lane until Twain Avenue,** thence direct to the intersection of Paradise Road and St. Louis Avenue, direct to the intersection of Charleston Boulevard and Las Vegas Boulevard, thence towards the El Cortez remaining south of Fremont Street, thence via a left turn along the east side of the Railroad tracks then southbound to the west side of I-15 at or before Flamingo Road, no further south than Russell Road. Maintain at or below 3,000 feet MSL. Contact Las Vegas ATCT on 123.825 MHz.

Note:

A. Pilots shall remain at least 500 feet from the Stratosphere Tower.

B. Pilots shall remain south of US-95.

b. Las Vegas Helicopter, Inc. The following route is for Las Vegas Helicopter, Inc., ***only***. This route is to be flown between *sunset* and *3 a.m.* ***only***:

"C" Tour. Cleared through the Las Vegas Class Bravo Airspace. Depart the Las Vegas Helicopter, Inc., pad and proceed via Harmon Avenue westbound to I-15, thence southbound via west of I-15 and east of Valley View to Tropicana Avenue, thence northbound via west of I-15 and east of Valley View to the railroad tracks, thence northbound via the railroad tracks remaining south of Fremont Street, thence via a right turn proceed southbound west of the railroad tracks to I-15, thence southbound via west of I-15 and east of Valley View to Harmon Avenue, thence eastbound to the Las Vegas Helicopter, Inc., pad. Maintain at or below 3,000 feet MSL while in Class B airspace. Contact Las Vegas ATCT on 123.825 MHz.

c. Tropicana Departure.

(1) Cleared out of the Las Vegas Class Bravo Airspace. Depart McCarran International Airport direct to the MGM Grand Hotel parking garage, thence hold over the MGM Grand Hotel parking garage until cleared beyond by Las Vegas ATCT. Thence...

(2) Cleared out of the Las Vegas Class Bravo Airspace. Depart the Las Vegas Helicopter, Inc., pad direct to the MGM Grand Hotel parking garage, thence hold over the MGM Grand Hotel parking garage until cleared beyond by Las Vegas ATCT. Thence...

...**proceed eastbound along the center of Tropicana Avenue** to 10 DME from the Las Vegas VORTAC. Maintain at or below 3,000 feet MSL. At 10 DME from the Las Vegas VORTAC you are clear of Class B airspace, radar service is terminated, squawk 1200. Contact Las Vegas Tower on the frequency designated by the ATIS.

d. Callville Arrival.

(1) **Route Description.** Cleared to enter Las Vegas Class Bravo Airspace, pass abeam Callville Bay Marina, then proceed direct to the intersection of Charleston Boulevard. and Hollywood Boulevard, then proceed westbound via the centerline of Charleston Boulevard to intercept the Boulder Highway median towards the El Cortez remaining south of Fremont Street. Then proceed westbound until the Railroad Tracks, thence southbound via the east edge of the Railroad Tracks to intercept the west edge of I-15 until crossing Tropicana Ave. Proceed eastbound to the airport/ramp south of Tropicana Ave. and north of Russell Road.

(2) **Altitude Information.** Maintain at or below 3,000 MSL while operating in Class Bravo airspace.

PILOT NOTE:

1. *Pilots **shall** be responsible for maintaining their own terrain separation while operating on this route.*

2. *Pilots **shall** obtain the current ATIS information and advise receipt on initial contact with L30 / LAS ATCT.*

   NOTE: This requirement does not relieve the controller of verifying that the pilot has the current ATIS.

3. *Pilots are asked to contact L30 in the vicinity of Callville Bay on **119.4.***

4. *When Runway 19/25 are active, pilots **shall** contact tower **(123.825)** at the Castaways.*

L30 Las Vegas TRACON

e. Arden Departure.

(1) Cleared out of the Las Vegas Class Bravo Airspace. Depart McCarran International Airport westbound via Russell Road until intercepting the railroad tracks. Remain north of the extended centerline of runways 25 until ATC approves crossing. Remain at 300 feet **AGL** until south of the extended centerline of runways 25. Thence…

(2) Cleared out of the Las Vegas Class Bravo Airspace. Depart the Las Vegas Helicopter, Inc., pad southwest bound to the west side of I-15 and intercept the railroad tracks southwest bound. Remain north of the extended centerline of runways 25 until ATC approves crossing. Remain at 300 feet **AGL** until south of the extended centerline of runways 25. Thence…

…proceed southbound via the railroad tracks. At 6 DME from the Las Vegas VORTAC you are clear of the Las Vegas Class B airspace, radar service is terminated, squawk 1200, frequency change is approved. Maintain at or below 3,000 feet MSL while in the Class Bravo airspace. Contact Las Vegas Tower on the frequency designated by the ATIS. *After passing the Las Vegas 6 DME fix, continue southeast bound via the railroad tracks to N35 56.44 W115 11.19 (at the bend along Interstate 15, between Hwy 146 and Sloan Mine Road), then direct N35 55.61 W115 07.95, then direct to the Boulder City substation (35 55.83 W 114 50.08) remaining south of the large power lines.*

f. Arden Arrival. Cleared to enter the Las Vegas Class Bravo Airspace at **the Las Vegas 6 DME fix and the Railroad Tracks.** Proceed northeast bound via the Railroad Tracks to Russell Road, thence via Russell Road proceed direct to McCarran International Airport. Remain south of the extended centerline of runways 25 until ATC approves crossing. Maintain at or below 3,000 feet MSL while in Class B airspace. Contact Las Vegas Tower on the frequency designated by the ATIS.

g. VGT Arrivals and Departures.

(1) **North Rancho 2.** Cleared out of the Las Vegas Class Bravo Airspace. Depart McCarran International Airport westbound to I-15, thence northbound along the east side of I-15 until W Charleston Boulevard, thence over S Grand/Central Parkway to abeam the I-95/15 interchange, thence westbound along the north side of I-95 to Rancho Drive, thence northbound via the east side of Rancho Drive to North Las Vegas Airport. Clearing I-95 northbound radar service is terminated; contact North Las Vegas ATCT on 125.7 MHz. Maintain at or below 2,700 feet MSL while in Class B airspace. Contact Las Vegas Tower on 123.825 MHz.

(2) **South Rancho 2.** Cleared to enter the Las Vegas Class Bravo Airspace. Depart North Las Vegas Airport southbound along the west side of Rancho Drive, thence eastbound along the south side of I-95 to I-15, thence southbound over I-15 to Russell Road, thence direct to McCarran International Airport. Contact Las Vegas ATCT on 123.825 MHz. Maintain at or below 2,700 feet MSL while in Class B airspace. Contact North Las Vegas on 125.7 MHz.

(3) **"D" Tour.**

(a) Depart VGT via the South Rancho 2 until reaching the I-95/15 interchange, thence proceed southeast bound to join the standard Strip Tour route (par. 6a) on the east side of the railroad tracks. Remain north of the Government Center until established at the railroad tracks.

(b) Depart the standard Strip Tour route westbound after crossing the railroad tracks, proceed to the I-95/15 interchange and intercept the North Rancho 2.

j. Photo Missions. Photo Missions will be approved or disapproved based on known circumstances at the time of the request. Las Vegas ATCT reserves the right to change or cancel the photo mission prior to lift off or while the photo mission is in progress. Requests for photo missions ***shall*** be called in to the Las Vegas ATCT at least 2 hours prior to the mission. A written itinerary of the photo mission ***shall*** be faxed to the Las Vegas ATCT at the time of the request. The Las Vegas ATCT fax number is (702) 739-5816.

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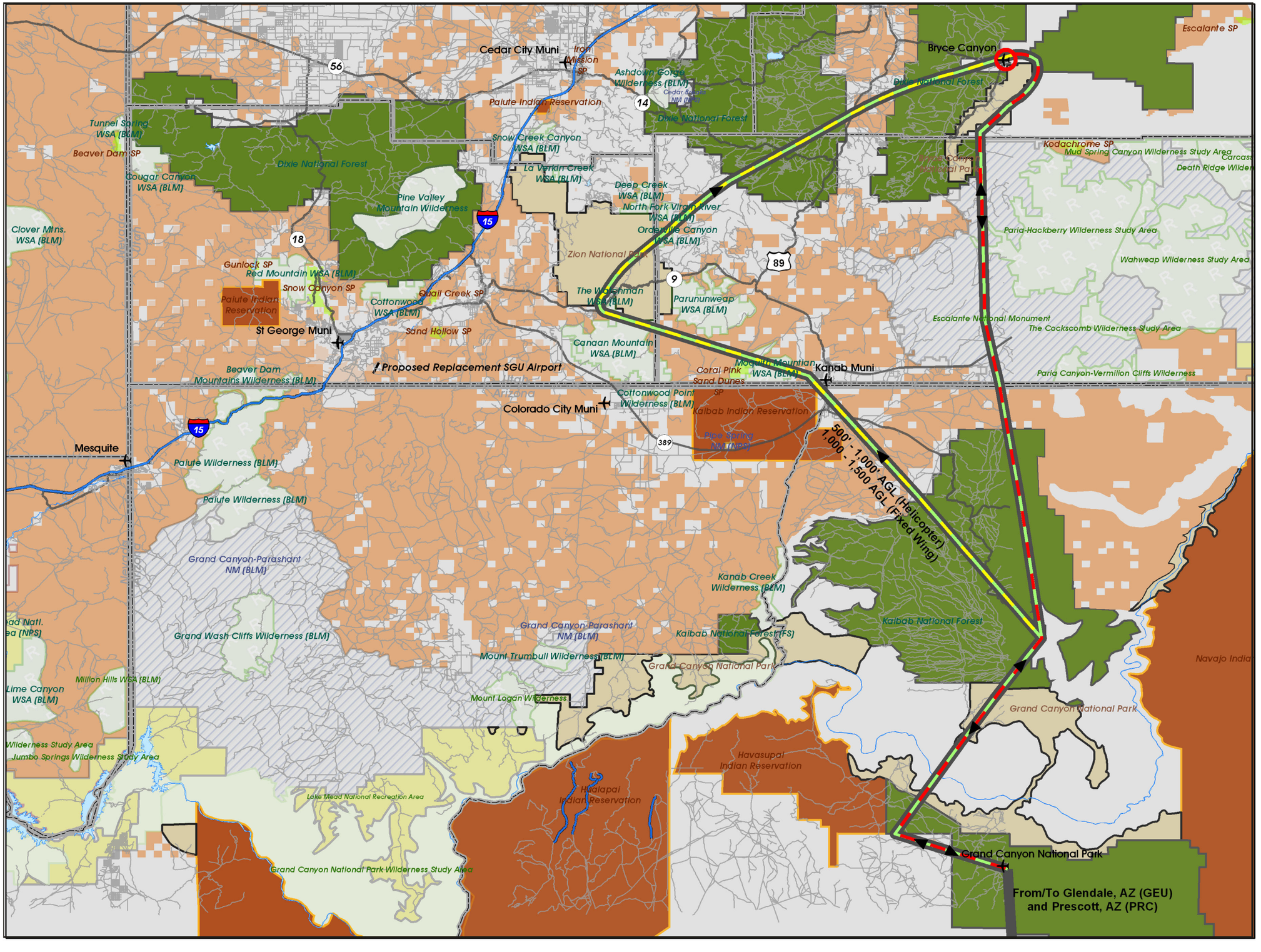
St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)

- Grand Canyon Airlines, Bryce-only Tour
- Grand Canyon Airlines, Zion Extension with Bryce Tour
- Air Grand Canyon, AirStar, Windrock
- McCarian Air Tour
- 1,000' AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004.

Base Map Compiled From:
Utah Automated Geographic Reference Center (AGRC)
http://atlas.utah.gov/, Downloaded 2/04

School and Institutional Trust Lands Administration (SITLA)
http://atlas.utah.gov/, Downloaded 2/04

USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

AirStar, Air Grand Canyon, Grand Canyon Airlines, Makarion, and Windrock Air Tour Routes

0 6 12 Nautical Miles

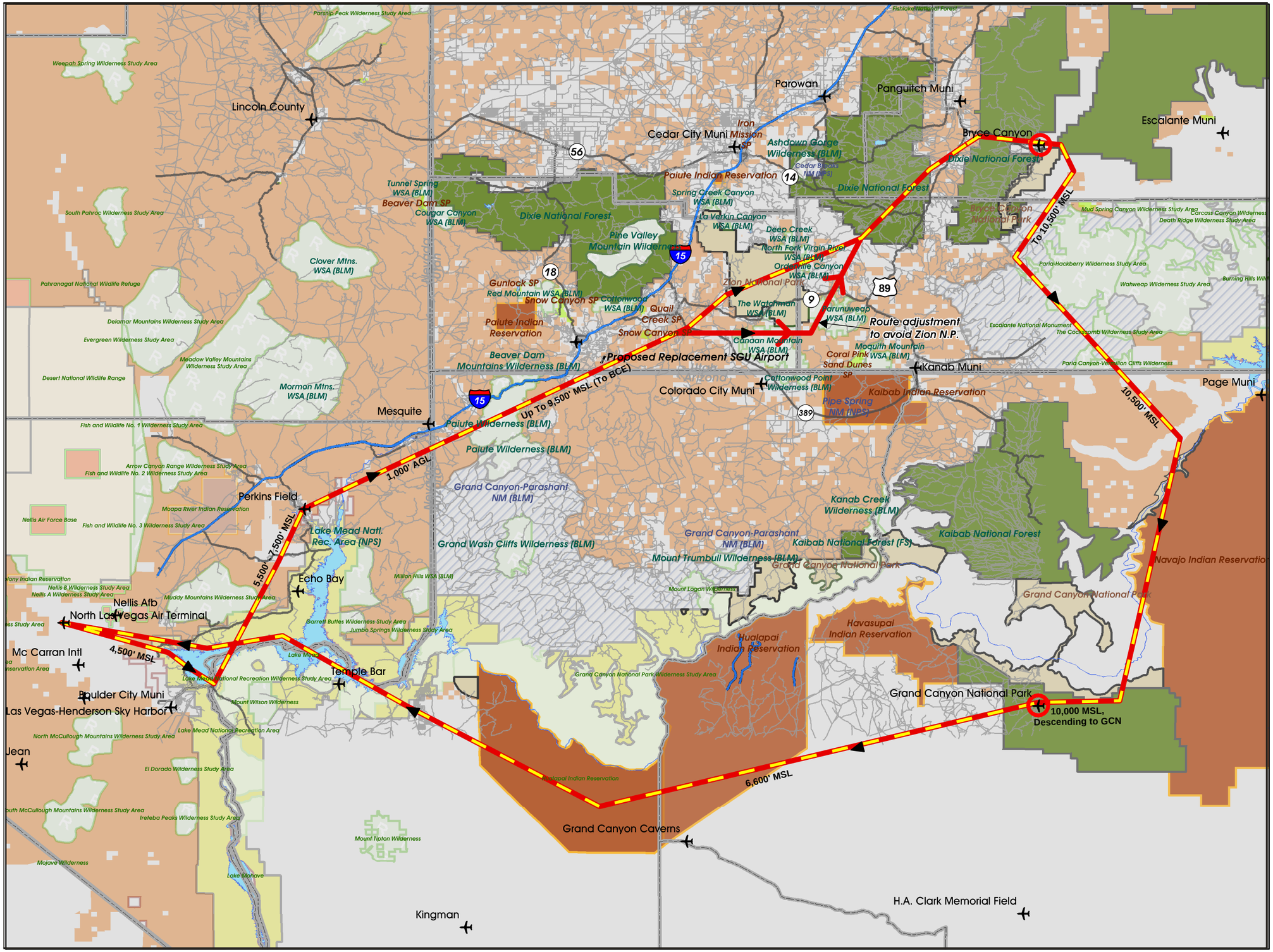
12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_2.mxd

NORTH

EXHIBIT

C. 1

St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- Air Vegas Airlines
- Scenic Airlines
- 9,500' MSL — Altitude Above Sea Level
- 1,000' AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004

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USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

Air Vegas Airlines and Scenic Airlines Tour Routes

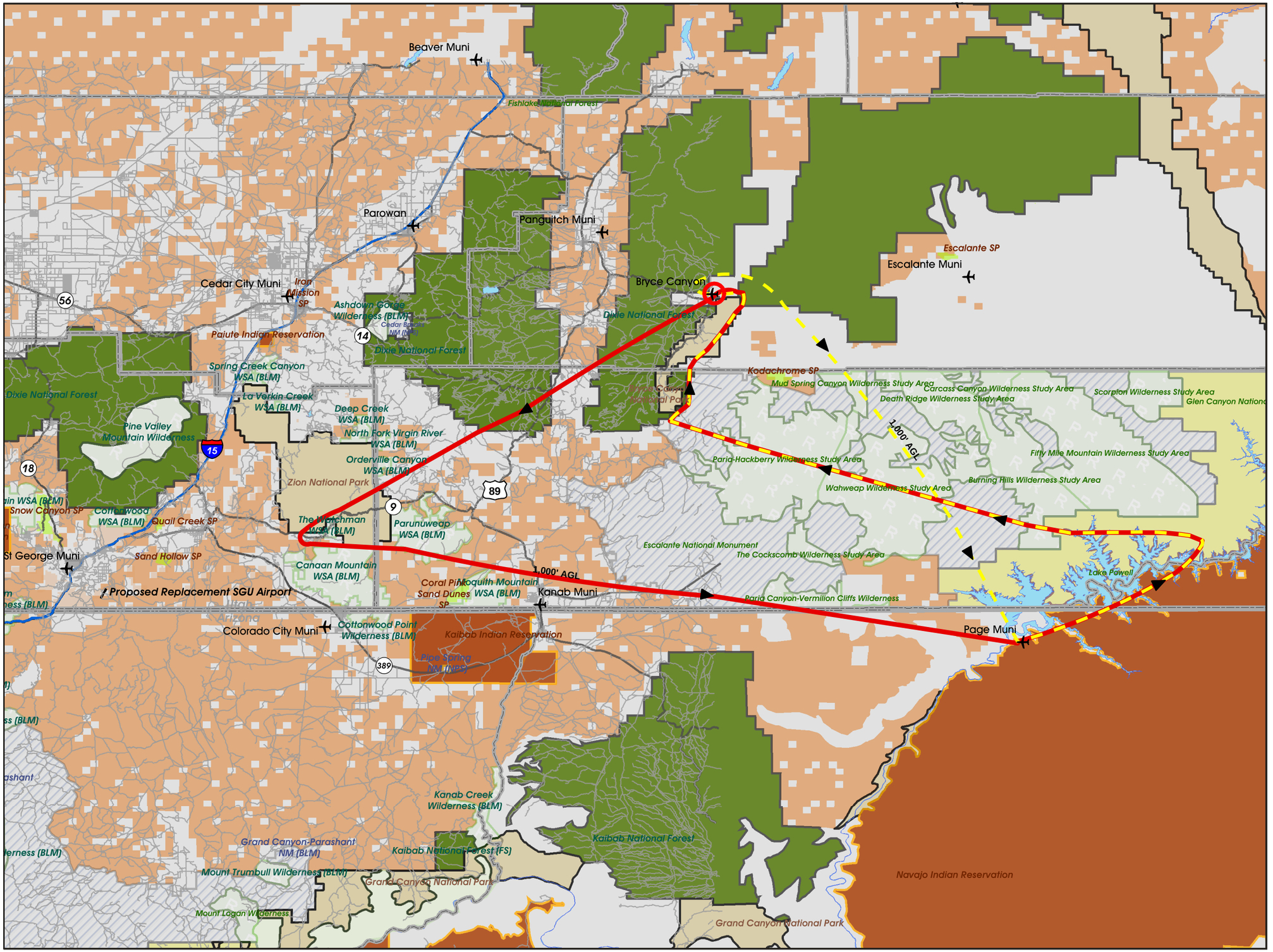
0 9 18 Nautical Miles

12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_7.mxd

NORTH

EXHIBIT
C. 2

St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- Bryce-only Tour
- Bryce & Zion Tour
- 1,000 AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators and subsequent analysis by NGIT, Inc., Spring-Summer 2004.

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USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

American Aviation Tour Routes

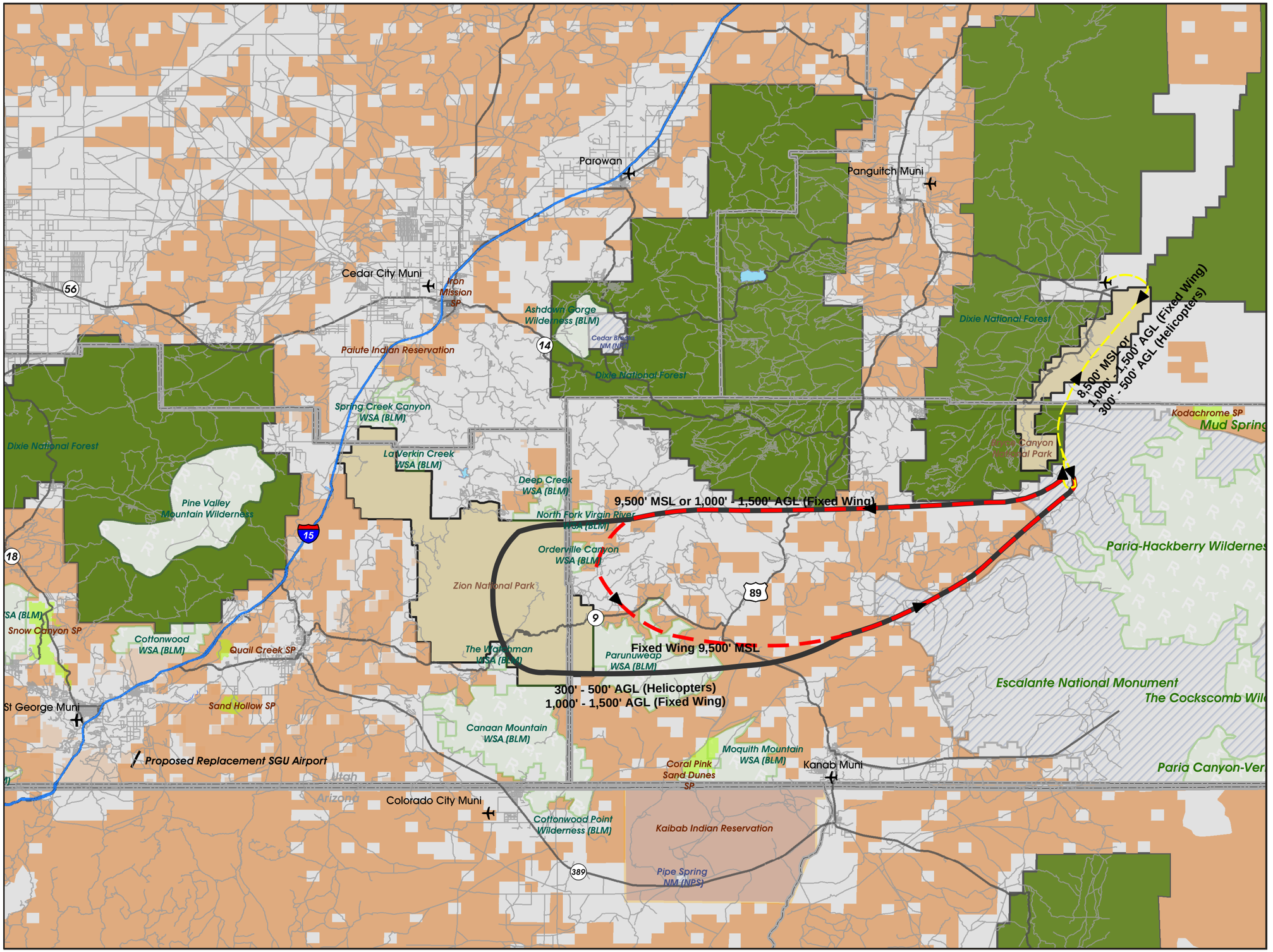
Nautical Miles
0 6 12

12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_6.mxd

NORTH

EXHIBIT
C. 3

St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- Bryce Canyon Route - Both Operators
- Zion Tour Extension M&S Aero
- Zion Tour Ext. Bryce Canyon Airlines
- 8,500' MSL — Altitude Above Sea Level
- 1,000' AGL — Altitude Above Ground

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004.

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USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

Bryce Canyon Airlines & M&S Aero Air Tour Routes

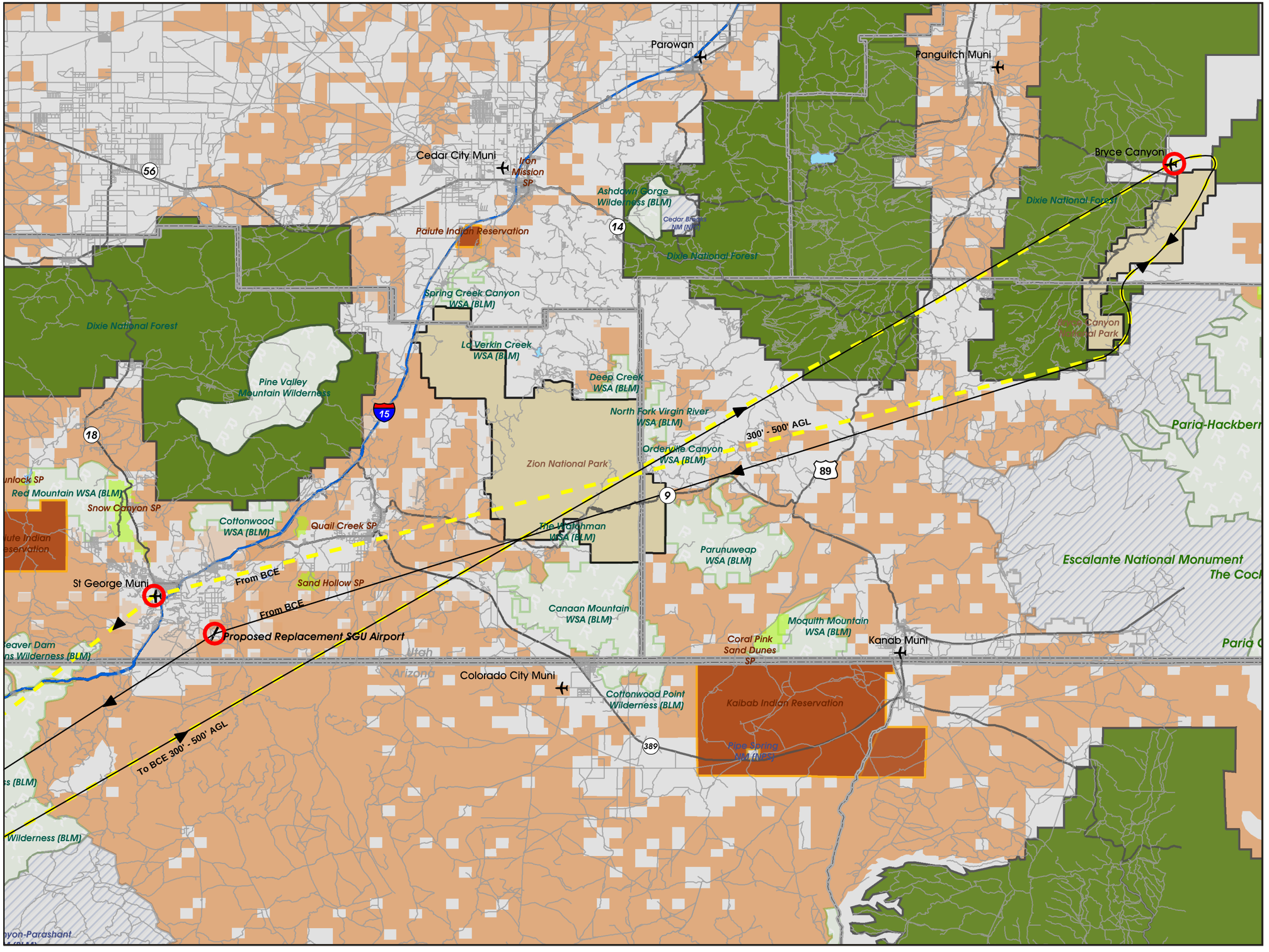
0 4 8 Nautical Miles

12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_1.mxd

NORTH

EXHIBIT
C. 4

St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- Current Route
- Route w/ Replacement Airport
- 500' AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004.

Base Map Compiled From:
Utah Automated Geographic Reference Center (AGRC)
http://atlas.utah.gov/, Downloaded 2/04

School and Institutional Trust Lands Administration (SITLA)
http://atlas.utah.gov/, Downloaded 2/04

USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

Heli USA, Maverick, and Papillon Airways Tour Routes

0 4 8 Nautical Miles

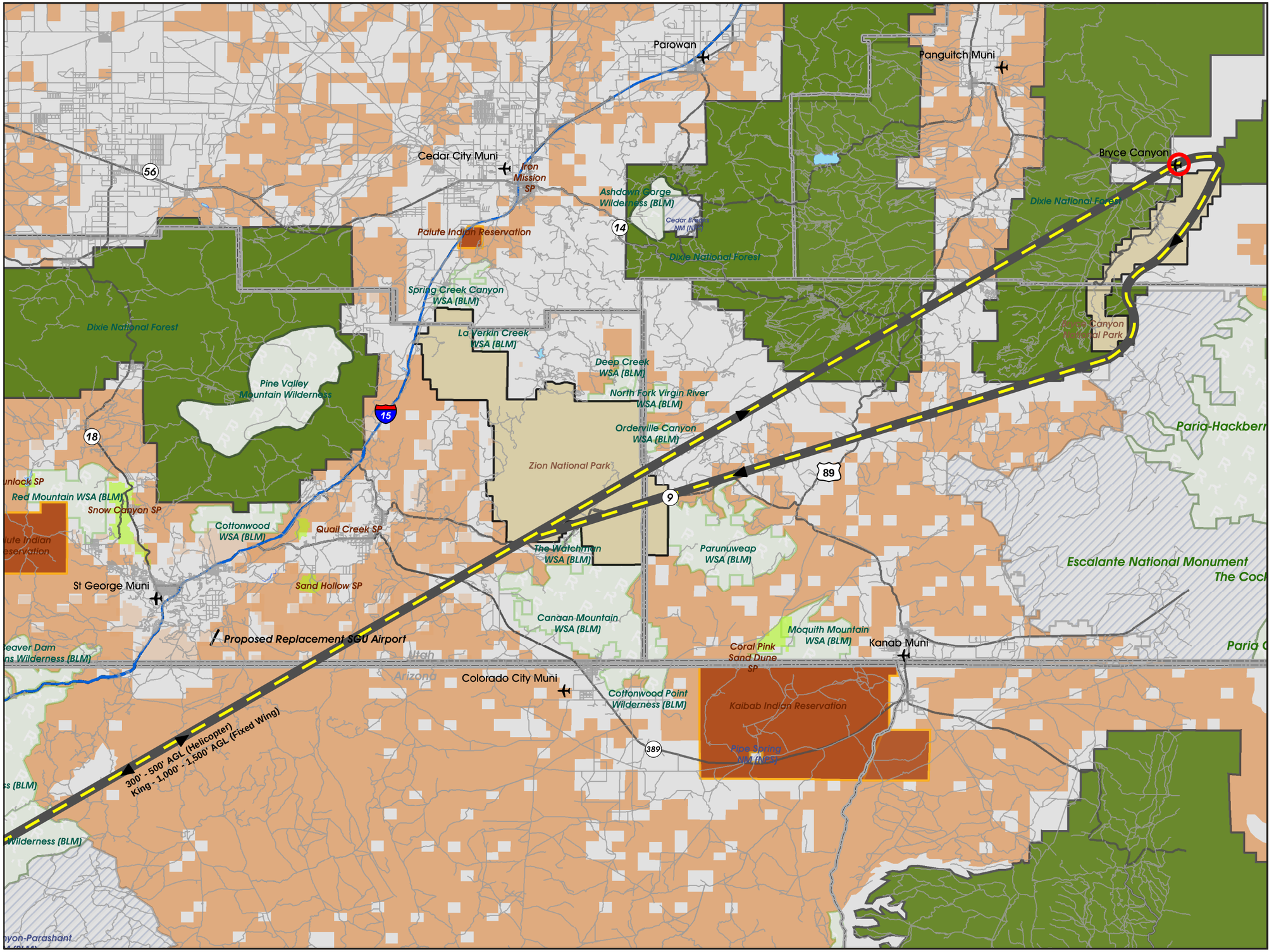
12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_4.mxd

NORTH

EXHIBIT

C. 5

St. George Municipal Airport Environmental Impact Statement



LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- King Airlines
- Las Vegas Helicopter
- 500' AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004.

Base Map Compiled From:
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http://atlas.utah.gov/, Downloaded 2/04

School and Institutional Trust Lands Administration (SITLA)
http://atlas.utah.gov/, Downloaded 2/04

USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

King Airlines and Las Vegas Helicopters Tour Routes

0 4 8 Nautical Miles

12/07/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_5.mxd

NORTH

EXHIBIT
C. 6

St. George Municipal Airport Environmental Impact Statement

FEDERAL AVIATION ADMINISTRATION

LEGEND

- Highway
- Interstate
- Street
- Cities
- National Park
- State Park (SP)
- Bureau of Reclamation
- Indian Reservations
- National Forest
- National Monument
- National Recreation Area
- Wilderness Area
- Wilderness Study Area
- Public Domain Land (BLM) and State Lands
- State Park (SP)
- Current Route
- Route W/Replacement Airport
- Current Bryce-only Route
- Bryce-only Route With Replacement Airport
- 500' AGL — Altitude Above Ground
- Rest/Fuel Stop

Source:
Routes, altitudes from interviews with operators, subsequent analysis by NGIT, Inc., Spring-Summer 2004.
Base Map Compiled From:
Utah Automated Geographic Reference Center (AGRC)
http://atlas.utah.gov/, Downloaded 2/04
School and Institutional Trust Lands Administration (SITLA)
http://atlas.utah.gov/, Downloaded 2/04
USGS Land Use and Land Cover (LULC)
http://edc.usgs.gov/, Downloaded 2/04

Sundance Helicopters Tour Routes

0 5 10 Nautical Miles

12/08/2004
Prepared by: Landrum & Brown
Filename: Tour_Routes_3.mxd

NORTH

EXHIBIT
C. 7