

62771

U.S. Department  
of Transportation

FEDERAL AVIATION  
ADMINISTRATION  
Office of Aviation Policy and Plans

Washington, D.C. 20591

DEPT. OF TRANSPORTATION  
DOCKET SECTION

99 SEP -7 PM 3: 08

FAA-1999-5927-38

---

**INITIAL REGULATORY EVALUATION,  
INITIAL REGULATORY FLEXIBILITY ANALYSIS,  
INTERNATIONAL TRADE IMPACT ASSESSMENT, AND UNFUNDED  
MANDATES ASSESSMENT**

**NOTICE OF PROPOSED RULEMAKING**

**COMMERCIAL AIR TOUR LIMITATION  
IN THE  
GRAND CANYON NATIONAL PARK  
SPECIAL FLIGHT RULES AREA**

**OFFICE OF AVIATION POLICY AND PLANS  
OPERATIONS REGULATORY ANALYSIS BRANCH, APO-310**

**Norman R. Elrod, Gary S. Becker,  
Paul Jorgensen, Bruce Peacock**

**MAY, 1999**

Table of Contents

<b>Executive Summary</b> .....	<b>iii</b>
<b>1. Introduction</b> .....	<b>1</b>
<b>A) History</b>	
Interagency Working Group	
President's Memorandum	
Comprehensive Noise Management Plan	
<b>B) Commercial Air Tour Industry Profile</b>	
Small Business Concerns	
<b>C) The Proposed Rule</b>	
Definitions	
Requirements Specific to Commercial <b>SFRA</b> Operations	
Operations Limitation	
Initial Allocation	
Flight Plans	
Reporting and Recordkeeping	
Transfer of Allocations	
2. Benefits.....	41
A) Restoration of Natural Quiet	
<b>B) Increased Value of Ground Visit Analysis</b>	
3. Costs of Compliance and Initial Regulatory Flexibility	
<b>Determination and Analysis</b> .....	<b>53</b>
<b>A) Revenue Impact of Compliance Model</b>	
Initial Allocation of Air Tours	
Calculation of Baseline Number of Passengers	
Calculation of Baseline Gross Operating Revenue	
Calculation of Baseline Variable Operating Cost	
Calculation of Baseline Net Operating Revenue	
Forecast of Growth	
Calculation of Future Monthly Operations Without the Proposed Rule	
Estimating the <b>reduction</b> of Future Commercial Air Tours (1-yr, 2-yr, 5-yr, and 10-yr rule)	
Calculating the Present <b>Value</b> of Net Operating Revenue of the Proposed Rule and Alternatives	
Other Model Considerations	

- B) Cost of Various Operating Scenario Alternatives to Operators
  - The Proposed Five-Month Peak Season (May 1 to September 30) on **Commercial Air Tours**
  - Uniform Year With No Peak/Off Peak Delineation on **Commercial Air Tours**
  - Three-Month Peak Season (July 1 to September 30) on **Commercial Air Tours**
- C) Cost of Various Reporting Requirements Alternatives to operators
  - Reporting on a Trimester Basis
  - Reporting on a Quarterly Basis
- D) Cost of Implementing the Rule to Operators
  - Operational Reporting
  - Flight Plan
- E) Cost of Other Provisions to Operators
  - Requesting Modification and Initial Allocations
  - Transfer of Allocations
- F) Cost of Proposed Rule to the FAA
  - Initial Allocation
  - Recording and Tracking
  - Processing Flight Plans
  - Transfer of Allocation's
- G) Initial Regulatory Flexibility Analysis
  - Reasons Why the **FAA** is Considering the Proposed Rule
  - The Objectives and Legal Basis for the Proposed Rule
  - The Kind and Number of Small Entities to Which the Proposed Rule Would Apply
  - The Projected Reporting, Recordkeeping, and Other **Compliance** Requirement of the Proposed Rule
  - All Federal Rules that may **Duplicate**, Overlap, or Conflict with the Proposed Rule
  - Affordability Analysis
  - Disproportionality Analysis
  - Competitiveness Analysis
  - Business** Closure Analysis
- H) Summary of Costs of Compliance
- I) Summary of Benefits and Costs

4.	International Trade Impact Assessment.....	91
5.	Unfunded Mandates Assessment.....	92
	Appendix.....	93

## Executive Summary

This draft regulatory evaluation examines the costs and benefits of the proposed rule that would temporarily **limit** the number of commercial air tours that may be conducted in the Special Flight Rules Area of the Grand Canyon National Park. This proposal is necessary as part of an effort to achieve the statutory mandate imposed by Public Law 100-91 of providing substantial restoration of natural quiet and experience in Grand Canyon National Park.

The estimated 10-year cost of this proposed regulation would be \$179.1 million or \$115.6 million discounted. The majority of the impact of this proposed regulation, would be \$177.6 million, (\$114.6 million, discounted) in lost revenue (net of variable operating costs). The estimated **10-year** cost of the other provisions to air tour operators which includes (1) reporting four times annually, (2) filing of flight plans, (3) transfer of allocations and (4) requesting modifications and initial allocations is \$30,000 or \$23,000 discounted. FAA costs include those associated with initial allocations, annual recording and tracking, transfers of allocations, and filing of flight plans. These FAA **10-year** costs are estimated at \$1,445,900 or \$1,016,900, discounted.

The primary benefit of this proposed rule is its contribution toward meeting the statutory mandate of substantially restoring natural quiet in Grand Canyon National Park. Benefits are primarily the use benefits perceived by individuals from the direct use of a resource such as hiking, rafting, or sightseeing. The estimated **10-year** use benefits as a result of this proposed rule would be 534.6 million, discounted at 7 percent (assuming only the air tour limitation rulemaking is implemented). In addition to these use benefits, this rulemaking may generate non-use benefits. The FAA, at this time does not have adequate data to estimate the non-use benefits of aircraft

noise reduction at **GCNP** but **believes** that they are significant. The FAA proposes this **rule in response to congressional mandate.**

The proposed rule would impose a significant economic impact **on a substantial** number of small entities. In terms of international **trade**, the proposed rule would neither impose a competitive trade disadvantage to U.S. air carriers operating domestically nor to foreign air **carriers** deplaning or enplaning passengers within the **United States**. This proposal **does not contain any** Federal **intergovernmental or** private sector mandates. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

1. Introduction

This document contains an analysis of the costs and benefits of the Federal Aviation Administration (FAA) Notice of Proposed Rulemaking (NPRM) that would temporarily limit the number of commercial air tours that may be conducted in the Special Flight Rules Area (SFRA) of Grand Canyon National Park (GCNP). The proposed rulemaking also would revise the current reporting requirements for commercial air tours and add VFR flight filing requirements to enable the FAA to monitor and enforce the operational limitation. These proposed changes would allow the FAA and the National Park Service (NPS) to limit and further assess the impact of aircraft noise on Grand Canyon National Park.

In addition, this notice proposes non-substantive changes to 14 CFR part 93 subpart U to improve the organization and clarity of the rule. This notice is one part of an overall strategy to control or reduce aircraft noise on the park environment and to assist the NPS in achieving its statutory mandate imposed by Public Law 100-91 of providing substantial restoration of natural quiet and experience in Grand Canyon National Park.

The primary intended benefit of this rule is its contribution toward achieving this statutory mandate, and is estimated two ways in this analysis. First, an estimate is made (based on the Integrated Noise Model (INM)) of the percent advancement the rule would provide toward the goal. Second, an estimate is made (based on consumer surplus analysis) of the increased dollar value of enjoyment the proposal would contribute towards ground visitors due to reduced future aircraft noise in the park.

The costs of this rule fall into the following categories!:

- Reduction of net operating revenue to commercial air tour operators;
- Increased commercial air tour operator costs of complying with the additional reporting requirements;
- Increased FAA costs of on-going processing and analysis of the additional data provided by commercial air tour operators.

#### Al History

To address the problems associated with increasing air traffic over GCNP, the FAA initiated regulatory action in the summer of 1986, and then issued SFAR No. 50 on March 26, 1987, establishing a special flight rules area (SFRA) and flight regulations in the vicinity of the park (52 FR 9768). The FAA regulatory action and subsequent SFAR followed a midair collision between two commercial air tour aircraft over GCNP on June 18, 1986.<sup>1</sup> The SFAR was designed to reduce the risk of midair collision and terrain contact accidents below the rim level. These requirements were modified and extended by SFAR 50-1 (52 FR 22734, June 15 1987).

In 1987 Congress enacted Public Law (Pub. L.) 100-91, commonly known as the National Parks Overflights Act. Public Law 100-91 stated, in part, that "noise associated with aircraft overflights at GCNP [was] causing a significant adverse effect on the natural quiet and experience of the park and current aircraft operations at the Grand Canyon National Park

---

<sup>1</sup> Although not a cost considered in this rulemaking, the FAA also has determined that this proposal would result in a reduction in GCNP income (overflight and visitor gate fees) to the National Park Service.

<sup>2</sup> The midair collision involved a de Havilland DHC-6, Twin Otter and a Bell Jet Ranger helicopter and resulted in 25 fatalities. The Twin Otter was operated under part 135 by Grand Canyon Airlines, Inc. and the helicopter was operated under part 91 by Helitech, Inc. which no longer conducts commercial air tours in the Canyon.

have raised serious concerns regarding public safety, including concerns regarding the safety of park users."

Section 3 of Public Law 100-91 required the Department of Interior (DOI) to submit to the FAA recommendations to protect resources in the Grand Canyon from adverse impacts associated with aircraft overflights. The law mandated that the recommendations provide for "substantial restoration of the natural quiet and experience of the park and protection of public health and safety from adverse effects associated with aircraft overflight."

In December 1987, the DOI transmitted its "Grand Canyon Aircraft Management Recommendation" to the FAA, which included both rulemaking and non-rulemaking actions. Public Law 100-91 required the FAA to prepare and issue a final plan for the management of air traffic above the Grand Canyon, implementing the recommendations of DOI without change unless the FAA determined that executing the recommendations would adversely affect aviation safety.

On May 27, 1988, the FAA issued SFAR No. 50-2, revising the procedures for aircraft operation in the airspace above the Grand Canyon (53 FR 20264, June 2, 1988). SFAR No. 50-2 also extended the Special Flight Rules Area (SFRA) from the surface to 14,499 feet above mean sea level (MSL) in the area of the Grand Canyon. The following rules were implemented under SFAR 50-2 as well: 1) prohibited flight below a certain altitude in each of the five sectors of this area, with certain exceptions; 2) established four flight-free zones from the surface to 14,499 feet MSL; 3) provided for special routes for air tours; and 4) contained certain terrain avoidance and communications requirements for flights in the area.

A second major provision of section 3 of Public Law 100-91 required the DOI to submit a report to Congress discussing "whether the plan has succeeded in substantially restoring the natural quiet in the park; and . . . such other matters, including possible revisions in the plan, as may be of interest."

On September 12, 1994, the DOI submitted its final report and recommendations to Congress. This report, entitled, "Report on Effects of Aircraft Overflights on the National Park System" (Report to Congress), was published in July 1995. The Report to Congress recommended numerous revisions to SFAR No. 50-2 in order to substantially restore natural quiet in GCNP. Recommendation No. 10, which is of particular interest to this rulemaking, states: "Improve SFAR 50-2 to Effect and Maintain the Substantial Restoration of Natural Quiet at Grand Canyon National Park." This recommendation incorporated the following general concepts: simplification of the commercial sightseeing route structure; expansion of the flight-free zones; accommodation of the forecast growth in the air tour industry; phase-in use of quieter aircraft technology; temporal restrictions ("flight-free" time periods); use of the full range of methods and tools for problem solving; and institution of changes in approaches to park management, including the establishment of an acoustic monitoring program by the NPS in coordination with the FAA.

On June 15, 1995, the FAA published a final rule that extended the provisions of SFAR No. 50-2 to June 15, 1997 (60 FR 31608), pending implementation of the final rule adopting DOI's recommendations.

On December 31, 1996, the FAA issued a final rule (61 FR 69302) implementing many of the recommendations set forth in the NPS report including: flight-free zones and corridors; minimum flight altitudes:

general operating procedures; curfews in the Dragon and Zuni Point Corridors; and a cap on the number of commercial sightseeing aircraft that could operate in the SFRA. The FAA subsequently **issued** a written interpretation stating that the aircraft cap applied to the **number** of aircraft operating in the SFRA at a given time. This final rule was **issued** concurrently with a Notice of Proposed Rulemaking regarding Noise Limitations for Aircraft Operations in the Vicinity of Grand Canyon National Park; a Notice of Availability of Proposed Commercial Air Tour Routes for Grand Canyon National Park and Request for Comments; and the Environmental Assessment. The final rule was originally scheduled to become effective May 1, 1997.

On February 26, 1997, (62 FR 8861) the FAA published a delay of the effective date to January 31, 1998, for those portions of the **December 31, 1996**, final rule that (1) define the Grand Canyon SFRA (14 CFR 93.301), (2) define the flight-free zones and flight corridors (14 CFR 93.3051, **and** (3) establish minimum flight altitudes in the vicinity of the GCNP (14 CFR 93.307). The February 26, 1997, final rule also reinstated the corresponding sections of SFAR 50-2 until January 31, 1998 (flight-free zones, the Special Flight Rules Area, and minimum flight altitudes). **On December 17, 1997**, the effective **date** for these sections was delayed to January 31, 1999 (62 FR 66248). On **December 7, 1998**, the effective date for 14 CFR 93.301, 93.305, and 93.307, was delayed until January 31, 2000 (63 FR 675431).

The FAA's final rule was challenged before the U.S. Court of Appeals for the District of Columbia Circuit by the following petitioners: Grand Canyon Air Tour Coalition; the Clark County Department of Aviation and the Las Vegas Convention and Visitors Authority; the Hualapai **Indian Tribe**; and seven environmental groups led by the Grand Canyon Trust. The petitioners charged that the FAA misapplied Public Law 100-91 in

implementing the final rule and committed several procedural errors during the rulemaking process. The Court ruled in favor of the FAA and upheld the final rule.

#### Interagency Working Group

On December 22, 1993, Secretary of Transportation Federico Peña and Secretary of the Interior Bruce Babbitt formed an interagency working group (IWG) to explore ways to limit or reduce the impacts from overflights on national parks, including the GCNP. Secretary Babbitt and Secretary Peña concurred that increased flight operations at GCNP and other national parks have significantly diminished the national park experience for some park visitors, and that measures can and should be taken to preserve a quality park experience for visitors, while providing access to the airspace over the national parks. The FAA has been working closely with the NPS to identify and deal with the impacts of commercial air tours on the GCNP.

The IWG's goal through this rulemaking is to prevent the aircraft noise situation from worsening. Concurrently, with this NPRM, the FAA also is issuing a Notice of Availability of Routes whereby it indicates certain modifications to routes through the SFRA, and an NPRM proposing airspace modifications.

The FAA also continues to work on the rulemaking initiated on December 31, 1996 proposing quiet technology aircraft. All of these steps are aimed at reducing the impact of aircraft noise in the GCNP. In addition to preventing the noise situation from worsening, controlling the overall number of commercial air tours in the SFRA will facilitate the analysis of noise conditions in GCNP and aid in the design of the noise management plan. Once the commercial air tour limitation and the new

routes are implemented, the FAA and NPS will be able to **more** closely determine whether these noise mitigation strategies have resulted in substantial restoration of natural quiet or whether additional steps should be taken to reach the statutory goal.

#### President's Memorandum

The President, on April 22, 1996, issued a Memorandum for the Heads of Executive Departments and Agencies to address transportation impacts on national parks. Specifically, the President directed the Secretary of Transportation to issue proposed regulations for GCNP that would place appropriate limits on sightseeing aircraft to reduce the noise immediately and make further substantial progress towards restoration of natural quiet, as defined by the Secretary of the Interior, while maintaining aviation safety in accordance with Public Law 100-91.

This memorandum also indicated that, with regard to overflights of the GCNP, "should any final rulemaking determine that issuance of a **further** management plan is necessary to substantially restore natural quiet in Grand Canyon National Park, the Secretary of Transportation, in consultation with heads of relevant agencies will complete within 5 years a plan that addresses how the Federal Aviation Administration and the National Park Service" will achieve the statutory goal. Any such plan shall be **completed** not more than 12 years from the date of this directive [2008].

#### Comprehensive Noise Management Plan

The Comprehensive Noise Management Plan (CNMP) is the overall process that the Federal Government will use to control and monitor noise conditions in GCNP to achieve the statutory goal of substantial

restoration of natural quiet. This plan is part of the NPS's overall effort to reduce noise levels from all sources within the park, as called for in the NPS's 1995 General Management Plan.' As part of the CNMP, the FAA and NPS are working together to develop a noise management program that addresses noise from aircraft overflights.

A plan that is a flexible and adaptive approach to noise mitigation and management, would: 1) address development of a reliable aircraft operations and noise database; 2) validate and document the most effective **uses** for FAA and NPS noise models in GCNP; 3) explore how the conversion to noise efficient aircraft can most effectively contribute to the substantial restoration of natural quiet while allowing for growth in the air tour industry; and 4) determine how to provide operators with incentives to purchase noise efficient aircraft. In developing this plan, the FAA and NPS are committed to an open process that will provide for full public involvement and consultation with affected Native American tribes.

As discussed above, the effective date for a portion of the 1996 Final rule was delayed. Additionally, the NPRM for Noise Limitations for Aircraft operations in the Vicinity of Grand Canyon National Park has not been finalized. As a consequence the FAA and NPS have had to delay the process of developing a noise management plan. Work to date has primarily focused on developing a database of air tour operations and developing a plan to improve noise modeling at the Grand Canyon.

---

<sup>3</sup> **Noise** reduction steps completed or currently in progress by NPS at the GCNP include: contracting for the use of a quiet technology aircraft (MD-900 NOTAR) and an airplane to use for emergency and administrative needs; planning for light rail, electric buses and other mass transit systems to reduce traffic congestion; converting to new quieter outboard motors for boats on the Colorado River; implementing road restrictions; and wilderness management planning using, in part, noise related indicators and standards.

## B) Commercial Air Tour Industry Profile

The Grand Canyon is the most active commercial air tour location in the United States. Based on Grand Canyon air tour operator response to the reporting requirements contained in 5 93.317, the FAA estimates that for the first full year of reporting (May 1997 through April 1998), approximately 88,000 commercial air tours were flown. These air tours provided aerial viewing of the Canyon to just **over** 615,000 passengers, and accounted for just **over** \$90 million in revenue.'

According to the United States Air Tour Association (USATA), for each \$1 spent on an air tour of the Canyon, an additional \$1.50 in air tour related revenue is generated. This suggests a GCNP air tour multiplier of 2.5. The \$90 million in revenue resulting from GCNP air tours alone, therefore, would approximate \$225 million in combined revenue from air tours and other air tour related **business**.<sup>5</sup>

Twenty-four operators filed trimester reports in accordance with § 93.317. Of these, 17 conducted fixed-wing air tours, 6 conducted helicopter air tours and one operator conducted air tours using both types of aircraft. Aircraft models in the fixed-wing fleet range from single engine Pipers and Cessnas with 3 passenger seats to deHavilland Twin Otters with 19 passenger seats. Most of the helicopter fleet is comprised of Bell models with seating for 4 to 6 passengers.

---

<sup>4</sup> These estimates do not take into account the tours conducted in pressurized aircraft operated **above the SFRA** by one of the operators. The FAA estimates the number of such tours to have ranged between 1,500 and 2,000 from May 1997 through April 1998. This would account for another 60,000 to 80,000 air tour passengers during the base period.

<sup>5</sup> The **FAA** estimates that about \$4 million of the additional revenue generated by commercial air tours is a result of the so-called overflight fee assessed air tour operators by the NPS, as well as gate

Fifty-five percent of the commercial air tours recorded during the base period were conducted in fixed-wing aircraft; 45 percent were conducted in helicopters. The fixed-wing tours accounted for just over 70 percent of the passengers and gross operating revenue with the balance being accounted for by the helicopter fleet. For the base year, 229 different aircraft (fixed-wing and helicopters) were operated at one time or another, but on average, about 110 were used each day. On the highest air tour volume day, 161 different aircraft (70 percent of the total available fleet) were utilized. During the winter or on a "weather" day, fewer than 50 (20 percent of the total available fleet) might only be used.

As noted above, GCNP air tour operators offer both fixed-wing airplane and helicopter tours of the Grand Canyon. For each of the two types of aircraft, they offer an extensive and varied range of tour packages. At one end of the spectrum are short, 35 to 45 or 55 minute quick "turn-around" tours in the Grand Canyon's Dragon and Zuni Point Flight Corridors, and 90 minute to 2-hour tours of the Grand Canyon's Southwest corner along the Colorado River south of the Sanup Flight-free Zone. Also known as fixed-base, non-stop or "air only" tours, because they depart from and return to the same airport without an interim stopover, these tours are priced between \$70 and \$100 for fixed-wing aircraft and between \$90 and \$160 for helicopters. The heaviest concentration of such tours (about 43,000 in the base period) originates from Grand Canyon Airport located at Tusayan, Arizona. By contrast, the number of "air only" tours (both fixed-wing and helicopter) south of the Sanup Flight-free Zone area was just under 19,000 during May 1997-Apr 1998.

---

fees assessed air tour passengers taking the ground portion of an air/ground tour package.

At the other end of the spectrum are point-to-point transportation/tour flights or "air-ground" tours, because they provide transportation from one location to another and include a tour of the Canyon along the way. The most popular of these **tours** (about 25,000 in the base period) is an extended day-long fixed-wing tour which includes a guided ground tour featuring the South Rim, **IMAX** Theater (optional) and Grand Canyon Village. Most of these tours originate in Las Vegas and fly the breadth of the Canyon before landing at Grand Canyon Airport in Tusayan. Among the variations offered off of this basic tour are overnight hotel accommodations at Grand Canyon Village or one of the East-end helicopter tours cited above. The basic tour price is around \$200, but can exceed \$300 depending on the additional tour options.

Similar helicopter tours available at this end of the spectrum are **half-day** excursions to Hualapai lands featuring river bank or below-rim bluff landings in the West-end region, and day-long or overnight excursions to **Supai** Village in the East-end region. The West-end air tours originate in Las Vegas and the East-end air tours originate in Tusayan; together, they accounted for 7,000 to 8,000 air-ground tours from May 1997-Apr 1998. The basic price is about \$300 for the former and \$400 for the latter, but prices can range higher in each case depending on the addition of available **tour** options."

---

<sup>6</sup> The West-end helicopter operators providing **air** tours along the Colorado River to Hualapai Indian Territory have entered into contractual agreements with the Hualapai Tribe. The total value of these agreements is estimated to be about \$1 million in revenue for the Hualapai. Similarly, on the East-end, one helicopter operator is contracted to provide air tour support (operated under an FAA Form 7711-1 Certificate of Waiver or Authorization) to the **Havasupai** Indian Tribe; the value of this contractual arrangement is unknown.

The West-end helicopter operators conducting air tours along the Colorado River south of the **Sanup** Flight-free Zone are permitted to descend to the Canyon floor or to points below the rim once on Hualapai Lands as part of their contractual arrangements with the Tribe. These descents with landings are limited to about 30 minutes each (again, by contractual agreement) and are time coordinated among the operators to maximize the total amount of quiet time for the passengers. A recently

About 50 percent of the air tours conducted ~~over~~ the Grand Canyon originate at one of four airports located in Las Vegas and surrounding area (point-to-point).<sup>7</sup> Forty-seven percent originate at Grand Canyon Airport in Tusayan (fixed-base, non-stop) and the remaining 3 percent originate elsewhere.<sup>8</sup> According to air tour operators, the tours operate at about 90 percent of aircraft seating capacity on average during the year, but vary by operator, by type of tour, and by season.

During the peak summer months air tours are conducted continuously throughout the day with minimal down time between tours. Air tour aircraft also generally operate at nearly full utilization of aircraft seating capacity during this season. During the winter months, however, demand<sup>9</sup> for GCNP air tours is reduced and some aircraft are taken out of GCNP air tour service and re-allocated for use elsewhere.

About 60 percent of all tours occur during the FAA defined 5-month summer or peak season (May-September). The FAA also determined that during the summer season, the highest frequency of air tours (just over 13 percent of daily air tours) occurred between the hours of 10 and 11 in the morning. In addition, while just over 50 percent of the tours

---

introduced joint venture features a fixed-wing air tour to and from Grand Canyon West Airport with a transfer to a helicopter to descend to the Canyon floor at the airport.

The customer base for these air tours are planned groups with typically high income levels.

<sup>7</sup> The four airports are **McCarran** International and North Las Vegas Airports in Las Vegas; Boulder City Municipal Airport in Boulder City, NV; and Henderson Executive Airport in Henderson, NV. One helicopter operator's base of operations is located on Las Vegas Blvd., also known as the "strip", in downtown Las Vegas. This operator currently conducts only "air only" tours inside the GCNP **SFRA**; his primary tour business appears to be scenic tours of Las Vegas, not subject to this rulemaking.

<sup>8</sup> Other originating points include Page, Sedonna, Flagstaff, and Phoenix, AZ, as well as Santa Fe, NM and **Bryce** Canyon, UT. Several of the air tours offered by these operators, particularly those operating

originating out of Las Vegas occur during this peak season, nearly 70 percent of the tours originating out of Tusayan and the other eastern area departure points occur during the summer season.

The more prevalent types of GCNP air tours offered to consumers and the SFRA routes more heavily used by the air tour operators are as follows:

--Fixed-Wing Aircraft Tours:

- **"Blue 1"**: This is the most prevalent of all GCNP fixed-wing commercial air tours in terms of numbers of tours, passengers flown and total revenue generated. It originates at one of the four Las Vegas airports, flies the "Blue 1" route along the North and South Rims, turning south at Mount Sinyala and landing at Grand Canyon Airport. Passengers on nearly 90 percent of these tours disembark at this point for extended day-long ground tours before returning along either the "Blue Direct" or "Blue Direct South" routes or outside the SFRA. These return routes extend over mostly plateau and desert terrain, but provide the most efficient means by which to transport the returning tour passengers. The basic cost of this air/ground tour is about \$200, but ranges in excess of \$300 depending on other available ground tour options. Prior to entering the GCNP SFRA, this tour overflies Hoover Dam and Lake Meade.

A variation of the air/ground tour is the air-only or "long tour" which reverses from the "Blue 1" route to the "Blue Direct" or "Blue Direct South" route at Havatagvitch Canyon. While this tour also offers Hoover Dam and Lake Meade as added attractions, it does not land for the ground portion discussed above. The air-only version of the "Blue 1" tour accounts for most of the remaining 10 percent traffic along the Blue 1 route; its basic cost ranges from \$140 to \$150 depending on the operator.

The Blue 1 route as described above, was effectively eliminated in the 1996 Final Rule. Air tours have continued on this route, however, because the effective date of the relevant provision of this rule has been delayed until January 31, 2000. In its stead, the FAA proposes to make available two direct routes-Blue Direct North and Blue Direct South.

- **"Blue 2"**: Also originating and terminating at one of the four Las Vegas airports, this non-stop tour follows the "Blue 2" route, looping the Southwest corner of the Canyon south of the Sanup Flight-free Zone and includes crossing over the Colorado River. The tour route extends as far as Diamond Creek, but most air tours reverse course at Horse Flat Canyon or Spencer Canyon or exit the SFRA at Quartermaster Canyon. Tour length ranges from one and one-half to two hours, including the time required to fly to and from Las Vegas. The basic cost is about \$90 and also includes an overflight of Hoover Dam and Lake Meade.

---

out of Page and Bryce Canyon, are "air only" tours of which the Grand Canyon is only one of the sites viewed during the course of the tour.

A variation of the air tour along the "Blue 2" route is a landing at Grand Canyon West Airport **outside** the SFRA on the Hualapai Reservation. Passengers can opt for a guided ground tour of the reservation provided by the Hualapai and/or a descent to the Colorado River provided by one of the Las Vegas helicopter operators. Reservation **ground** tour fees are remitted directly to the Hualapai by the passengers and are not included in the overall cost of the "Blue 2" air tour. The helicopter descent to the Colorado is typically part of a more extensive tour package retailing for about \$230 or more.

With the concurrent Notice of Route Availability, the Blue 2 route will be terminated and reversed at the western boundary of Horse Flat canyon. Also, the SFRA exit route through Quartermaster Canyon will be eliminated without contractual agreement with the Hualapai Nation. Use of **Quartermaster** Canyon will also require an FAA Form 7711-1 Certificate of Waiver or Authorization.

- **"Black 1, 1A"**: Typically originating at Grand Canyon airport, this non-stop tour follows the "Black 1" route North through the Zuni Point Corridor, turns West and South along "Black 1A" through the **Dragon** Corridor and terminates at Grand Canyon airport. Total tour **time** is about 50 minutes; tour **cost** is about \$70-\$75. A variation on this tour is to remain on the "Black 1" route which includes only the Zuni Point Corridor with tour time and cost reduced to about 35 minutes and \$55 respectively.

The Notice of Route Availability published December 31, 1996 restricted the Zuni Point **Corridor** to a northbound direction only. Weather deviation routes include the Bright Angel Flight-free zone **corridor** and a Northeast breakout to the Painted Desert at the Northern end of the Zuni Point **Corridor**.

- **"Marble Canyon Routes/Black 1, 1A"**: These air tours are typically conducted by operators not based at Tusayan or Las Vegas and traverse the Marble Canyon **Corridor** "Black 4" and "Black 5" routes in combination with the "Black 1" and/or "Black 1A" routes. They can be either point-to-point (typically, southbound on "Black 5" to "Black 1" or "Black 1A") landing at Tusayan, or fixed-based (typically northbound on "Black 1" to "Black 4") passing through Tusayan airspace en route to **Marble** Canyon. Prices from \$100 to \$350 depending on other features of the tour package.

Several other tours enter and exit the GCNP SFRA in the Marble Canyon Corridor north of Tusayan, **but** typically feature only a brief (less than 5 minutes) view of the Grand Canyon as part of a larger air tour package which includes other sights such as Monument Valley, Lake Powell and the Painted **Desert**. These air tours retail from \$200 to \$300, but include much which cannot be construed as an air **tour** of the **Grand** Canyon.

Upon implementation of the one-way restriction for the Zuni Point Corridor, southbound tours along the Black 5 will be required to transition to the Black 1A.

- **"Fossil Canyon Routes"**: Several kinds of air tours are included under this heading which account for only about 2 percent of all Canyon fixed-wing air tours. The common element, however, is that they all

traverse the Fossil Canyon Corridor. One air tour originates in Las Vegas flying the "Blue 1" to Towango Point where it transitions to the "Blue 1A" route around the Shinumu Flight-free Zone and through the Dragon Corridor to Tusayan. This is typically an "air-ground" tour similar to the "Blue 1" air tour. Another air/ground alternative is to transition to the "Brown 1A" route at Supai Point exiting the SFRA at Fire Point en route to Monument Valley.

Air-only options include flying a "Blue 1 Reverse" route from Tusayan airspace to Towango Point and then following the "Blue 1A" route as above, or exiting the SFRA and re-entering along the "Black 6" route in Marble Canyon to the "Black 1" or "Black 1A" back through Tusayan airspace. These tours are typically offered by operators not based at Tusayan or Las Vegas, and range in retail price from \$100 to \$200 depending on the distance traveled before entering the GCNP SFRA.

The December 31, 1996 final rule merged the Toroweap-Thunder River and Shinumu Flight-free Zones into the Toroweap-Shinumu Flight-free Zone thereby closing the Fossil Canyon Corridor. Upon full implementation of this rule, the Blue 1A, Brown 1A and Green 1A routes will be eliminated.

--Helicopter Tours:

- "Green 1, 1A & 2": This helicopter tour is equivalent to the "Black 1, 1A" fixed-wing air tour; time and cost is approximately 50 minutes and \$150-\$160, respectively. A helicopter variation along the "Green 1" route similar to the "Black 1" fixed-wing tour is also available with tour time and cost reduced to about 40 minutes and \$120, respectively.

Tours conducted along the "Green 1" route only will be eliminated upon implementation of the one-way restriction proposed for the Zuni Point Corridor.

- "Green 2": This tour is the most popular of the Grand Canyon helicopter tours accounting for nearly twice as many tours and passengers as all other helicopter tours combined. The tour is a relatively short up-and-back, or loop, through the Dragon Corridor, requiring about 35 minutes to-and-from Grand Canyon airport and retails for about \$90. It is a critical link between the Tusayan based operators and the ground (bus) charters which include an air tour as part of their Grand Canyon tour packages.
- "Green 4": The "air only" helicopter tour along the "Green 4" is equivalent to the "Blue 2" fixed-wing air tour. However, most (85 percent) of the helicopter tours conducted along the "Green 4" include a descent below the rim to the Canyon floor or bluffs just above with a landing option at Grand Canyon West Airport and guided Hualapai Reservation ground tour. The tours also feature other amenities while on Hualapai Lands.

The air-only tours typically reverse at Spencer Canyon and the air/ground tours typically exit the SFRA at Quartermaster Canyon. All tours include an overflight of downtown Las Vegas upon return. Total time is about two hours for the air-only tour and as much as half a day for the air/ground tour with a base tour price range of \$250-

\$350. These tours are a major source of income to the Hualapai Indian Tribe.'

The Green 4 helicopter tour is modified similar to the Blue 2 in the concurrent Notice of Availability.

- **"FAA Form 7711-1 Certificate of Waiver or Authorization Routes":** These tours (estimated to be about 1 percent of the total), include the "Brown" fixed-wing and the "Green 3" helicopter routes. These "tours" provide aerial support for river rafters as well as economic support to the Havasupai Indian Tribe. They, like the "air-ground" tours along the "Green 4" tour route are able to operate below the rim, but are exempt from previous rulemakings.

Most air tour operators, although operating as part 135 on-demand rather than part 121 scheduled operators, are charter operators in that they pre-book their flights to ensure maximizing seating capacity. The most prominent charter groups are international. For the Las Vegas air tour operators the prevalent foreign tour groups are Japanese, Chinese and other Far East Asian populations, estimated to make up from 60 percent to 90 percent of their passenger base. For the Tusayan based operators, the more prevalent foreign tour groups are Western European, particularly British and German, and are estimated to comprise between 35 percent and 50 percent of their passenger base. Tour groups are pre-booked by several Las Vegas operators through foreign tour agents at such events as the annual Pow Wow sponsored by the Travel Industry of America (TIA).<sup>10</sup> Another prominent charter group on which the operators

---

<sup>9</sup> Air tour operators indicated during FAA site visits that the Hualapai Indian Tribe derives nearly \$1 million in revenue annually from negotiated contracts for landing privileges with the air tour operators. This does not include the revenue derived from air tour passengers who direct pay to the Hualapai for the Hualapai Reservation guided ground tour.

<sup>10</sup> Some operators maintain foreign sales offices and it is estimated that the lead-time required for marketing Canyon tours abroad can range up to one year. Also, many of the Las Vegas operators forecast and adjust their fleet requirements and business needs annually based on charter agreements with foreign tour agencies which have pre-sold bookings to Las Vegas as part of a larger U.S. tour. Prior rulemaking comments indicated that advanced bookings are typically made from 3-6 months in advance, but, as already noted, can be as much as one year in advance.

of Grand Canyon air tours are dependent, is the **bus tour industry** which features **the Canyon air tours** as part of a larger scenic tour package.

Another category of air tour operator in Las Vegas is what is referred to as "strip" operators. These operators have entered into contracts with one or more of the large Casino-hotels in Las Vegas (or with its consignee) for preferential referral to its guests. Charter groups are then **made** up of guests of one or more of the large Casino-hotel establishments in Las Vegas. There are also "overflow" operators who pick-up excess passengers on-demand which cannot be accommodated at the time by one of the operators serving a charter group. "Overflow" operators typically have contractual arrangements with specific air tour operators. Finally, very little of the Grand Canyon air tour business is a result of people purchasing air tours spontaneously by "walk-ups".

Air tours, like the overall tour industry itself, are subject to cyclical and seasonal phenomena. The GCNP air tour industry, however, is also highly susceptible to business cycles abroad as well as fluctuations in international markets and exchange rates." This sensitivity derives from the large proportion of foreign air tour customers visiting the Grand Canyon. The recent severe economic **down** turn in Japan and other East Asian markets has had an adverse effect on the Las Vegas market and the air tour businesses **located there. Las** Vegas operators cite this as the most significant factor contributing to the nearly 15 percent drop in air tour business between the 1995 base year used in previous Grand Canyon rulemakings and the current base year

---

<sup>ii</sup> Historically, during the '80's, a particularly volatile period in international economics, Scenic Airlines, one of the larger air tour operators at GCNP, experienced a drop in passenger enplanements in excess of 50 percent from 210,474 in 1980 to 89,708 in 1983. By 1990, its passenger enplanements had climbed to 311,710.

of May 1997 through April 1998. Another international event believed to have contributed to the reduction in air tour business between the two baselines is that the recent World Cup was held in France. This impacted Tusayan operators as a significant part of their European passenger base remained at home at the height of the '98 summer season. Grand Canyon air tour operators experienced a relatively high average annual rate of growth between 1987 and 1993--between 9.5 percent to 15.0 percent average per year. This level of growth, however, could only be sustained if the economic factors and other conditions that prevailed in the 1987-1993 period were to continue. In fact, Grand Canyon air tours declined nearly 15 percent between the 1995 base period used in previous Grand Canyon rulemakings and the base year period (May 1997 through April 1998) adopted for this rulemaking. These variations in growth rates, however, serve to emphasize the cyclical nature of the Grand Canyon air tour business. The FAA, therefore, continues to use the 3.3 percent compound annual rate of growth developed for the 1994-2010 time frame by its Statistics and Forecast Branch (APO-110), in its forecasts because this more modest growth rate for GCNP air tours allows for just such variations and economic cycles."

---

<sup>12</sup> In an internal information paper estimating growth in commercial air tours at GCNP, "Grand Canyon Forecast", the FAA Statistics and Forecast Branch (APO-110) utilized 1994 Terminal Area Forecast (TAF) data in conjunction with air taxi data for five airports from which GCNP commercial air tours originate. These airports were Las Vegas McCarran, North Las Vegas, Grand Canyon Airport, Henderson Executive (Sky Harbor) and Boulder City. The 1994 TAF estimates indicate Grand Canyon operations will increase at a compound annual rate of 3.3 percent over the 16-year forecast period (1994-2010). This compound annual rate of growth was derived from the calculated 10-year growth of 43 percent for projected "Grand Canyon" operations, a statistic determined to be within the range of error of the 50 percent estimate noted above.

More recent, preliminary estimates by the FAA Statistics and Forecast Branch suggest a lower growth rate (about 2.9 percent). The new growth rate estimate may be used in the regulatory analysis for the final rule.

The FAA also estimates general aviation operations at GCNP Airport at approximately 9,000 in 1987 and 7,000 in 1993, suggesting no increase in general aviation activity. According to the Las Vegas FSDO, general aviation accounts for about 3 percent of all GCNP overflights.

The FAA has determined that the baseline to be used for the commercial air tour limitation will be the first 12 months during which Grand Canyon air tour operators were required to report under § 93.317. What follows is an aggregate statistical profile of the air tour industry based on the operator's air tour reports for the base year period May 1, 1997 through April 30, 1998.

In the **base** period there were 24 air tour operators reporting, 17 of whom conducted air tours over GCNP in fixed-wing aircraft, 6 in helicopters, and 1 operator did so using a mixed fleet." Fourteen of these operators based their operations **out** of Las Vegas and vicinity, five operated out of Tusayan and five were located at other airports; one Las Vegas operator also had substantial operations originating in Page, AZ. The FAA has determined that during this time, these operators utilized 229 different aircraft to conduct Grand Canyon air tours, using an average of about 110 per **day**.

During the base period, air tour operators conducted about 88,000 air tours over the Grand Canyon. During the FAA defined peak or summer season (May-September), air tour operators conducted about 52,500 **commercial** air tours, or 60 percent of the total annual air tours. Air tour activity originating **out** of Tusayan seems to be more influenced by

---

<sup>13</sup> The Grand Canyon commercial air tour industry is a **dynamic**, constantly evolving industry. Of the 24 operators reporting to the FAA from May 1997 through April 1998, one no longer is operating in the Canyon, and two others sold their Las Vegas based operations to another Las Vegas operator. A fourth operator is currently attempting to reorganize under Chapter 11. Currently, the FAA believes there are 20 **or 2**: operators conducting air tours over the Grand Canyon.

The operator of the mixed fixed-wing and helicopter fleet is treated as two separate business entities **in the regulatory evaluation cost analysis**. This preserves separateness in assessing cost impacts on the two aircraft groups of operators. Thus, the 24 reporting operators are analyzed as 25 separate businesses.

seasonal factors than air tour activity originating out of Las Vegas. Operators whose tours originate in Las Vegas (West-end), conducted just over 50 percent of their air tours during the 5 month peak season. Tusayan operators conducting air tours on the East-end of the Canyon flew nearly 70 percent of their air tours during the peak season.

Of the 229 aircraft identified, 182 were fixed-wing aircraft and ranged from single-engine Piper and Cessna 3-seat models to DeHavilland Twin Otters with 19 passenger seats. Most of the 47 helicopters used for air tours of the Grand Canyon were Bell and Aerospatiale models with seating capacities of four-, five- and six-passenger seats."

The FAA base year estimates indicate approximately 616,000 passengers took commercial air tours of the Canyon generating approximately \$90.3 million in air tour gross operating revenue." Proportionately, air tour passengers flying in fixed-wing aircraft accounted for about 71 percent of all Grand Canyon air tour passengers, and 72 percent of the air tour revenue. Helicopter tours accounted for just under 30 percent of the Grand Canyon air tours and revenue.

With regard to the individual air tour routes, 29 percent of all air tours were flown in fixed-wing aircraft along the "Blue 1" route, or what is now referred to as the National Canyon Corridor route. However, about 55 percent of all revenue was generated by the various tours

---

<sup>14</sup> All information with regard to air tours, aircraft and the Grand Canyon air tour industry in general, do not take into consideration the air tours conducted by one Las Vegas operator in 5 Fokker F-27 aircraft with seating capacities for 49-50 passengers. This operator conducted his Canyon business above the current SFAR 50-2 ceiling. Consequently, he was not required to report these flights under 14 CFR § 93.317.

<sup>15</sup> Taking into consideration the multiplier effect developed by the United States Air Tour Association, total revenue for the GCNP air tour industry would be just over \$225 million (2.5\*\$90.3 million). Some of

conducted along this particular tour route. With regard to the southern Sanup Flight-free Zone area, just over 21 percent (12.7 percent, fixed-winged aircraft; 8.5 percent, helicopters) of all GCNP air tours were flown along the Sanup Blue 2 and Green 4 routes in the base period. The proportionate revenue was 20.5 percent (8.5 percent, fixed-winged aircraft; 12.0 percent, helicopters). Taken together, although barely 50 percent of the Grand Canyon air **tours** are conducted by Las Vegas operators along these routes, over 75 percent of the Canyon revenue is derived from these tours.

With regard to the Dragon Corridor, 95 percent of the 43,000 East-end fixed-wing and helicopter air tours enter the Dragon Flight Corridor. The fixed-wing aircraft and helicopter air tours that feature or include the Dragon Corridor account for just over 46 percent of all Grand Canyon air tours and about 23 percent of total air tour revenue during the ~~May 1997-April 1998~~ base period. Estimates for the Zuni Point Flight Corridor are just over 19 percent of all air tours and 12.5 percent of all Grand Canyon air tour revenue.'"

Utilizing information published in the Economic Values for Evaluation of Federal Aviation Administration Investment of Regulatory Programs, June, 1998, the FAA also developed variable operating cost estimates (crew, fuel and oil, and maintenance **costs**) for most of the makes and models of aircraft operating in the Canyon. The FAA estimates that for the base period, the total variable operating cost for GCNP air tour operators was \$27.1 million, which yields a total revenue net of variable

---

this revenue is shared with other vendors (tour bus operators, hotels, etc.) located at Tusayan and at the South Rim of the Grand Canyon.

<sup>15</sup> Of the total number of Grand Canyon commercial air tours, nearly 30 percent fly a loop within the Dragon **Corridor** only, but only about 1 percent fly a loop within the Zuni Point Corridor only.

operating costs of \$63.2 million (\$90.3 million - \$27.1 million) as measured in 1997 dollars." Because variable operating costs were estimated for each type of the aircraft operating along each of the different air tour routes in the Grand Canyon SFRA, comparisons of the variable operating costs and net operating revenue among the different routes similar to those just discussed with respect to total revenue are possible. However, revenue net of variable operating costs (hereinafter, referred to as net revenue) does not alter the proportionate distribution of air tour dollars by route to any significant degree.)'

As a concluding note to this section, the FAA also estimates that the total value of the Grand Canyon overflight fees collected from the operators by the NPS as well as the estimated gate fees assessed the ground passengers entering the GCNP as part of their air/ground tour is in excess of \$4 million for the base period.

#### Small Business Concerns

The Regulatory Flexibility Act of 1980 establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principal, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The

---

<sup>17</sup> Total revenue net of variable operating costs might also be thought of as the contribution to overhead and profits.

<sup>18</sup> Net revenue is not the same as profit; there are other commercial air tour associated costs that will have to be netted out prior to the determination of an accurate profit estimate. Nevertheless, net revenue change is an indicator of change in profitability.

Act covers a wide-range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA) as described in the Act.

This proposed rule would impact all business entities conducting commercial air tours over Grand Canyon National Park. Data collected for the base period (May 97-Apr 98) indicates that there were 25 small entities at that time (24 operators, one of whom conducted business as a fixed-wing operator and as a helicopter operator). Since every air tour operator doing business in GCNP would be impacted by this proposal and they are all "small businesses" (the criteria of which will be discussed later), the FAA concludes that there would be a significant economic impact on a substantial number of small entities and has conducted an initial regulatory flexibility analysis (IRFA) as required by the RFA.<sup>19</sup>

The FAA has chosen to prepare the cost of compliance chapter to include the impacts on small businesses. Since the impact on small businesses is such a dominant part of the quantifiable costs impact of this rule, the entire economic analysis is structured around the IRFA rather than being made a separate section.

---

<sup>19</sup> Since impacts on small businesses are such a dominant part of the quantifiable costs impacts of this rule, the entire economic analysis is structured around the IRFA, rather than being made a separate section. Accordingly, the entire analysis contained herein is the IRFA.

C) The Proposed Rule

The government has analyzed the noise situation at GCNP over the last two years and has decided that a greater effort must be made to reach the statutory goals of Public Law 100-91, especially in light of the President's Memorandum. Noise generated **by** aircraft conducting commercial air tours presents a specific type of problem because these aircraft **tend to** be operated repeatedly at low altitudes **over** the same routes. Thus, the **FAA** issued its 1996 final rule **and** instituted the aircraft cap as a means to limit aircraft noise generated by air tours.

In the 1996 final rule, however, the **FAA** underestimated the **number** of aircraft operated in the **SFRA by commercial air tour operators**. This problem was identified in the Notice of Clarification issued October 31, 1997 (62 FR 58898). In fact, the FAA concluded in this Notice that "there is enough excess capacity in terms of aircraft numbers for air tours to increase by 3.3 percent annually for the next twelve years if the demand exists (62 FR 58902)." The FAA went on to state that "in the **aggregate, and** for most individual operators, the number of air tours provided can continue to increase while the number of aircraft **remains** the same.

This **NPRM** would temporarily limit commercial air tours in the GCNP **SFRA** at the level reported to the **FAA** by the operators for the base year, pending implementation of the Comprehensive Noise Management Plan. During the implementation of the commercial air tour limitation, the **FAA** and the **NPS** would collect further information regarding commercial **SFRA** operations **and** aircraft noise in GCNP. The **NPS** and the **FAA** would use the information **collected** during this time to determine whether the "substantial restoration of natural quiet" has been achieved. In the

event that the agencies determine that the statutory goal is not met through the various noise mitigation techniques adopted, the FAA and NPS would need to take further steps to achieve the statutory goal. This could mean that the commercial air tour limitation would become permanent end/or that commercial air tours would be further limited.

In addition to the limitation on commercial **air** tours, this rulemaking would add a requirement for certificate holders to file a visual flight rules (VFR) flight filing plan to provide the FAA with a mechanism for monitoring and enforcing the limitation. This rule also would modify the current reporting requirements to require commercial air tour operators to report air tour and other types of flights that enter the **SFRA**. This data would be used to assess the noise situation in GCNP and further develop the Comprehensive Noise Management Plan.

The **NPRM** also would make a number of non-substantive changes to Part 93, subpart **U**. These changes consist of the following: renumbering paragraphs, moving subparagraphs into new sections and amending section headings. These changes are intended to make the rule easier to read and understand and to reflect the changes proposed herein.

#### Definitions

Three new definitions would be added to § 93.303 and would be applicable to part 93, subpart **U**. Definitions would be added for the terms "allocation", "commercial air tour", and "commercial **SFRA** operation."

Allocation: The term "allocation" would be defined as the authorization to conduct a commercial air **tour** in the Grand Canyon National Park (GCNP) Special Flight Rules Area (**SFRA**). Each operator reporting base

year air **tours** to the FAA would receive one allocation for each commercial air tour reported.

Commercial Air Tour: The term "commercial air tour" would be defined as any flight conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing. If the operator of a flight asserts that the flight is not a commercial air tour, the Administrator may consider a number of factors in determining whether the flight is actually a commercial air tour. Factors that the Administrator may consider include, but are not limited to the following: 1) whether there was a holding out to **the public** of willingness to conduct a sightseeing flight for compensation or hire; 2) whether a narrative was provided that referred to areas or points of interest on the surface; 3) the area of operation; 4) the frequency of flights; 5) the route of flight; 6) the inclusion of sightseeing flights as part of any travel arrangement package; or 7) whether the flight or flights in question would or would not have been cancelled based on poor visibility of the surface.' The Administrator may give more weight to some factors than others in making this determination. This definitional change also will be consistent with other rulemakings that the FAA is working on.

The current rules at part 93, subpart U use the term "commercial sightseeing flight" at § 93.305 (Flight-free zones and flight corridors), § 93.307 (Minimum flight altitudes); 93.315 (Commercial sightseeing operations); § 93.316 (Commercial sightseeing limitations); and § 93.317 (Commercial sightseeing flight reporting requirements). This NPRM would replace the term "commercial sightseeing flight" with the term "commercial air tour" throughout part 93, subpart U.

This proposed definition would clarify which flights are considered commercial air tours. The current rules do not define the term "commercial sightseeing flight". Instead, the FAA has assumed that flights operated on the Blue, Black and Green air tour routes that are reported to the FAA under § 93.317 are commercial air tour flights with the following exceptions: 1) flights using the Blue Direct and Blue Direct South routes generally are presumed to be flights to move passengers from point A to point B (transportation) or flights to position aircraft (repositioning flight); and 2) flights using the Green 3 route are operated under an FAA Form 7711-1 Certificate of Waiver or Authorization (issued by the Las Vegas Flight Standards District Office) in support of Supai Village and the Havasupai Tribe. The FAA also believes that most flights operated on the Brown routes are operated under an FAA Form 7711-1 Certificate of Waiver or Authorization, typically in support of the Canyon's river rafting operations, but that on occasion, a sightseeing flight could transition to a Brown route as a part of a more extensive commercial sightseeing flight. In the proposed rule, there are only two east/west routes that will be used for all types of commercial SFRA operations. Hence, because it will be more difficult to identify air tours based on the route flown, the FAA intends to define the term "commercial air tour", to separate commercial air tours from other types of flights.

Commercial SFRA Operations: Public Law 100-91 recognizes that noise associated with "aircraft overflights" at the GCNP is causing "a significant adverse effect on the natural quiet and experience of the park." In order to improve noise management in the GCNP, the agencies believe it is necessary to impose **some** requirements on all flights conducted in the SFRA by air tour operators, regardless of whether an air tour is actually conducted on that flight. Therefore, the FAA proposes to adopt a new term to apply to all commercial operations

**conducted by** certificate holders authorized to conduct air tours and occurring within the GCNP SFRA.

The term "Commercial Special Flight Rules Area Operation" (Commercial SFRA Operation) would be defined as any portion of a flight within the GCNP SFRA that is conducted by a certificate holder that has operations specifications authorizing air tours within the GCNP SFRA. This term is broader than the term "commercial air tour" and as it includes air tours as well as transportation, repositioning, maintenance, and training/proving flights. The types of flights included in the definition of commercial SFRA operations would be set forth in the "Las Vegas Flight Standards District Office Grand Canyon National Park Special Flight Rules Area Procedures Manual" and may be revised from time to time to accurately reflect flights in the SFRA. Commercial SFRA operations do not include supply and administrative flights conducted under contract with the Indian tribes, or other flights conducted under FAA Form 7711-1 Certificates of Waiver or Authorization. The FAA proposes to create this new term so that it can better account for the types of operations occurring within the park other than commercial air tours.

#### Requirements Specific to Commercial SFRA Operations

Section 93.315 would be reorganized and **revised** to remove the capacity limitation of aircraft and to delete the reference to the outdated SFAR No. 38-2. The current language only applies to aircraft having a passenger-seat configuration of 30 or fewer seats. The FAA believes that removal of the capacity restriction is necessary because it is aware that some air tour operators are beginning to use larger capacity aircraft. The FAA wants to ensure that each air tour operator,

regardless of the capacity of aircraft, is held to the same operational and safety standards.

Section 93.317 of the NPRM would maintain the current curfew hours in the Dragon and Zuni Point Corridors (current § 93.316(a)). This curfew would not apply to commercial SFRA operations. Currently, the curfew applies to "commercial sightseeing operations", which is an undefined term. The FAA believes that amending this curfew to include commercial SFRA operations would improve the management of aircraft noise in the Dragon and Zuni Point Corridors. Removing this language from § 93.316 to proposed § 93.317, would remove and reserve § 93.316.

Section 93.325 would require certificate holders conducting commercial air tours in the GCNP SFRA to report their commercial SFRA operations to the FAA on a quarterly basis. As discussed below, this reporting requirement would enable the FAA and NPS to assess more accurately the noise level and airspace use in GCNP and further the development of the Comprehensive Noise Management Plan.

#### Operations Limitation

This NPRM would limit all commercial air tours in the GCNP SFRA on a calendar year basis so that such air tours conducted by certificate holders in the SFRA do not exceed the amount of air tours reported in accordance with current § 93.317 for the year May 1, 1997 - April 30, 1998. This time period is being used as the basis for determining the allocations because it is the first year for which the FAA has air tour data that has been fully compiled and analyzed. Proposed § 93.319 would establish this commercial air tour limitation. The number of air tours that a certificate holder could conduct would be shown on the certificate holder's operations specifications as allocations.

The FAA is proposing that these allocations would remain unchanged by the FAA for a twenty-four month period, from the effective date of this rule. After that time, all certificate holders' allocations may be revised based on the following: 1) data submitted under proposed § 93.325; 2) updated noise analysis; and/or 3) the status of the Comprehensive Noise Management Plan. Any change in allocations would be subject to notice and comment rulemaking.

The FAA and NPS realize that commercial air tour operators need consistency to justify equipment investment and make other business plans. In devising the proposed two-year term for the allocations, the FAA considered two other alternatives including revising the allocations on an annual basis or on an ad-hoc bases thereafter. The FAA rejected both of these alternatives because it was concerned that neither alternative would achieve the proper balance between providing the certificate holders with the latitude necessary to conduct business and controlling noise in the GCNP. The FAA solicits comments on this matter.

#### Initial Allocation

Under this NPRM, each commercial air tour reported to the FAA for the base year would be represented by an allocation. Thus each certificate holder that reported commercial air tours to the FAA in accordance with current § 93.317 would receive one allocation for each air tour reported during the May 1997- April 1998 base year period. The total number of commercial air tours that were reported by the operators to the FAA for that base year was 88,000.

To prevent a worsening of noise conditions in the park during the peak season, the FAA, in consultation with the NPS, believes that a peak

season cap that prevents the movement of allocations from off-peak season into the peak season should be **established**. Peak season allocations, however, would be permitted to be used during the off-peak season as noise during the off-peak season generally is substantially less than during the peak season. The FAA proposes that the peak season be defined as the period from May 1 - September 30; off-peak would be the period October 1 - April 30. This peak/off-peak season definition is consistent with the summer and winter season for curfew purposes. The curfew is from 6 P.M. to 8 A.M. during the **summer** season and from 5 P.M. to 9 A.M. during the winter season. Peak/off-peak allocations also would be determined from the information reported to the FAA for the base year.

This restriction helps to eliminate the potential that noise will become worse during the peak season months because operators will maximize their allocation use during that time. Additionally, the restriction reduces the potential of an airspace congestion problem caused by operators using all of their allocations during the peak season and shutting down their business during the off-peak season. This restriction was deemed advisable after the FAA utilized the Airport and Airspace Simulation Computer Model (SIMMOD) which demonstrated significant use of routes during the peak season.

In developing this NPRM, the FAA and NPS considered three operational alternatives: 1) the proposed 5 month peak season (May-September); 2) a three month (July 1-September 30) peak season; and 3) a uniform year with no peak/off-peak delineation. The base year data indicates that the July - September time period is the most active period. A shorter peak may limit the ability of the operators to maximize the use of their allocations since they will not be able to use off-peak air **tour** allocations during the peak season.

Under the proposed rule, allocations **also** would be separated into those that may be used in the Dragon and Zuni Point Corridors and those that may be used in the rest of the **SFRA**. Dragon and Zuni Point allocations again would be determined based on the number of air tours an operator conducted in this region for the base year. Only operators who reported air tours in these corridors for the base year would receive allocations for these corridors. The NPS and the FAA believe it is necessary to restrict allocations for the Dragon and Zuni Point Corridors because the airspace in this region is already congested. The agencies believe that this restriction would help to maintain the number of air tours in these corridors at a level that does not pose a congestion problem and that minimizes the likelihood that aircraft noise in this region of the park will increase. This limitation would be revisited upon the implementation of the Comprehensive Noise Management Plan.

Certificate holders identified as receiving allocations to conduct air tours in the **SFRA** will receive a written notification informing them of the following information: 1) Total number of air tours allocated in the **SFRA**; 2) Number of air tours allocated in the Dragon and Zuni Point Corridors; 3) Peak season allocation for the **SFRA**; and 4) Peak season allocation for the Dragon and Zuni Point corridors. This notification will be sent out concurrently with **publication** of this **NPRM**.

The FAA recognizes that the air tour business in GCNP is fluid, and that due to mergers/acquisitions, bankruptcies, or other reasons that affect operations, certificate holders may contend that the data they submitted for May 97-April 98 does not accurately reflect their **current** business. Any certificate holder who believes that the data is not reflective of its business operations as of the date of this notice is invited to submit a written request to the Manager, Air Transportation Division, Flight Standards Service, requesting that its allocation be re-assessed

**and** indicating why the base year is not an accurate allocation. In evaluating such a request, the Manager will not consider making any modifications that affect the **base** year number of 88,000. **Any** modifications will only result in redistribution of allocations amongst affected certificate holders or within a certificate holder's allocation **distribution** (e.g., **business** operations prior to this NPRM into the Dragon or Zuni Point sector).

#### Flight Plans

Proposed § 93.323 **would** require each certificate holder of a commercial SFRA operation to file a FAA visual flight rules (VFR) flight plan with a FAA Flight Service Station for each flight. Each flight segment (one take-off **and** one landing) **would** require a flight plan. The purpose of the flight would **be** indicated in the "remarks" section of the flight plan. There are five types of flights. The term commercial air tour would be as already defined in this rule. The other four flights **would be** defined in the "Las Vegas Flight Standards District Office **Grand Canyon National Park Special Flight Rules Area Procedures Manual**" as follows:

1. Transportation - A flight transporting passengers for compensation or hire from point A to point B on a flight other than a air tour.
2. Repositioning - A "on-revenue flight for the purpose of repositioning the aircraft (i.e. a return flight without passengers after a air tour **and** that is conducted to reposition the aircraft for the next air tour).
3. Maintenance flight - A flight conducted under a special flight permit, or a support flight to transport necessary repair equipment or personnel to a aircraft that has a mechanical problem.
4. Training - A flight taken for one of the following purposes: 1) pilot training in the SFRA; 2) checking the pilot's qualifications to fly in the SFRA; or 3) an aircraft proving flight conducted under § 121.163 or § 135.145.

The information obtained from the flight plan **would** be used to ensure compliance with the commercial air tours limitation. The certificate holders may wish to develop "canned" flight plans that may be opened and **closed** quickly. Copies **would** not have to be maintained by the certificate holder or its pilot.

The FAA believes that the VFR flight plan requirement is less burdensome. At this time, the FAA believes that the flight plan filing is a feasible approach..

#### Reporting

The reporting requirement currently contained in § 93.317 would be **moved** to proposed § 93.325 **and** expanded to cover certificate holders with air tour operations specifications for the GCNP **SFRA** conducting commercial **SFRA** operations (i.e., air tours, maintenance, transportation, repositioning, or training/proving flights). The information reported would be similar to that currently required by § 93.317. Additionally, because commercial SFRA operations can originate in one time **zone** and cross time zones, the FAA wants to ensure that times reported are consistent. At this time, the FAA is proposing that time be shown in Universal Coordinated Time (UCT). The FAA **seeks** comment on whether UTC would **be** the appropriate time measurement or whether an alternative time zone (i.e., Mountain **Standard** Time) should be used.

The reporting that would be required **by** proposed § 93.325 would be submitted to the Las Vegas Flight Standards District Office on a quarterly basis. Currently, certificate holders are required to report three times a year. A **number** of certificate holders, however, have commented to the FAA that quarterly filing **would** be preferred because the timing would be consistent with other government reporting

requirements (IRS, Social Security, etc.). The information submitted on these quarterly reports would be used by the FAA and NPS to assess the noise situation in GCNP and in development of the Comprehensive Noise Management Plan. Certificate holders could continue to submit the quarterly reports in written form; electronic transmission (diskettes, email) is preferable and encouraged.

Certificate holders conducting flights in the SFRA under an FAA Form 7711-1 Certificate of Waiver or Authorization would not be required to report under § 93.325; however, the FAA is considering requiring such reporting as a condition of the waiver. Such reporting would provide the agencies with a clearer picture of the types and numbers of flights operating in the SFRA. The FAA seeks comment on this matter

#### Transfer of Allocations

Allocations to conduct commercial air tours in the GCNP SFRA would be an operating privilege granted to certificate holders who conducted and reported commercial air tours during the base year. As proposed, the allocation would be subject to reassessment after two years. Allocations to conduct commercial air tours in the GCNP SFRA would not be a property interest.

The FAA recognizes that air tour operators often utilize a variety of contracting/subcontracting methods to handle passenger loads during busy periods. Thus, the FAA proposes to allow an allocation to be transferred among certificate holders, subject to three restrictions. First, all certificate holders would be required to report any transfer to the Las Vegas Flight Standards District Office. Permanent transfers of allocations resulting from mergers/acquisitions, bankruptcies, or other reasons that affect operations, would require FAA approval through

the modification of the operations specifications in addition to the required reporting to the Las Vegas Flight Standards District Office in writing. Temporary transfers would only need to be reported to the Las Vegas Flight Standards District Office (FSDO). Second, all certificate holders would be subject to all other applicable requirements in the Federal Aviation Regulations. Third, allocations authorizing commercial air tours outside the Dragon and Zuni Point Corridors would not be permitted to be transferred into the Dragon and Zuni Point Corridors. Allocations to operate within the Dragon and Zuni Point Corridors, however, could be used outside the Dragon and Zuni Point Corridors. This restriction is necessary to ensure that flights within these corridors do not increase, thus posing a potential safety and noise problem.

Furthermore, certificate holders who voluntarily cease conducting air tour operations in the GCNP **SFRA** for any consecutive 180 day period would lose their allocations. This use or lose provision recognizes that the FAA is the sole controller of these allocations. If not used, the holder would lose its operating privilege and the FAA would then assert its control and decide whether to redistribute the allocations. The **FAA** considered proposing a time period shorter than 180 days, however, given the seasonal nature of the air tour business the FAA believes that a shorter time could be prejudicial against the certificate holders. The FAA believes that 180 days is a reasonable accommodation to the certificate holders and allows them the flexibility to manage their business.

The FAA also would retain the right to redistribute, reduce or revoke allocations based on the need to carry out its statutory mandate to regulate for efficiency of airspace or aviation safety. Additionally, the FAA could redistribute, reduce or revoke allocations if the

certificate holder voluntarily surrendered the allocation or in the event of an involuntary cessation of business (i.e., FAA shuts down an operator following an FAA enforcement action). This last factor likely would occur when the FAA enforced its regulations against a certificate holder to improve airspace efficiency or aviation safety. Any action taken against an individual certificate holder under § 93.323 would not be subject to notice and comment rulemaking.

## **2. Benefits**

The primary intended benefit of this proposed rule is its contribution toward achieving the public mandate imposed by P.L. 100-91 to substantially restore natural quiet in Grand Canyon National Park. This is one of three actions currently being taken by the FAA to move toward that goal. One of the other two actions is an issuance of a notice of proposed rulemaking to make certain modifications of the airspace designations in GCNP and the other is a notification of modifications to routes in the park. In addition to a discussion of restoration of natural quiet, a quantified analysis is given in this benefits section of the increased value that less aircraft noise may provide to ground visitors in the park. The FAA has estimated potential benefits two ways in this analysis. First, restoration of natural quiet is discussed, and second, a quantified estimate is made of the increased value of trips to the park by ground visitor if this proposal were implemented.

The FAA's benefits analysis is limited to commercial air tour aircraft noise because only commercial air tours would be affected by this proposed rule. It is recognized that other aircraft operate in the vicinity of the Grand Canyon, either above the SFRA or along designated corridors (general aviation (GA)) through the SFRA. This noise has not been measured or included in the noise models used to obtain the

estimates contained in this analysis because the FAA believes the amount of **noise** produced by these aircraft is very small compared to that of commercial air tour aircraft. (As noted in footnote 12, GA traffic accounts for about 3 percent of all aircraft traffic in the GCNP according to the Las Vegas FSDO). The FAA does not believe that this amount of noise would affect the **accuracy** of its estimates. The FAA welcomes comments on this matter.

A) Restoration of Natural Quiet

The policy decision of GCNP is that a substantial restoration requires that 50% or more of the park achieve "natural quiet" (i.e., no aircraft audible) for 75-100 percent of the day. That level of "quiet" (50 percent) does not exist today in the park, in spite of past actions to limit noise. Based on noise modeling, the FAA estimates that today only about 32 percent of the park area has had natural quiet restored. Furthermore, if no additional action is taken, estimated future air tour growth will reduce even that number to about 25 percent in nine to ten years. On the other hand, noise modeling indicates that this proposal, together with the other two FAA actions, would increase the restoration of natural quiet to slightly more than 41 percent and maintain that level in the future. The FAA will monitor future operations in the park to determine the actual level of natural quiet that is restored. If necessary, further actions will be taken to ultimately achieve the goal of substantial restoration of natural quiet.

B) Increased Value of Ground Visit Analysis

The benefits of noise reduction attributable to this rulemaking can be broadly categorized as use and non-use benefits. Use benefits are the benefits perceived by individuals from the direct use of a resource such

as hiking, rafting, or sightseeing. Non-use benefits are the benefits perceived by individuals from merely knowing that a resource exists, or is preserved, in a given state. The use benefits of this rulemaking have been estimated and are presented below. The non-use benefits attributable to this rulemaking have not been estimated.

An economic study has not been conducted specifically to estimate the benefits of this rulemaking. While generally accepted methodologies exist to estimate such values (e.g., Freeman 1993), those techniques are costly and require a significant period of time for the requisite study design, data collection, and analysis steps. An alternative to these resource-intensive techniques is the "benefits transfer" methodology. That methodology combines value estimates from existing economic studies with site-specific information (in this case, regarding **visitation** levels and the nature and extent of noise impacts) to estimate benefits.

The obvious advantage of benefits transfer is the avoided cost and time required to conduct site-specific economic studies. The disadvantage of benefits transfer is that the analysis is limited by the scope of existing economic studies. In order to ensure that appropriate studies were selected for this analysis, the following criteria were employed.

- Selected economic studies must reasonably represent the resources to be valued in terms of physical characteristics, service flows, user characteristics, and available substitutes.
- Selected economic studies must be scientifically sound. Studies that are either published in a peer-reviewed academic journal, that are conducted by a recognized university-associated researcher, or that are conducted by an established consulting firm are considered to be scientifically sound.
- Selected economic studies must use appropriate valuation methodologies.

The studies selected to estimate the benefits of this rulemaking conform to each of these criteria.

The site-specific information used in the benefit estimation includes visitation data for GCNP and a visitor survey conducted to document the visitor impacts of aircraft noise within GCNP. The available visitation data for GCNP permits the categorization of visitors into backcountry users, river users, and other visitors. The activities included in the "other visitors" category primarily involves sightseeing, as well as other activities such as hiking or camping not related to backcountry or river use. The number of visitor-days in 1997 for these visitor groups is presented below.

<u>Number of Visitor-Days</u>	
<b>Grand Canyon National Park, 1997</b>	
Visitor Group	Visitor-Days
Backcountry	99,137
River	182,481
Other	5,788,187
Total	6,069,805

Source: National Park Service

While the FAA, based on its projections on air traffic growth at the airports around GCNP, assumes that the number of air tours would increase at an annual rate of 3.3 percent, the FAA is nevertheless, assuming that the number of visitor-days at GCNP would remain constant at 1997 levels throughout the evaluation period of this rulemaking. This assumption is considered to be reasonable because of the actions the NPS is taking to control visitor growth. Permits for backcountry and river use are limited to a maximum number that can be issued each year. Also, the NPS is planning on preventing cars from entering GCNP. Rim visitors will have to park outside GCNP and take a shuttle into the Park. This will greatly reduce or possibly eliminate any future growth in the number of rim visitors. Last, an assumption of constant

visitation is a conservative approach that will not bias the indicated net benefits of the rulemaking upward and would also probably result in benefits being somewhat underestimated.

The GCNP visitor survey indicates that these different visitor groups are variously affected by aircraft noise (HBRS, Inc. and Harris, Miller, Miller, & Hanson, Inc. 1993). This survey asked respondents to classify the interference of aircraft noise with their appreciation of the natural quiet of GCNP as either "not at all," "slightly," "moderately," "very much," or "extremely." The percent of visitors indicating these impacts is presented below by visitor group.

<u>Visitors Affected by Aircraft Noise</u>			
Grand Canyon National Park			
-----Percent of Visitors by Category-----			
Impact	Backcountry <sup>a</sup>	River <sup>b</sup>	Other
Not At All	41.0%	45.5%	76.0%
Slightly	15.0%	16.5%	11.0%
Moderately	13.5%	10.0%	4.0%
Very Much	14.5%	12.5%	4.0%
Extremely	16.0%	15.5%	5.0%

<sup>a</sup>Average for summer and fall users.  
<sup>b</sup>Average for motor and oar users.  
Source: HBRS, Inc. and Harris, Miller, Miller, & Hanson, Inc. 1993

<u>Estimated Visitor-Day Values (Consumer Surplus)</u>			
Grand Canyon National Park			
Visitor Group	Study	Activity	Visitor-Day Value (1998 \$)
Backcountry	Bergstrom and Cordell 1991	Backpacking (national survey)	\$37.13
River	Bureau of Reclamation 1995	River use in Grand Canyon NP	\$92.44
Other	Haspel and Johnson 1982	Visit to Bryce Canyon NP	\$48.72

All values indexed to 1998 using the Consumer Price Index for all urban consumers.

The economic studies selected for use in the benefits transfer, and their indicated visitor-day values, are listed below. These values are also known as "consumer surplus." Consumer surplus is the maximum amount an individual would be willing to pay to use a resource, minus the actual costs of use. It is a measure of the net economic benefit gained by individuals from participating in recreational activity.

All dollar amounts were indexed to 1998 using the Consumer Price Index for all urban consumers (Bureau of Labor Statistics, at <http://stats.bls.gov>). That index was considered appropriate for the benefits estimate since it is more closely related to the consumer surplus values than other indices such as the Gross Domestic Product implicit price deflator.

The visitor-day value for backcountry use, \$37.13, was derived from a national study of outdoor recreation (Bergstrom and **Cordell** 1991). That study estimated an **average** of \$25.88 per visitor-day in consumer surplus for backpacking (1987). That value indexed to 1998 is \$37.13 per visitor-day.

The visitor-day value for river use, \$92.44, was derived from the economic analysis contained in the Final Environmental Impact Statement for Glen Canyon Dam operations (Bureau of Reclamation 1995). Glen Canyon Dam is immediately upstream of GCNP, and its operations directly impact visitor use there. Consequently, an economic analysis of recreation in GCNP was included in the Environmental Impact Statement for Glen Canyon Dam operations. That analysis found that the recreational benefits of river use (fishing and rafting) vary by alternative levels of river flow. Therefore, the recreational benefits estimated for the alternative, "modified low fluctuating flow," were used in the present analysis since that alternative represents the most

likely river flow scenario for the future. The total consumer surplus of recreational river use estimated for that alternative was \$12,174,000 in 1991. The total visitor-days of river use in 1991 was 157,610 visitor days. Therefore, the indicated visitor-day value is 577.24 in 1991 dollars (\$12,174,000 divided by 157,610 visitor-days). That value indexed to 1998 is \$92.44 per visitor-day.

The visitor-day value for all other visitor uses in GCNP, 548.72, was derived from an economic analysis of recreation at Bryce Canyon National Park. The visitor uses addressed by that analysis were considered to closely match those included in the "other visitors" category for GCNP, primarily sightseeing. That analysis estimated two consumer surplus values, 571.00 and 562.00 per vehicle in 1980, using alternative techniques. The average of those two values, \$66.50 per vehicle, was used in the present analysis. An average of 2.7 visitors per vehicle for Bryce Canyon National Park was then used to convert that average to a visitor-day value, \$24.63 (\$66.50 per vehicle divided by 2.7 visitors per vehicle). That value indexed to 1998 is \$48.72 per visitor-day.

The FAA assumed that these visitor-day values represent the net economic benefits obtained from recreational uses in GCNP absent any impacts from commercial air tour aircraft noise. Therefore, these values potentially under-state recreational benefits to the extent that they were estimated in conditions where commercial air tour aircraft noise was present. There is no known economic study that estimates the reduction in the value of recreational uses due to commercial air tour aircraft noise for areas similar to GCNP. Therefore, the following reductions were assumed in the present analysis. The results of a sensitivity analysis using alternative, lower percentage reductions are also reported below.

<u>Assumed Reductions in Visitor-Day Values</u>	
Grand Canyon National Park	
Impact	Reduction
Slightly	20%
Moderately	40%
Very Much	60%
Extremely	80%

These data and assumptions imply the following total lost values from aircraft noise in 1998. The total lost value of \$34.5 million was calculated as the product of the number of visitor-days, the proportion of visitors affected by aircraft noise, the visitor-day value, and the assumed proportional reduction in the visitor-day value, for respective impact levels and visitor categories. For example the total lost value (\$675,000) for river users that were moderately affected is the product of the number of river visitor-days (182,481), the proportion of river

<u>Estimated Total Lost Value (Consumer Surplus) from All Aircraft Noise</u>				
Grand Canyon National Park, 1997				
	-----Visitor Category-----			
Impact	Backcountry	River	Other	Total
Slightly	5110,000	5557,000	\$6,204,000	\$6,871,000
Moderate	\$199,000,	\$675,000	\$4,512,000	\$5,386,000
Very Much	\$320,000	\$1,265,000	\$6,768,000	\$8,353,000
Extremely	\$471,000	\$2,092,000	\$11,280,000	\$13,843,000
<b>Total</b>	<b>\$1,100,000</b>	<b>\$4,589,000</b>	<b>\$28,764,000</b>	<b>\$34,453,000</b>

users that were moderately affected by aircraft noise (10.0 percent), the visitor-day value for river use (\$92.441, and the assumed reduction in the visitor-day value given a moderate impact (40 percent).

The benefit of this rulemaking is the reduction of the total lost value associated with the resulting from lower future levels of noise from commercial air **tour** aircraft. Through aircraft noise modeling, FAA has predicted the number of square miles within GCNP that would be affected by various levels of commercial air tour aircraft noise, both with and without the commercial air tour limitation and change in routes. These noise levels were quantified by a nonlinear measure called  $L_{Aeq12h}$ . The average linearized noise measure, weighted by the number of affected square miles, is presented below.

<u>Predicted Future Noise Reductions in Grand Canyon National Park</u>			
<u>Due to the Commercial Air Tour Limitation and New Routes</u>			
<u>Year</u>	<u>Weighted Average</u>		<u>Noise Reduction</u>
	<u>-----Linearized Noise Measure--</u>		
	<u>Limitation and</u>	<u>No Action</u>	<u>Due to the</u>
	<u>Route Change</u>		<u>Limitation and</u>
			<u>Route Change</u>
1998	1.219.23	1.496.04	18.50%
2000 2003 2006	<b>1,219.23</b>	<b>1,713.06</b>	<del>22,713 28,838 37,288</del>

These percentage reductions in **commercial** air tour aircraft noise were applied to the total lost consumer surplus value from aircraft noise in 1998 (534.5 million) to estimate the current use benefits for **future years**. Linear interpolation was used to estimate levels of noise reduction for years of the evaluation period not shown in the table above. This calculation assumes that benefits increase linearly with noise reduction (i.e., a constant marginal benefit from noise reduction). A three percent discount rate was then applied to calculate the present value of use benefits (discounted to the year 1999) over the ten year evaluation period. A three percent discount rate is supported by the economics literature for natural resource valuation (e.g.,

Freeman 1993). Federal rulemakings also support a three percent discount rate for lost natural resource use valuation (61 FR 453; 61 FR 20584). The resulting use benefit estimates are presented below. (See Table A-1 in the appendix for greater detail).

It is important to recognize significant uncertainties in this estimation. One area of uncertainty relates to the percentage reductions in visitor-day values that can be attributed to commercial air tour aircraft noise. It was assumed above that there is a 20

<u>Estimated Use Benefits</u>		
Commercial Air Tour Limitation Grand Canyon National Park (in \$ million*)		
Year	Estimated Benefits	Present Value
2000	\$7.82	\$7.60
2001	\$8.53	\$8.04
2002	\$9.23	\$8.45
2003	\$9.93	\$8.82
2004	\$10.51	\$9.07
2005	\$11.10	\$9.29
2006	\$11.68	\$9.50
2007	\$12.26	\$9.68
2008	\$12.83	\$9.84
2009	\$13.43	\$9.90
Total	\$107.32	\$90.29

percent reduction for visitors effected "slightly," a 40 percent reduction for visitors affected "moderately," a 60 percent reduction for visitors affected "very much," and an 80 percent reduction for visitors affected "extremely." In recognition of the uncertainty surrounding this assumption, one-half of these percentage reductions were used to calculate an alternative benefit estimate. Additionally, in recognition of the discount rate recommended in OMB Circular A-94, alternative benefit estimates were calculated using a seven percent discount rate. These alternative benefit estimates are presented below.

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the 10-Year Evaluation Period (in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very Much, Extremely)	----- Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$90.29	\$72.98
10%, 20%, 30%, 40%	\$45.14	\$36.49

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the Five-Year Evaluation Period (in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very Much, Extremely)	----- Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$42.00	\$37.37
10%, 20%, 30%, 40%	\$21.00	\$18.67

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the Two-Year Evaluation Period (in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very Much, Extremely)	----- Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$15.63	\$14.76
10%, 20%, 30%, 40%	\$7.82	\$7.38

The use benefits discussed above assume that the commercial air tour limitation and the change in routes will occur at about the same time. The rule being analyzed, however, only limits commercial air tours. Hence, benefit estimates were calculated using the same methodology described above, but only applying the predicted noise reduction due to the commercial air tour limitation. These alternative benefit estimates are presented below.

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the 10-Year Evaluation Period		
Commercial Air Tour Limitation Only		
(in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very Much, Extremely)	-----Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$44.05	\$34.61
10%, 20%, 30%, 40%	\$22.03	

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the Five-Year Evaluation Period		
Commercial Air Tour Limitation Only		
(in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very-Much; Extremely)	-----Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$15.68	\$13.78
10%, 20%, 30%, 40%	\$7.84	\$6.89

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over the Two-Year Evaluation Period		
Commercial Air Tour Limitation Only		
(in \$ millions)		
Visitor-Day Value Reduction Assumption (Slightly, Moderately, Very Much, Extremely)	-----Discount Rate----- -----	
	three percent	seven percent
20%, 40%, 60%, 80%	\$4.21	\$3.97
10%, 20%, 30%, 40%	\$2.11	\$1.98

In addition to these use benefits, this rulemaking may generate significant non-use benefits. The FAA does not have adequate data to estimate the non-use benefits of aircraft noise reduction at GCNP. However, there are other studies that do suggest potentially significant non-use benefits that might be attributed to this rulemaking. One such study was done for the Bureau of Reclamation regarding the operation of the Glen Canyon Dam (Hagler Bailly Consulting 1995). A national survey was conducted for this study, indicating significant non-use benefits for changes in Glen Canyon Dam operations. While the magnitude of non-

use benefits estimated in that **study** are not directly applicable to this rulemaking, potentially significant non-use benefits associated with aircraft noise reduction are suggested.

3. Costs of Compliance and Initial Regulatory Flexibility Determination and Analysis

This chapter contains an analysis of the costs of the FAA's Notice of Proposed Rulemaking that would limit the number of commercial air tours that may be conducted in the GCNP SFRA. It **would also revise the** reporting requirements for commercial air **tour** operators in the GCNP SFRA.

The proposed rule would impact all business entities conducting commercial air **tours** over the Grand Canyon National Park (GCNP). **Data** collected for the base year period (May 1997 to April 1998) shows that there were 25 such entities (24 operators, one of whom operated as a fixed-wing operator as well as a helicopter operator) at that time (this will **be** considered the **baseline**).<sup>20</sup> All of the entities are "small" as defined by the Small Business Administration (SBA). Since every air tour operator doing **business** in GCNP would **be** impacted and they all satisfy the definition of a "small business", the FAA concludes that there **would be** a significant economic impact on a substantial number of small entities. **Consequently,** the FAA has conducted this analysis of compliance costs to include an initial regulatory flexibility analysis as required by the Regulatory Flexibility Act.

The total cost of this rulemaking will depend to a large extent on the response to the changes on the part of commercial air tour operators. The FAA estimates that the proposed regulation !e.g., five-month peak

---

<sup>20</sup> As of April 1999, one of these 25 air tour entities ceased operating.

season) would result in a potential reduction in future net operating revenue of \$177.6 million or \$114.6 million discounted over the next ten years." Additionally, the FAA estimates that there would be approximately \$22,320 (\$20,860 discounted) start-up costs to operators to implement the flight plan **alternative** (i.e., filing, activating, and closing a flight plan) proposed in this rulemaking. The on-going costs to open and close flight plans is not expected to be a significant **cost**, but the FAA is unable to measure the cost impact at this time and requests public comment.

For quarterly reporting and the other provisions of the proposed rule ((1) requesting modification and initial allocations and (2) transfer of allocations), the cost to air tour operators is estimated to be \$30,000 over ten years or \$23,000, discounted. Finally, the FAA costs over the next ten years (including initial allocations) would be **\$1,445,900** or **\$1,016,900** discounted.

In sum, the total cost of this proposed rule over the next ten years would be \$179.1 million or \$115.6 million, discounted. A summary of the compliance cost components as well as various alternatives that were under consideration while the proposed rule was under development is shown in Table 1.

#### A) Revenue Impact of Compliance Model

The main economic impact resulting from the commercial air tour

---

<sup>21</sup> For **purposes** of the regulatory flexibility analysis and the impact on small businesses, the **FAA** calculated the cost of several alternatives that impact how many air tours and when those air tours **may** be conducted. These are called operating alternatives. The FAA, in addition, considered several implementing end paperwork alternatives. These latter alternatives are used to monitor compliance.

limitation in the GCNP SFRA is the reduction in potential future net operating revenue.<sup>22</sup> This can be calculated by subtracting the net operating revenue associated with the projected future number of commercial air tours under the air tour limitation from the net operating revenue associated with the projected future number of commercial air tours without the air tour limitation.

In addition to the reduction in potential future net operating revenue, there are other costs associated with the requirements of this proposed rule. They include implementation costs (e.g., developing and filing flight plans) and certain reporting requirement costs (e.g., quarterly reporting to the FAA and transfer of allocations).

#### Initial Allocation of Air Tours

The number of commercial air tours conducted during the May 1997-April 1998 base year period was used for determining the base number of air tours in this analysis. This information, by operator and by route, was provided to the FAA in accordance with current section 93.317 of the Federal Aviation Regulations (FARs). The FAA then aggregated this information into four major markets (fixed wing [Blue Routes], helicopter [Green 4 route]:, fixed wing [Black route], and helicopter [Green 1, 1A, and 2 routes]). Under the proposed rule, each air tour operator who conducted and reported an air tour during that period under existing section 93.317 would receive one allocation for each air tour

---

<sup>22</sup> It becomes less likely that all operators could earn a profit or cover overhead costs as a result of this proposed rule. Operators who would like to conduct more air tours would be restricted from earning additional revenue which could be used to contribute toward their fixed or overhead costs without acquiring additional allocations from other certificate holders. Such an acquisition would likely involve the transfer of monies. It may be difficult for some operators to fund such an acquisition because they would be facing a cash shortage due to limited earnings.

reported.

A certificate holder's total allocations would be divided up into peak season and off-peak season. The FAA proposes that the peak season be defined as the period from **May 1** - September 30; and the off-peak season would be the period October 1- April 30. This peak/off-peak definition coincides with the summer and winter season for curfew purposes.

Peak/off-peak allocations would be based on the information reported to the FAA for the same time period during the base year.

Under the proposed rule, allocations also would be separated into those that may be used in the Dragon and **Zuni** Point Corridors and those that may be used in the rest of the **SFRA**. Dragon and **Zuni** Point Corridors allocations again would be based on the number of air tours an operator reported in those corridors for the base year period. operators conducting no commercial air tours in these corridors during the base year period would receive no allocations for the Dragon and **Zuni** Point Corridors.

#### Calculation of Baseline Number of **Passengers**

The baseline number of passengers was determined for each operator in this analysis in a four-step process using data provided from interviews and surveys of the affected air tour operators. First, the FAA determined how many aircraft and which aircraft, by route, were used in the base year time period. Second, the FAA identified the maximum number of passengers that each aircraft could legally carry. Next, the FAA determined the load factor for type of aircraft on each route by operator. In **some** cases, air tour operators were able to provide the **FAA** this estimate by time of year. After calculating the number of passengers for each route and for each type of aircraft, the FAA was

able to **sum** this information and determine, by market area in the Grand Canyon, the baseline number of passengers.

#### Calculation of Baseline Gross Operating Revenue

The baseline gross operating revenue was calculated for each operator for each route in this analysis using data provided from published advertisements from air tour operators on the price of each type of air tour. The base period gross operating revenue by route was calculated by multiplying the estimated number of passengers that flew on a specific route for a specific operator by the published retail fare. For example, if an air tour operator published an air fare as \$199 for a particular route, that estimate was multiplied by the estimated number of passengers flown annually. No discounts are assumed.

#### Calculation of Baseline Variable Operating Cost

Variable operating costs for Grand Canyon National Park air tour operators are defined as the costs for crews, fuel and oil, and maintenance per flight hour. The data by type of aircraft can be found on Table 4-20 of Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs published by the Federal Aviation Administration, FAA-APO-98-8, June 1998. Estimates of the flight time on a particular route were obtained from air tour pilots and individuals in the Las Vegas Flight Standards District Office (FSDO). To calculate the variable operating cost for a particular route and type of aircraft, the FAA multiplied the hourly variable operating costs by the time to fly the particular route. In a few instances, the travel time was unavailable-the FAA estimated the time using information from other air tours and the time it took to complete those tours.

### Calculation of Baseline Net Operating Revenue

Baseline net operating revenue for each aircraft by route is the difference between the gross operating revenue for each route by aircraft and the variable operating costs for each route by aircraft. An air tour operator's total net operating revenue is the sum of the net operating revenues from all of the routes used by that air tour operator.

### Forecast of Growth

The FAA forecast rate of compound annual growth in the GCNP is estimated at 3.3 percent per year. This growth rate was derived from a composite of tower operations of four Las Vegas vicinity airports and those of Tusayan as reported in the 1994 Tower Activity Forecast (TAF).<sup>23</sup> It represents different rates of growth at the West and East ends of GCNP.

### Calculation of Future Monthly Operations Without the Proposed Rule

Commercial air tours in GCNP currently are fixed to the extent that air tour operators cannot increase the number of aircraft currently being operated in GCNP.<sup>24</sup> This does not preclude those operators from conducting more air tours using the same aircraft. The FAA estimated the future number of monthly operations without the proposed rule using projections as described above for each route by aircraft type and by

---

<sup>23</sup> An updated official growth rate may be used in the regulatory analysis for the final rule.

<sup>24</sup> The current aircraft cap is set forth in existing section 93.316(b). The aircraft cap was designed as an interim measure to prevent a worsening of the noise problem in the GCNP prior to implementation of the noise limitations proposed on December 31, 1996. This analysis assumes that the aircraft cap described in section 93.316(b) is a permanent measure,

operator. In **some** cases, it would not be practically feasible to conduct more air tours in a given day because the aircraft were already used to their fullest extent practical.

Estimating the reduction of Future Commercial Air Tours  
(1-yr, 2-yr, 5-yr, and 10-yr rule)

The proposed rule **assumes** that the allocations awarded to each operator would be valid for a two-year period. After that time, the air tour operator's allocations may be revised for various reasons. The FAA has proposed a two-year term on the allocations, but considered several other time-frame alternatives or scenarios including revising the cap on an annual basis and revising the cap on an ad-hoc time frame. In this analysis, the FAA is presenting the lost future growth in commercial air tours under four alternative time-frames; 1-year, 2-years, 5-years and 10-years. These alternative time-frames are presented in aggregate rather than by individual operator. The analysis shows what the impact would be to the affected air tour operators over the first year that the proposed rule would be in effect (2000) and includes initial and/or one-time costs. The analysis also shows what the impact would be the first two years that the rule would be in effect (2000 and 2001), the first five years that the rule would be in effect (2000-2004), and the first ten years (2000-2009).

Calculating the Present Value of Net Operating Revenue of the  
Proposed Rule and Alternatives

All present value calculations for costs of the proposed rule and the alternatives under consideration have been discounted at seven percent. As stated **previously**, the time frame for the alternatives is one year, two years, five years and ten years.

### Other Model Considerations

The model does not take into consideration that air tour operators **could** switch from smaller-sized aircraft to **larger-sized** aircraft.

Consequently, in this analysis, the number of available seats is fixed throughout the entire time period. Holding the number of seats constant and assuming that more individuals would want to take air tours in the future implies that air tour operators should be able to raise air tour prices. The model does not consider a new equilibrium price given that supply becomes fixed while demand increases. Consequently, this **model** assumes a worst case analysis.

### B) Cost of Various Operating Scenario Alternatives to Operators"

Table 2 shows a profile of operators, by route and other variables, who were operating in the GCNP during the base year. This table shows that most (10) air tour operators **used** fixed-wing aircraft on the ' Blue Routes. The operators on the Blue Routes flew **over** half of all the passengers (341,996/615,738 = 55 percent) during the base time period. This table also shows the projected number of air tours and passengers over the first two, the first five, and the first ten years, assuming no growth. Tables 2a through 2d show similar information except by individual operator for the base year. Each operator is represented by a numerical **code** in this analysis.

Table 3 presents profiles of the affected air tour operators **over** various time periods. This table shows the expected gross operating revenue, variable operating costs, net operating revenue, and discounted net operating revenue assuming no change, in the existing regulatory

environment. Tables 3a through 3d show similar information except for individual operators for the ten-year time period 2000-2001 to 2009-2010.

The Proposed Five-Month Peak Season (May 1 to September 30) on Commercial Air Tours

The proposed rule, would limit all commercial air tours in the GCNP SFRA on a calendar year basis so that the number of such operations conducted by certificate holders in the SFRA do not exceed the number of air tours reported in accordance with current § 93.317 of the FARs for the year May 1, 1997 to April 30, 1998. Proposed § 93.319 of the FARs would establish this operation limitation. The number of commercial air tours that a certificate holder could conduct would be shown on the certificate holder's operations specifications as allocations.

A certificate holder's total allocations would be divided up into peak season and off-peak season. Under the proposed rule, the peak season would be defined as the period from May 1 to September 30; the off-peak season would be the period October 1 to April 30. This peak/off-peak definition would coincide with the summer and winter season curfew purposes. Peak/off-peak allocations would be based on the information reported to the FAA for the time period during the 1997-1998 base year period. Off-peak allocations could not be used during peak season; however, peak season allocations could be used during off-peak.

Under the proposed rule, allocations also would be separated into those that may be used in the Dragon and Zuni Point Corridors and those that may be used in the rest of the SFRA but not in the Dragon and Zuni Point Corridors. Dragon and Zuni Point Corridor allocations again would be determined based on the number of operations an air tour operator

---

<sup>25</sup> An operating scenario refers only to those scenarios that impose a

conducted in this region for the base year period. Operators conducting no operations in this corridor for the base year would receive no allocations for this region.

The FAA is proposing that these allocations would be valid for a two-year period. After that time, the certificate holder's allocations may be **revised** based on the data submitted under proposed section 93.325; an updated noise analysis; and/or the status of the Comprehensive Noise Management Plan. Table.4 shows the undiscounted and discounted net present values by route **over** the first year, first two years, first five years, and first ten years. These changes in net operating revenue are the projected costs associated with limiting operations. Tables 4a through 4d show the results of this analysis by route and by operator.

#### Uniform Year With No Peak/Off Peak Delineation on Commercial Air Tours

The first operating alternative to the proposed rule would be to limit all commercial air tours in the GCNP **SFRA** on a 12 month basis so that such operations conducted by certificate holders in the **SFRA** do not exceed the amount of air tours reported in accordance with current § 93.317 for the year May 1, 1997 to April 30, 1998. As discussed under the previous alternative, the number of commercial air tours that a certificate holder could conduct would be shown on the certificate holder's operations specifications as allocations.

Air tour operators, under this alternative could compress all of their air tour allocations into the most active period should they desire. It is also assumed, as discussed under the proposed rule, that allocations would be separated into those that may be used in the Dragon and Zuni Point Corridors and those that may be used in the rest of the **SFRA**.

---

commercial air tour limitation on GCNP air tour operators.

It is assumed that these allocations would be valid for a two-year period. After that time, the certificate holder's allocations may be revised based on the data submitted under proposed § 93.325; an updated noise analysis; and/or the status of the Comprehensive Noise Management Plan.

The FAA is not currently able to estimate how this no peak/off peak alternative would impact net revenue in a way that would be any different from the proposed rule's impact on net revenue. Nevertheless, the FAA is aware that this alternative would allow an operator to shift air tour operations from the off-peak, winter season to the peak, summer season. The incentive to do this will be particularly strong if prices are higher during the peak, summer season, or if aircraft have more passengers per flight, than during off-peak, winter season.

If prices are higher or aircraft are flown with more passengers per flight during the peak, summer season, than an operator could reduce the proposed regulation's impact on his/her net revenues by shifting operations from the off-peak, winter season to the peak, summer season.

Unfortunately, if the air tour operators were allowed to shift operations from the winter to the summer, then aircraft noise would also be shifted from the winter (when aircraft noise is less of a problem) to the summer (when aircraft noise is more a problem).

#### Three-Month Peak Season (July 1 to September 30) on Commercial Air Tours

Another operating alternative to the proposed rule would limit all commercial air tours in the GCNP SFRA on a 12-month basis. Air tours conducted by certificate holders in the SFRA would not exceed the amount of air tours reported in accordance with current § 93.317 for the year

May 1, 1997 to April 30, 1998. As discussed under the previous alternative, the number of air tours that a certificate holder could conduct would be shown on the certificate holder's operations specifications as an allocation.

Under this alternative, a certificate holder's total allocations would also be divided up into peak season and off-peak season. The peak season would be defined as the period from July 1 to September 30. The off-peak season would be the remaining part of the year. Under this alternative, off-peak allocations could not be used during peak season but peak season allocations could be used during off-peak.

Under the proposed rule, allocations also would be separated into those that may be used in the Dragon and Zuni Point Corridors and those that may be used in the rest of the SFRA. Dragon and Zuni Point allocations again would be determined based on the number of air tours an operator conducted in this region for the base year. Only operators who reported air tours in these corridors for the base year would receive allocations for these corridors.

It is assumed that these allocations would also be valid for a two-year period. After that time, the certificate holder's allocations may be revised based on the data submitted under proposed § 93.325; an updated noise analysis; and/or the status of the Comprehensive Noise Management Plan.

The FAA is not currently able to estimate how this three-month peak season alternative would impact net revenue in a way that would be any different from the proposed rule's impact on net revenue. Nevertheless, the FAA is aware that this alternative would allow an operator to shift air tour operations from the off-peak winter season to May and June.

The incentive to do this will be strong if prices are higher during May and June or if aircraft have more passengers per air tour air flight during May and June than during the off-peak, winter season. If prices are higher during May or June or if aircraft can be flown with more passengers per flight during these two months, then an operator could reduce the proposed regulation's impact on his/her net revenue by shifting air tour allocations from the off-peak winter season to May and June. If commercial air tour operators were allowed to shift air tours from the winter to May and June, then aircraft noise would also be shifted from the winter (when aircraft noise is less of a problem) to these two months.

#### C) Cost of Various Reporting Requirements Alternatives to Operators

The FAA considered two reporting requirement alternatives in the proposed rule. They are quarterly reporting and trimester reporting. The existing rule requires certificate holders to report three times annually. Since the existing rule already requires certificate holders to establish a system to implement the reporting requirement, there are assumed to be no start-up costs.

##### Reporting on a Trimester Basis

It is assumed that the information for these reports is currently being updated throughout the entire timeframe. The total amount of time needed to update this information is a function of the number of aircraft maintained by each operator. The FAA assumes that it takes each operator<sup>26</sup> about five minutes per aircraft per day regardless of

---

<sup>26</sup> Based upon communications with individuals who have conducted air tours in GCNP, the Director of Operations (DO) would perform this function. The FAA estimates that each DO earns between \$35,000 and

the season to record the updated information onto a master spreadsheet." The annual cost of the existing rule is estimated at about \$75,000 per year (110 aircraft/day X 0.083 hours/aircraft X 365 days/year X \$22.50/hour = \$75,281/year; 3,346 hours/year to the industry). The total cost of the existing rule in 1997 dollars for this task will be \$753,000 or \$529,000 discounted over ten years at 7 percent. Since this is a current requirement of the regulations (adopted in the 1996 final rule), these costs were previously accounted for in the regulatory evaluation prepared for the 1996 final rule.

The one-year cost of the existing rule is estimated at about \$75,000 or \$70,000 discounted. The two-year cost of the existing rule is estimated at about \$150,000 or \$136,000 discounted. The five-year cost of the existing rule is estimated at about \$376,000 or \$309,000 discounted.

**The** written information would have been provided to the Las Vegas FSDO three times per year. The FAA assumes that each operator would have to collate and verify the information that they had been collecting throughout the year. The **time** it takes to complete these two tasks would have been two hours per operator regardless of the number of aircraft and assumes that the operators would have been recording the information throughout the year. Given the wage rate of a Director of Operations at \$22.50 per hour, the FAA estimates that the existing rule costs each operator \$135 per year (\$22.50/hour X 2 hours X 3 times/year = \$135 per operator; 150 hours/year to the industry), or about \$3400 annually for the industry. The total cost to the industry of the

---

\$40,000 without fringe benefits or \$46,875 with fringe benefits. On an hourly basis the DO is assumed to earn about \$22.50 (\$46,875/2,080 hours = \$22.53 or \$22.50/hour).

<sup>27</sup> The daily average number of aircraft used year-round is about 110. During peak season, the daily average is about 130 and during off-peak season the daily average is about 90.

existing rule is estimated at \$34,000 for ten years or \$24,000 discounted.

The two-year cost of the existing rule is estimated at about \$7,000 or \$6,000 discounted. The five-year cost of the existing rule is estimated at about \$17,000 or \$14,000 discounted.

In sum, the FAA estimates that the cost associated with regular updating and trimester reporting for the existing rule is 5787,000 or \$552,000 discounted over ten years. For the first year, the costs of the existing rule are \$79,000 or \$74,000 discounted. The two-year costs of the existing rule are estimated at \$159,000 or \$144,000 discounted. The five-year costs of the existing rule are estimated at \$394,000 or \$323,000 discounted.

#### Reporting on a Quarterly Basis

As stated previously under the section on trimester reporting, it is assumed that updating is taking place throughout the entire timeframe. Furthermore, the FAA has assumed for the following assessment on quarterly reporting that operators would continue to follow reporting procedures similar to those adopted by them to meet the trimester reporting requirements. The total amount of time needed to update this information would be a function of the number of aircraft maintained by each operator. The FAA assumes that it would take each operator about five minutes per aircraft per day regardless of the season to record the

---

<sup>23</sup> Based upon communications with individuals who have conducted air tours in GCNP, the Director of Operations (DO) would perform this function. The FAA estimates that each DO earns between 535,000 and \$40,000 without fringe benefits or \$46,875 with fringe benefits. On an hourly basis the DO is assumed to earn about \$22.50 (\$46,875/2,080 hours = \$22.53 or \$22.50/hour)

updated information onto a master spreadsheet.<sup>29</sup> The annual cost absent the existing rule is estimated at about 575,300 per year (110 aircraft/day X 0.083 hours/aircraft X 365 days/year X \$22.50/hour = \$75,281/year; 3,346 hours per year to the industry<sup>1</sup> or \$70,600 discounted in the first year. The total cost in 1997 dollars absent the existing rule for this task would be 5753,000 or \$529,000 discounted over ten years at 7 percent.<sup>30</sup>

The two-year cost absent the existing rule is estimated at \$150,000 or \$136,000, discounted. The five-year cost absent the existing rule is estimated at \$376,000 or \$309,000, discounted. Under this proposed reporting requirement scenario, the written information would have to be provided to the Las Vegas FSDO four times per year. The FAA assumes that each operator would have to collate and verify the information that they have been collecting throughout the year. The time it takes to complete these two tasks would be two hours per operator regardless of the number of aircraft and assumes that the operators would have been recording the information throughout the year. Given the wage rate of a Director of Operations at \$22.50 per hour, the FAA estimates that this provision would cost each operator \$180 per year (\$22.50/hour X 2 hours X 4 times/year = \$180 per operator; 200 hours/year to the industry assuming the operator of the mixed fleet reports separately for his fixed-wing and helicopter tour business) absent the existing rule. The total cost to the industry absent the existing rule is estimated at 545,000 for ten years or 531,600 discounted.

---

<sup>29</sup> The daily average number of aircraft used year-round is about 110. During peak season, the daily average is about 130 and during off-peak season the daily average is about 90.

<sup>30</sup> The FAA believes that operators developing "canned" flight plans could significantly reduce the time and cost of their quarterly reporting by integrating the flight plan automation with their quarterly reporting. The FAA requests operator comment to this option.

The two-year cost absent the existing rule is estimated at \$9,000 or \$8,000 discounted. The five-year cost absent the existing rule is estimated at \$22,000 or \$18,000, discounted.

In sum, the FAA estimates that the cost associated with regular updating and quarterly reporting absent the existing rule would be \$798,000 or \$560,000, discounted over ten years. The two-year costs absent the existing rule are estimated at \$159,000 or \$144,000 discounted. The five-year costs absent the existing rule are estimated at \$399,000 or \$327,000 discounted.

The incremental cost of reporting three times annually versus four times annually is the difference in the costs shown previously. The total incremental cost to industry of the proposed rule is estimated at \$11,000 for ten years or \$8,000 discounted. For the first year, the incremental cost is approximately \$1,000. The two-year cost is estimated at \$2,000. The five-year cost is estimated at \$5,000 or \$4,000 discounted.

Some operators have indicated that the current trimester reporting is more burdensome than quarterly reporting because it does not correspond with other business reporting requirements. However, **because** an additional fourth set of forms would have to be compiled and transmitted one additional time, quarterly reporting would be more costly.

#### D) Cost of Implementing the Rule to Operators

The FAA considered two alternative means of monitoring the allocations, a form system and the filing of flight plans. The requirement to file a flight plan is proposed in this rule. The following is a discussion of these two alternatives.

been pre-printed. **Based** on the previously noted operators' reports for the base year period, the **FAA** estimates that no more than approximately 88,000 commercial air tours would have to be reported annually. The FAA estimates that the total annual cost in 1997 dollars would be between \$29,000 and \$30,000 [ $\$20.00/\text{hour} \times 88,000 \text{ forms} \times 1 \text{ minute per form}]/60 = \$29,300/\text{year}$ ; 1,467 hours per year to the industry: or about \$27,400 discounted in the first year. The total cost would be \$293,000 **over** ten years or \$206,000, discounted. The two-year costs are estimated at \$58,600 or \$53,000 discounted. The five-year costs are estimated at 5146,500 or \$120,300 discounted.

#### File Flight Plan

Section 33.323 of the proposed rule would require each certificate holder of a commercial SFRA operation to file a visual flight rules (VFR) flight plan with an FAA Flight Service Station for each flight. A flight consists of one take-off and one landing. The "remarks" section of the flight plan would be completed to indicate the purpose of the flight out of five designated purposes. These purposes would be: (1) commercial air tour; (2) transportation; (3) repositioning; (4) maintenance; and (5) training/proving. The information obtained from the flight plan would be used to ensure compliance with the commercial air tour limitation. Copies would not have to be maintained by the certificate holder or carried on board the aircraft.

The extent to which an operator would be impacted by these costs would depend upon the volume of his/her commercial air tour business in GCNP and the number of aircraft and pilots providing air tour service. **Additionally**, the cost impact would be influenced by whether the operator conducts air tours daily on a regular frequency.

Relying on information from the Las Vegas FSDO, the FAA has identified the following four principal areas where start up costs for the larger, more regularly scheduled operators would be incurred: a) creation of "canned" VFR flight plans (templates) to be filed with the Reno or Prescott Flight Service Station; b) rewriting of existing General Operations Manuals to incorporate the new procedures; c) set-up of a pilot training program; and d) training of pilots. The FAA assumes the first three tasks and possibly the fourth, the instructing of the pilots in the new procedures, would be the responsibility of each operator's Director of Operations (DO).

The FAA estimates that the amount of time required of the DO to create and file a template with the Flight Service Stations (task 'a') is about 2 days. Similarly, task 'b' would require about 2 days for part 121 and part 135 operators, and task 'c', the development of pilot instruction in VFR flight plan procedures, would require another 2 days. Finally, the FAA believes that the VFR flight plan procedures could be presented to pilots currently conducting air tours in the Grand Canyon through an Operational Bulletin. Presentation of the procedures to new hires would be part of an operator's on-going costs; the FAA assumes each operator would incorporate this into the periodic review, modification, and update of plans as noted in the next section.

The DO's loaded salary expressed as an hourly wage rate is assumed to be \$22.50 per hour; the pilots hourly rate with benefits is assumed to be \$20.00 per hour. The FAA believes that 17 of the 25 entities<sup>32</sup> reporting under § 93.317 conduct daily Grand Canyon commercial air tours on a fairly regular time schedule. The FAA also assumes that three

---

<sup>32</sup> The analysis on flight plans was based on 25 entities rather than 24 operators because it is assumed that the one mixed fleet operator would

over-flow operators are sufficiently large (tour volume and number of aircraft) that they are able to also conduct daily air tours with some **regularity**. Of these 20 entities, at least 4 are part 121 scheduled operators; these 20 entities employ about 225 pilots.

The remaining 5 operators conduct Grand Canyon air tours on an occasional or infrequent schedule, operate/own only one or two aircraft, and typically serve as their own pilot. Because of the infrequency with which these operators conduct commercial air tours in the Canyon, the FAA does not believe they would realize any cost savings by preparing a "canned" flight plan. Thus, the **FAA** does not believe that this category of operators would likely incur costs associated with tasks 'a' or 'c', and estimates only a week's time required to rewrite the appropriate portions of their manual. The FAA assumes a wage rate for these owner/operators similar to that for a DO.

Using the preceding information, the FAA estimates that the total initial fixed costs to the Grand Canyon air tour operators for the VFR flight filing requirements would be about \$22,320 or \$20,850 discounted. By task, the FAA estimates the following: a) \$6,840 (\$6,390, discounted); b) \$8,640 (\$8,075, discounted); c) \$6,840 (\$6,390, discounted); and d) SO (de minimus).

The VFR flight filing procedure requires the following sequence of activities: 1) filing a flight plan; 2) activating a flight plan; and 3) closing a flight plan. The activating and closing of a flight plan is the responsibility of the pilot-in-command and is a part of normally assigned duties. This usually takes about one to five minutes. The activation of a flight plan could also be accomplished via a telephone

---

have to develop and file two distinct flight plans, one for his fixed-wing operation and one for his helicopter operation.

call to the Flight Service Station by operator staff. This would be more efficient if there were multiple flight plans to be **activated** by a given operator at the same time.

The FAA is unable to accurately assess the variable or on-going **costs** of the VFR flight filing plan procedures at this time. Specifically, the FAA cannot precisely account for the costs incurred by activating and closing a flight plan, nor can the **FAA** accurately account for the costs each operator **would** typically incur in filing his flight plan. The FAA, therefore, requests public comment.

The **FAA** believes there would also be additional on-going requirements and costs imposed on the Las Vegas FSDO with proposed \$ 93.323. Coordinating and cross referencing the daily air tour activity recorded by the Prescott Flight Service Station with the operator reporting requirements, and monitoring the activity for potential enforcement action would **add** requirements to the Las Vegas **FSDO's** current mission that would task current staffing levels. Some of these activities (non enforcement) could be **a** part of the workload of a senior analyst/statistician assigned to manage the reporting requirements.

#### E) Cost of Other Provisions to Operators

Operators would incur costs associated with (1) requesting modification and allocations and (2) transfer of allocations. The FAA estimates that the cost of these provisions could be up to \$20,000 or \$14,000 discounted over ten years. The following is a discussion of the costs associated with these two provisions.

### Requesting Modification and Initial Allocations

The FAA recognizes that the air tour business in the GCNP is constantly changing. Thus, due to mergers/acquisitions, bankruptcies, etc., certificate holders may believe that the data submitted for May 1997 to April 1998 is not reflective of their current business operations. Therefore, the FAA would permit any certificate holder who believes that the base year data is not reflective of its current **business** operation to submit a written request to the Manager, Air Transportation Division requesting that its allocation be x-assessed and indicating why the base year is not an adequate reflection of its current **operations**. The operator must provide supporting documentation.

The FAA believes, based on its knowledge of the industry, that as many as five operators would request modifications on or before the close of the comment period to their proposed initial allocations. The FAA estimates that each operator would incur one-time costs of between \$500 and \$1,000 (which includes two days effort) to complete and provide the required information to the FAA. Therefore the one-time cost to the industry would be between \$2,500 and \$5,000 (which includes ten days or 80 hours of effort) or between \$2,300 and \$4,700, discounted. The FAA requests information from affected air tour operators on the validity of this estimate.

### Transfer of Allocations

Allocations to conduct air tours in the GCNP **SFRA** would be considered as an operating privilege initially granted to certificate holders, who conducted commercial air tours and reported them to the FAA. As proposed, the allocation would be subject to reassessment every two years.

The FAA recognizes that air tour operators often utilize a variety of contracting/subcontracting methods to handle passenger loads during busy periods. Therefore, the FAA proposes to allow an allocation to be **transferred** among certificate holders, subject to the restrictions enumerated in the Preamble of this proposed rule. Under the proposed rule all certificate holders would be required to report any transfer of allocations to the Las Vegas FSDO in writing.

The FAA distinguishes between temporary and permanent transfers of allocations. In the former case, the FAA recognizes the current business practice of GCNP air tour operators to occasionally transfer air tour bookings (usually to an overflow operator) to accommodate unexpected surges in demand that cannot be met. Such temporary arrangements would not require FAA approval, nor would the FAA modify the involved operators' operations specifications. Temporary transfers would still be required to be reported to the Las Vegas FSDO in writing.

The FAA assumes any operator costs associated with temporary transfers to be part of the on-going business cost of conducting air tours of the Grand Canyon. The FAA also assumes any costs associated with notifying the Las Vegas FSDO of such temporary transfers would be **de minimus**. Similarly, FAA costs associated with the processing of these written notices concerning temporary transfers would be **de minimus**.

Permanent transfers of allocations resulting from mergers/acquisitions, bankruptcies, or other reasons that affect operations, would require FAA approval through the modification of the operations specifications in addition to the required reporting to the Las Vegas FSDO in writing. The FAA cannot predict how many such permanent transfers might occur in the future, and as a consequence, cannot estimate with any degree of precision what costs might be associated with a permanent transfer. The

FAA, however, is aware of two acquisitions that occurred during the base period and offers the following example of what costs might result if no more than two operators were to submit requests for permanent transfers of allocations to the FAA annually. The FAA requests operator comment regarding the likely costs of a permanent transfer of allocations.

If each operator would incur costs of between \$500 and 51,000 (which includes two days effort) to complete and provide the required information to the FAA, then the annual cost to the industry would be between \$1,000 and 2,000 annually (about 32 hours annually) or between \$900 and 51,900 discounted. The cost over 10 years would be between \$10,000 and \$20,000 or between **\$1,000** and \$14,000, discounted. The two-year costs are estimated at between \$2,000 and \$4,000 or between \$1,800 and \$3,600 discounted. The five-year costs are estimated at between \$5,000 and 510,000 or between \$4,100 and \$8,200, discounted.

#### F) Cost of Proposed Rule to the FAA

The FAA, as a result of this proposed rule, would incur costs in four ways. The FAA would incur costs associated with the initial allocation, recording and tracking, filing of flight plans, and transfer of allocations. Over the next ten years, FAA costs are expected to be \$1,445,900 or \$1,016,900, discounted. The following is a discussion of these cost components.

#### Initial Allocation and Recording and Tracking

Under this proposed rule, each commercial air tour would be represented by an allocation. Thus each certificate holder reporting commercial air tours to the FAA in accordance with current section 93.317 would receive one allocation for each air tour conducted during the May 1997-April

1998 base year period.

Certificate holders who have been identified as receiving allocations to conduct air tours in the SFRA would receive written notification of the following information: 1) total number of commercial air tours allocated in the GCNP SFRA; 2) Peak season allocation for the total SFRA; and 3) number of air tour operations allocated in the Dragon and Zuni Point Corridors (one number for peak season and one number for the year).

The FAA would need to develop an allocation process and prepare the necessary information to send to each air tour operator. This one-time administrative work would require analyst, clerk, legal, and management resources. For this analysis, it is assumed to take about two weeks to set up a spreadsheet and prepare the necessary information to send to each air tour operator. The cost is estimated using wage rate, including all fringe benefits, of about \$46.50 per hour ( $\$73,163/2,080$  hours  $\times 1.3245 = \$46.59$ ). The initial cost to implement this part of the proposed rule would be \$3,700 in the first year ( $\$46.50/\text{hour} \times 80$  hours = \$3,720; 80 hours the first year to the FAA) only. The discounted cost is \$3,500.

In addition, the FAA will incur recurring annual costs from the recording and tracking of the information provided by the operators. Again, this would require analyst, clerk, management and legal resources. For the purpose of this cost assessment, the FAA assumes that one additional agency employee would be required at the GS-14 grade level. Based on FAA resources required to record and track data provided by operators since 1997, the agency estimates that the total cost to the FAA of these elements would be about 5138,000 annually, \$1,379,000 over ten years (5968,587, discounted). The two-year cost is estimated at \$276,000 or \$249,000 discounted. The five-year cost is estimated at \$690,000 or \$567,000 discounted.

### Transfer of Allocations

Allocations to conduct air tour operations in the GCNP SFRA would be an operating privilege initially granted to the certificate holders who conducted air tour operations during the base year and reported them to the FAA. As proposed, the allocation would be subject to reassessment every two years.

The FAA would allow an allocation to be transferred among certificate holders, subject to several restrictions. However, the FAA would retain the right to redistribute, reduce or revoke allocations based on the need to carry out its statutory mandate to regulate for efficiency of airspace or aviation safety. Additionally, the FAA could redistribute, reduce, or revoke allocations if the certificate holder voluntarily surrendered the allocation or in the event of an involuntary cessation of business operations.

The FAA estimates that on average the FAA would spend about 80 hours managing the transfer of allocations from each merger or 160 hours annually assuming two mergers, transfers, etc. annually. Based upon the salary of a GS-13 Step 5 employee of ( $\$61,913/2080 \text{ hours} \times 1.3245 = \$39.42/\text{hour}$  or about  $\$39.50/\text{hour}$ ), the FAA estimates that cost would be about 56,300 annually ( $\$39.50 \times 160 \text{ hours} = \$6,320$ ; 160 hours annually to the FAA; \$5,900 discounted),  $\$63,200$  over ten years or  $\$44,400$ , discounted. The two-year cost would be  $\$12,600$  or  $\$11,500$  discounted. The five-year cost would be  $\$32,000$  or  $\$25,800$  discounted.

In sum, the FAA would incur costs associated with the initial allocation, tracking and monitoring, filing a flight plan, and transfer of allocations. Over the next ten years, FAA costs are expected to be

\$1,445,900 or \$1,016,900, discounted.

G) Initial Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities (small business and small not-for-profit government jurisdictions) are not unnecessarily and disproportionately burdened by Federal regulations. The RFA, which was amended March 1996, requires regulatory agencies to review rules to determine if they have "a significant economic impact on a substantial number of small entities." The Small Business Administration defines airlines with 1,500 or fewer employees for the air transportation industry as small entities. For this proposed rule, the small entity group is considered to be operators conducting commercial air tours in the GCNP SFRA and having 1,500 or fewer **employees**.<sup>33</sup> The FAA has identified a total of 25 such entities (24 operators, one of whom operated as a fixed-wing operator as well as a helicopter operator) that meet this **definition**.<sup>34</sup>

The FAA has estimated the annualized cost impact on each of these 25 small entities potentially impacted by the proposed rule. The proposed rule is expected to impose an estimated total cost on operators of \$177.6 million or \$114.6 million, discounted over the next 10 years. The annualized cost over ten years is estimated at about \$25.5 million

---

<sup>33</sup> Standard Industrial Classification Code for these small entities is 4512, which represents "Air Transportation, Scheduled" or 4522, which represents "Air Transportation, Nonscheduled."

<sup>34</sup> Twenty-four operators reported conducting air tours in the Grand Canyon during the base period. However, one operator is called by two different names and conducts separate fixed-wing and helicopter operations under these two different names. It is counted as two entities. Another operator conducts a large volume of fixed-wing air tours that originate from Page, Arizona as well as from Las Vegas, Nevada. It, however, is counted as one entity.

for all of the affected entities. The FAA has determined that the proposal **would** have a significant impact on a substantial number of small entities, **and** has performed an initial regulatory flexibility analysis. As discussed earlier in this chapter, all 25 small entities would incur an economically significant impact (See Tables 3 and 3a through **3d and 5 and 5a** through 5d).

Under Section 603(b) of the RFA (as amended), each initial regulatory flexibility analysis is required to consider alternatives that would reduce the regulatory burden on affected small entities. The FAA has examined several alternative provisions of this proposed rule as discussed earlier in the analysis. Since all the affected entities are small, the FAA contends that this earlier analysis of alternatives fulfills the RFA requirements. In addition to considering alternatives, the FAA is also required to address these points: (1) reasons why the FAA is considering the proposed rule, (2) the objectives and legal basis for the proposed rule, (3) the kind and number **of** small entities to which the proposed rule would apply, (4) the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, and (5) all Federal rules that may duplicate, overlap, or conflict with the Proposed rule.

#### Reasons Why the FAA is Considering the Proposed Rule

Public Law 100-91 recognizes that noise associated with "aircraft overflights" at the GCNP is causing "a significant **adverse** effect on the natural quiet **and** experience of the park." This legislation directed the FAA **and** NPS to work together to achieve the substantial restoration of natural quiet in GCNP. The FAA and NPS believe it is necessary to impose a commercial air tour limitation in order to stabilize noise levels in the **SFRA** while further noise analysis is conducted.

### The Objectives and Legal Basis for the Proposed Rule

The objective of the proposed rule is to limit all commercial air tours in the GCNP **SFRA** on a 12-month basis. Commercial air tours conducted by certificate holders in the **SFRA** are not to exceed the amount of air tours reported in accordance with current section 93.317 for the period from May 1, 1997 through April 30, 1998.

The legal basis for the proposed **rule** is found in Public Law 100-91, commonly known as the National Parks Overflights Act. Public Law 100-91 stated in part, that "noise associated with aircraft overflights at GCNP [was] causing a significant adverse effect on the natural quiet and experience of the park and current aircraft operations at the Grand Canyon National Park have raised serious concerns regarding public safety, including concerns regarding the safety of park users." Further congressional direction is discussed in the history section of this regulatory evaluation.

### The Kind and Number of Small Entities to Which the Proposed Rule Would Apply

The proposed rule applies to 24 potentially affected part 135 commercial air tour operators, each having 1500 or fewer employees. The FAA estimates that all 24 operators (25 entities) would be impacted by the proposed rule. The FAA has limited financial profile information (e.g., operating revenue, operating expenses, operating profit, net operating revenue, and passenger revenue) for six of the impacted operators (see Table 6).

Balance sheet information on assets and liabilities is not readily available." The FAA therefore requests financial profile information from the affected small entities.

The Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Proposed Rule

Each of the 24 operators affected by this proposal would need to comply with certain reporting requirements. Certificate holders conducting commercial SFRA operations would complete a flight plan each flight. The FAA estimates this compliance effort could impose an additional one to five minutes on the part of the certificate holder per operation for each of the 25 small entities during each year of compliance, for a total of 10,956 hours annually (e.g., 88,000 tours x .083 hours = 7,304 hours; 88,000 tours X .166 hours = 14,608 hours). This cost estimate does not account for other flights included in the term "commercial SFRA operations." Therefore, the FAA has limited this analysis to evaluating the costs associated with commercial air tours.

In addition, certificate holders conducting commercial air tours would need to report quarterly to the FAA certain information on the total operations conducted in the SFRA to the FAA. The FAA estimates that this compliance effort would take place four times per year (one additional time compared to the existing rule) and would impose an additional 50 hours of labor on the industry annually. This provision would cause an operator, regardless of the number of aircraft, to expend

---

<sup>35</sup> A search was conducted for financial data on the 24 Grand Canyon operators reporting air tours during the base year period. First, the FAA examined internal databases from the Bureau of Transportation Statistics. Of the 24 operators, the FAA was able to locate limited financial data reported on Form 298C on only six operators. Next, the FAA reviewed publicly accessible databases including Standard and Poor's Register of Corporations, Moody's Transportation Manual, the Securities and Exchange Commission's EDGAR, and U.S. Business Directory. From these additional sources, the FAA was able to retrieve adequate financial information for only two operators.

an additional two hours of labor annually (including record maintenance).

The initial assigned allocation could involve operator requests for modifications in some instances that the FAA estimates would impose about 80 hours total the first year on five firms. The FAA estimates that the paperwork burden to each of these firms will be about 16 hours (see earlier discussion).

Finally, the FAA assumes no more than two operators each year are likely to submit requests for permanent transfers of allocations, e.g., to enter, leave or merge. The FAA estimates that the two firms would spend about 32 hours annually preparing the required documentation to be submitted to the FAA.

Excluding the provisions that impose a one-time burden (initial allocations would affect five operators the first year annually; 80 hours total), each certificate holder would have imposed an additional annual reporting burden on average of 575 hours ( $3,346 + 10,956 + 50 + 32 = 14,384$ ;  $14384/25 = 575$ ) of labor. This estimate, however, is highly dependent upon how many aircraft and how many operations the certificate holder flies per year. For a period of 10 years, a total of approximately 143,750 hours (calculation: 25 small entities  $\times$  575 hours per year  $\times$  10 years = 143,750 hours over ten years) would be spent.

All Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rule

The FAA is unaware of any federal rules that either duplicate, overlap, or conflict with the proposed rule. Nevertheless, the FAA requests comment on this issue.

### Affordability Analysis

For the purpose of this IRFA, an affordability analysis is an assessment of the ability of small entities to meet costs imposed by the proposed rule. There are two types of costs imposed by the rule-1) out-of-pocket costs (actual expenditures) associated with applications and documentation and 2) loss of potential future operating revenue **above** current levels associated with an increase in the level of operations. This latter burden may be significant to financial viability for companies are depending on growth in operating revenue to provide cash needed to meet long-term obligations such as equipment purchase loans.

A company's short-run financial strength is substantially influenced, among other things, by its working capital position and its ability to pay short-term liabilities. Unfortunately, data are not available on the amount of working capital that these operators have to finance changes in short term costs associated with requirements of the proposed rule such as filing of flight plans, transfer of allocations, and requesting modification of initial allocations.

There is an alternative perspective to the assessment of affordability based on working capital of the proposed rule. The alternative perspective pertains to the size of the annualized costs **of** the proposed rule relative to annual revenues. The lower the relative importance of those costs, the greater the likelihood of implementing either offsetting cost saving efficiencies or raising fares to cover increased costs without substantially decreasing passengers.

This analysis assesses affordability by examining the annualized cost of compliance relative to an estimate of total Grand Canyon commercial air

tour operating revenues for each of the 25 small **entities**.<sup>36</sup> (There are 24 operators covered by this rule, but one operator conducts helicopter operations under one business entity and airplane operations under another separate business entity). The annualized change in net operating revenues corresponds to foregoing the anticipated three percent per year growth of undiscounted net operating revenues. This number is relatively constant **across** all air tour operators because the majority of the negative impact (lost revenues) imposed by this rulemaking is directly related to the number of air tours that are being conducted. For these operators, there may be some prospect of absorbing the cost of the proposed rule through fare increases (especially since the cost model does not account for increasing demand with a fixed supply).

It appears that given the current state of the industry, changes in net operating revenues may be offset by increased air fares. The limit on air tours will restrict the future supply of Grand Canyon air tours while demand for air tours is expected to increase, which should make it easier for affected entities to increase prices. No clear conclusion can be drawn with regard to the abilities of small entities to afford the reductions in net operating revenues that would be imposed by this NPRM because the FAA is not able at this time to estimate the amount of revenue increase obtained through price increases. The FAA requests small entities to provide better information supporting this assertion or any alternative one.

#### Disproportionality Analysis

The **FAA** does not believe any of the 25 entities would be disadvantaged

---

<sup>36</sup> Operating revenues were estimated from information on air tour fares, aircraft, and passenger load factors.

**relative** to larger operators because within the context of the RFA, all Grand Canyon commercial air tour operators are small regardless of their size relative to one another.

The smallest operators are expected to incur higher costs relative to their size than larger operators. This is because while all operators have periodic reporting requirements, the smallest operators will not be able to spread their reporting costs across as many operations as the larger operators. Consequently, **the** periodic reporting requirements will be proportionately greater for the smallest operators compared to the other small operators. However, these reporting costs are a relatively **small** portion of the economic impact of this rulemaking. As a result this cost disadvantage to the smaller operators is not expected to **be** significant.

#### Competitiveness Analysis

All air tour operators currently operating in GCNP are small entities. All these operators would be proportionately impacted by the commercial air tour limitation provision of this rulemaking (the commercial air tour limitation has the greatest impact of all provisions of this rulemaking). The **smaller** operators **would** not be put at a disadvantage relative to the larger operators as a result of this provision. There are some paperwork costs that impact each operator equally, regardless of size. In this case the larger operators could have an advantage over the smaller operators since the larger operators **could** spread these costs among more passengers. However, these particular paperwork costs are small and any relative advantage that the larger operators could have as a result of the paperwork cost would be insignificant.

This proposed rulemaking contains one feature impacting competitiveness. The commercial air tour limitation would protect established operators from competition from new entrants or from newly established operators who are just getting set up and therefore provide only a limited number of air tours. In this instance, the commercial air tour limitation puts new entrants and newly established operators at a disadvantage to the established operators because that provision would limit the number of air tours they could provide to only those allocations that they could obtain through transfer, assuming all other requirements were satisfied.

The FAA solicits comments on this matter. Specifically, **commenters** are asked to provide information on the impact this proposed rule would have on the continued ability of new entrants to compete in the existing market. The FAA requests that supporting data on markets and cost be provided with the comments.

#### Business Closure Analysis

The FAA is unable to determine with certainty the extent to which the proposed rule would cause small entities to close their operations. However, the limited profit and loss data contained in Table 6 and the affordability analysis can be an indicator in business closures.

Table 6 contains 1997 and 1998 calendar year profit and loss for six air tour operators. Two of these air tour operators experienced losses in both years.

In determining whether or not any of the 25 small entities would close business as the result of compliance with this proposed rule, one question must be answered: "Would the cost of compliance be so great as to impair an entity's ability to remain in business?" The FAA has

incomplete information on which or how many of these small entities are already in serious financial difficulty and requests information on the subject. **However**, this proposed rule could have a significant impact on those small entities that are already experiencing financial difficulty. This rulemaking could prevent them from escaping their financial difficulties through increased revenues from an increase in future commercial air tours. To what extent the proposed rule makes the difference in whether these entities remain in business is difficult to answer. Since there is uncertainty associated with whether some of the small entities would go out of business as the result of the compliance cost of this proposed rule, the FAA solicits comments from the aviation community as to the likelihood of this occurrence. As noted previously in the "Affordability Analysis" section, the FAA requests that all comments be accompanied with clear supporting data.

#### H) Summary of Costs of Compliance

The estimated 10-year impact of the proposed provision of this rulemaking, which divides the year into a five-month peak season and a seven-month off-peak season, is \$177.6 million, (\$114.6 million, discounted) in lost revenue (net of variable operating costs). The estimated 10-year **cost** of the other provisions which include (1) reporting four times annually, (2) filing of flight plans, (3) transfer of allocations and (4) requesting modifications to initial allocations is \$30,000, or \$23,000 discounted. **In sum**, the estimated 10-year cost to air **tour** operators as a result of this proposed rule would be \$177.6 million or \$114.6 million, discounted.

FAA costs include those associated with initial allocations, annual recording and tracking, transfers of allocations, and filing of flight

plans. These FAA costs are estimated at \$1,445,900 or \$1,016,900, discounted. In sum, the FAA estimates that the 10-year cost of this proposed rule would be \$179.1 million or \$115.6 million discounted.

i) Summary of Benefits and Costs

Public Law 100-91 has been imposed to substantially restore natural quiet and experience in Grand Canyon National Park. The primary intended benefit of this proposed rule is its contribution toward restoring natural quiet and experience in Grand Canyon National Park. The FAA estimates that this proposal, together with its two associated actions of route adjustments, would restore natural quiet to about 41 percent of the park. The estimated 10-year use benefits (benefits derived from hiking, rafting, or sightseeing) as a result of this proposed rule and the associated actions would be about \$73.0 million, discounted at seven percent over ten years. Just this rule without the associated actions would provide a discounted "use" benefit of about \$34.6 million over the same period.

The FAA does not have adequate data to estimate the non-use benefits of aircraft noise reduction at GCNP, but believes this rulemaking may generate significant non-use benefits. Studies cited earlier suggest potentially significant non-use benefits associated with aircraft noise reduction in GCNP as a result of this rulemaking.

The estimated 10-year cost of this proposed regulation would be \$179.1 million or \$115.6 million discounted. The majority of the costs of this proposed regulation, would be \$177.6 million, (\$114.6 million, discounted) in lost revenue (net of variable operating costs). The estimated 10-year cost of the other provisions to air tour operators which includes (1) reporting four times annually, (2) filing of flight

plans, (3) transfer of allocations and (4) requesting modifications and initial allocations is 530,000, or 523,000 discounted. FAA costs include those associated with initial allocations, annual recording and tracking, and transfer of allocations. These FAA costs are estimated at \$1,445,900 or \$1,016,900, discounted.

4. International Trade Impact Assessment

The FAA has determined that the rulemaking will not affect non-U.S. operators of foreign aircraft operating outside the United States nor will affect U.S. trade. It could, however, have an impact on commercial air tour business at GCNP, much of which is foreign.

The United States Air Tour Association estimates that 60 percent of all commercial air tourists in the United States are foreign nationals. The Las Vegas FSDO and ~~some~~ operators, however, believe this estimate to be considerably higher at the Grand Canyon, perhaps as high as 90 percent. To the extent the proposed air tour limitation rulemaking disrupts the marketing of Grand Canyon air tours to foreign visitors and thereby reduces their patronage of these tour, the commercial air tour industry could potentially experience an additional loss of revenue beyond what is expected as a result of the cap.

The FAA cannot put a dollar value on the portion of the potential loss in commercial air tour revenue associated with a weakening in foreign demand concomitant with the limitation on commercial air tours of the Grand Canyon.

5. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Public Law 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted **by** law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure of \$100 million or more (when adjusted annually for inflation) in any one year by State, local, and tribal governments in the aggregate, or **by the** private sector. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit **timely** input by elected officers (or their designees) of **State, local,, and tribal** governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that would impose an enforceable duty upon State, local, and tribal governments in the aggregate of \$100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that, before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a **plan**, which, among other things, must provide for notice to potentially affected **small governments**, if any, **and** for a meaningful and timely opportunity for these small governments to provide input in the development of regulatory proposals.

This proposed rule **does not** contain any Federal intergovernmental or private sector mandates. Therefore, the requirements of Title II of the Unfunded **Mandates** Reform Act of 1995 **do** not apply.

APPENDICES

Table A-1 Explanation of **Benefits** Derivation

Table 1 **Summary** of Costs by Alternative . . . 2000-2001 to 2009-2010

Table 2

Table 2a

**Table 2b**

Table 2c

**Table 2d**

**Table 3**

Table 3a

**Table 3b**

**Table 3c**

Table 3d

**Table 4**

Table 4a

**Table 4b**

Table 4c

Table 4d

Table

Table 5

**Table 5a**

Table 5b

Table 5c

Table 5d

**Table 6**

**TABLE A-1**  
**Explanation of Benefits Derivation**

Year	Calculation	Estimated Benefit Value	Benefit at 3% Present Value	Benefit at 7% Present Value
2000	\$34,453,000 X 18.44%	\$6,351,652	\$6,166,652	\$6,351,652
2001	Pro-rated	\$6,396,810	\$6,029,607	\$6,396,810
2002	Pro-rated	\$6,441,969	\$5,895,314	\$6,441,969
2003	\$34,453,000 X 18.83%	\$6,487,128	\$5,763,729	\$6,487,128
2004	Pro-rated	\$6,440,233	\$5,555,401	\$6,440,233
2005	Pro-rated	\$6,393,338	\$5,354,320	\$6,393,338
2006	Pro-rated	\$6,346,443	\$5,160,239	\$6,346,443
2007	Pro-rated	\$6,299,548	\$4,972,922	\$6,299,548
2008	\$34,453,000 X 18.15%	\$6,252,654	\$4,792,138	\$6,252,654
2009	extrapolated	\$6,205,759	\$4,617,667	\$6,205,759
<b>Total</b>				
2000-2001:			\$12,196,259	\$12,748,462
2000-2004:			\$29,410,704	\$32,117,791
2000-2009:			\$54,307,990	\$63,615,534
<p>Noise modeling was completed for the years 2000, 2003, and 2008. Therefore only those years can easily be calculated as shown above. For the years between the years that were modeled, estimated benefits were pro-rated as demonstrated below for year 2002:</p> $\$6,352,652 \cdot ((\$6,487,128 - \$6,354,652) \cdot 2/3) = \$6,41,969$ <p>In the model years 2000, 2003, and 2008 the estimated <b>benefit</b> value may not equal the calculation at presented due to rounding.</p>				

Table 1. Summary of Costs, By Alternative, of the Proposed Rule of Placing a Limitation on Commercial Air Tours in the Grand Canyon National Park, 2000-2001 to 2009-2010.

Summary of Operational Costs: Proposed Rule and Alternatives			Summary of Non-Operational Costs: Proposed Rule and Alternatives			Summary of FAA Costs: Proposed Rule		
Description of Operations Alternatives	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue	Description of Non-Operations Alternatives With Initial or Annual Costs	Total Undiscounted Cost	Discounted Cost	Description of FAA Costs	Total Undiscounted Cost	Discounted Cost
<b>Total One Year</b>			<b>Total One Year</b>			<b>Total One Year</b>		
Proposed Rule Five Month Peak Season	\$6,459,459	\$6,036,878	Proposed Rule Rep. Four Times Ann.	\$1,000	\$1,000	Proposed Rule Ann .Rec. & Tracking	\$138,000	\$129,000
Alternative 1 Three Month Peak Season	<\$6,459,459	<\$6,036,878	Alternative Rep. Three Times Ann. (Current)	so	so	Proposed Rule Trans & Term. Of Alloc.	\$6,300	\$5,900
Alternative 2 No Peak/Off-Peak Delineation	<\$6,459,459	<\$6,036,878	Proposed Rule Flight Plan Ann.	so	so	Proposed Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$29,300	\$27,400	Proposed Rule Initial Allocation	\$3,700	\$3,500
			Proposed Rule Trans and Term. Of Alloc.	\$1,500	\$1,400			
			Proposed Rule Req. Mod and Init Alloc.	\$3,800	\$3,500			
<b>Total of Proposed Rule</b>	<b>\$6,459,459</b>	<b>\$6,036,878</b>	<b>Total of Proposed Rule</b>	<b>\$6,300</b>	<b>\$5,900</b>	<b>Total Cost</b>	<b>\$148,000</b>	<b>\$138,400</b>
<b>Total Two Years</b>			<b>Total Two Years</b>			<b>Total Two Years</b>		
Proposed Rule Five Month Peak Season	\$15,215,718	\$13,684,933	Proposed Rule Rep. Four Times Ann.	\$2,000	\$2,000	Proposed Rule Ann .Rec. & Tracking	\$276,000	\$249,000
Alternative 1 Three Month Peak Season	<\$15,215,718	<\$13,684,933	Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Proposed Rule Trans & Term. Of Alloc.	\$12,600	\$11,500
Alternative 2 No Peak/Off-Peak Delineation	<\$15,215,718	<\$13,684,933	Proposed Rule Flight Plan Ann.	\$0	\$0	Proposed Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$58,600	\$53,000			
			Proposed Rule Trans and Term. Of Alloc.	\$3,000	\$2,700			
<b>Total of Proposed Rule</b>	<b>\$15,215,718</b>	<b>\$13,684,933</b>	<b>Total of Proposed Rule</b>	<b>\$5,000</b>	<b>\$4,700</b>	<b>Total Cost</b>	<b>\$288,600</b>	<b>\$260,500</b>

Table 1. Summary of Costs, By Alternative, of the Proposed Rule of Placing a Limitation on Commercial Air Tours in the Grand Canyon National Park, 2000-2001 to 2009-2010 (continued).

Summary of Operational Costs: Proposed Rule and Alternatives			Summary of Non-Operational Costs: Proposed Rule and Alternatives			Summary of FAA Costs: Proposed Rule		
Description of Operations Alternatives	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue	Description of Non-Operational Alternatives With Initial or Annual Costs	Total Undiscounted Cost	Discounted Cost	Description of FAA Costs	Total Undiscounted Cost	Discounted Cost
<b>Total Five Years</b>			<b>Total Five Years</b>			<b>Total Five Years</b>		
Proposed Rule Five Month Peak Season	\$56,035,821	\$44,616,595	Proposed Rule Rep. Four Times Ann.	\$5,000	\$4,000	Proposed Rule Ann. Rec. & Tracking	\$690,000	\$567,000
Alternative 1 Three Month Peak Season	<\$56,035,821	<\$44,616,595	Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Proposed Rule Trans 6 Term. Of Alloc.	\$32,000	\$25,800
Alternative 2 No Peak/Off-Peak Delineation	<\$56,035,821	<\$44,616,595	Proposed Rule Flight Plan Ann.	\$0	\$0	Proposed Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$146,500	\$120,300			
			Proposed Rule Trans and Term. Of Alloc.	\$7,500	\$5,500			
<b>Total of Proposed Rule</b>	<b>\$56,035,821</b>	<b>\$44,616,595</b>	<b>Total of Proposed Rule</b>	<b>\$12,500</b>	<b>\$9,500</b>	<b>Total Cost</b>	<b>\$722,000</b>	<b>\$592,800</b>
<b>Total Ten Years</b>			<b>Total Ten Years</b>			<b>Total Ten Years</b>		
Proposed Rule Five Month Peak Season	\$177,592,514	\$114,568,381	Proposed Rule Rep. Four Times Ann.	\$11,000	\$8,000	Proposed Rule Ann. Rec. & Tracking	\$1,379,000	\$969,000
Alternative 1 Three Month Peak Season	<\$177,592,514	<\$114,568,381	Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Proposed Rule Trans & Term. Of Alloc.	\$63,200	\$44,400
Alternative 2 No Peak/Off-Peak Delineation	<\$177,592,514	<\$114,568,381	Proposed Rule Flight Plan Ann.	\$0	\$0	Proposed Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$293,000	\$206,000	Proposed Rule Initial Allocation	\$3,700	\$3,500
			Proposed Rule Trans and Term. Of Alloc.	\$15,000	\$11,000			
			Proposed Rule Req. Mod and Init Alloc.	\$3,800	\$3,500			
<b>Total of Proposed Rule</b>	<b>\$177,592,514</b>	<b>\$114,568,381</b>	<b>Total of Proposed Rule</b>	<b>\$29,800</b>	<b>\$22,500</b>	<b>Total Cost</b>	<b>\$1,445,900</b>	<b>\$1,016,900</b>

source: U.S. Department of Transportation, Federal Aviation Administration, Office of aviation Policy and Plans, April 1999

Table 2. Profile Of Operators, By Route And Other Variables, Who Were Operating In Grand Canyon National Park, 1997-1998.

Route	Number of Operators*	Aircraft**	Air Tours Total	Air Tours Peak Season Total	Passengers
Fixed Wing (Blue Routes)	10	150	36,694	19,420	341,996
Helicopter (Green 4 Route)	4	16	7,441	2,977	35,833
Fixed Wing (Black Routes)	9	74	11,224	7,313	93,246
Helicopter (Green 1, 1A, and 2 Routes)	3	31	32,511	22,644	144,663
Total One-Year All Routes	26	**	87,870	52,354	615,738
Fixed Wing (Blue Routes)	10	150	73,388	38,840	683,992
Helicopter (Green 4 Route)	4	16	14,882	5,954	71,666
Fixed Wing (Black Routes)	9	75	22,448	14,626	186,492
Helicopter (Green 1, 1A, and 2 Routes)	3	31	65,022	45,288	289,326
Total Two-Year All Routes	26	**	175,740	104,708	1,231,476
Fixed Wing (Blue Routes)	10	150	183,470	97,100	1,709,980
Helicopter (Green 4 Route)	4	16	37,205	14,885	179,165
Fixed Wing (Black Routes)	9	75	56,120	36,565	466,230
Helicopter (Green 1, 1A, and 2 Routes)	3	31	162,555	113,220	723,315
Total Five-Year All Routes	26	**	439,350	261,770	3,078,690
Fixed Wing (Blue Routes)	10	150	366,940	194,200	3,419,960
Helicopter (Green 4 Route)	4	16	74,410	29,770	358,330
Fixed Wing (Black Routes)	9	75	112,240	73,130	932,460
Helicopter (Green 1, 1A, and 2 Routes)	3	31	325,110	226,440	1,446,630
Total Ten-Year All Routes	26	**	878,700	523,540	6,157,380

\* Twenty-four operators reported conducting air tours in the Grand Canyon during the base period. The number sums to 26 entities because one operator is a fixed-wing and helicopter operator and is counted as two entities in this table. Another operator conducts a large volume of fixed-wing air tours that originate from Page, Arizona as well as from Las Vegas, Nevada. This operator is also treated as two entities in this table.

\*\* To avoid double counting, no totals are provided because many operators use the same aircraft on more than one type of air tour.

source : 'U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 2a. Profile Of Las Vegas Fixed-Wing Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Air Tours Peak Season Total	Passengers
2	22	5,582	2,936	28,738
3	7	3,390	1,519	21,394
6	4	2,010	1,060	16,080
7	11	2,314	2,157	18,743
10	42	6,444	3,541	108,239
11	15	5,500	3,001	61,394
14	1	2	1	8
15	13	3,971	1,645	33,781
19	18	5,557	2,831	39,594
23	17	1,924	729	14,025
<b>Total</b>	<b>150</b>	<b>36,694</b>	<b>19,420</b>	<b>341,996</b>

\* A unique code has been assigned to each operator.

Source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 2b. Profile Of Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on Hualapai Lands Who Were Operating In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Air Tours Peak Season Total	Passengers
18	3	1,026	442	4,197
20	3	2,556	995	12,780
22	3	1,753	681	7,889
24	7	2,106	859	10,967
<b>Total</b>	<b>16</b>	<b>7,441</b>	<b>2,977</b>	<b>35,833</b>

. A unique code has been assigned to each operator.

source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 2c. Profile Of Tusayan and Other Fixed-Wing Operators Conducting Air Tours in Marble Canyon and through Zuni Point, North Rim, Dragon, and Fossil Canyon Corridors, Who Were Operating In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Air Tours Peak Season Total	Passengers
1	13	926	300	3,327
5	1	34	34	136
8	4	3,165	2,058	48,108
9	2	36	36	149
10	42	3,030	2,089	21,221
12	1	873	731	4,496
13	2	13	8	34
16	8	3,132	2,049	15,715
17	1	15	8	60
<b>Total</b>	<b>74</b>	<b>11,224</b>	<b>7,313</b>	<b>93,246</b>

\* A unique code has been assigned to each operator.

Source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 2d. Profile Of Tusayan Helicopter Operators Conducting Air Tours Through Zuni Point, North Rim and Dragon Corridors (Green Routes) Who Were Operating In the Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Air Tours Peak Season Total	Passengers
4	4	4,361	2,800	23,113
21	22	23,729	16,701	100,842
25	5	4,421	3,143	20,708
<b>Total</b>	<b>31</b>	<b>32,511</b>	<b>22,644</b>	<b>144,663</b>

• A unique code has been assigned to each operator.

Source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 3. One-Year, Two-Year, Five-Year, and Ten-Year Profile Of Operators, By Route, Revenue, and Costs, 2000-2001 to 2009-2010, Without the Proposed Rule (Based Upon 1997-1998 Base Year).

Route	Operator	Gross Operating Revenue	Variable Operating Costs	Net Operating Revenue	Discounted Net Operating Revenue
Fixed Wing (Blue Routes)	10	\$63,228,119	\$16,068,693	\$47,159,426	\$44,074,230
Helicopter (Green 4 Route)	4	\$11,920,162	\$1,373,243	\$10,546,919	\$9,856,934
Fixed Wing (Black Routes)	9	\$8,216,813	\$2,816,927	\$5,399,886	\$5,046,623
Helicopter (Green 1, 1A, and 2 Routes)	3	\$16,154,392	\$9,660,653	\$6,493,739	\$6,068,915
<b>Total One-Year All Routes</b>	<b>26</b>	<b>\$99,519,486</b>	<b>\$29,919,516</b>	<b>\$69,599,970</b>	<b>\$65,046,702</b>
Fixed Wing (Blue Routes)	10	\$128,542,766	\$32,667,653	\$95,875,113	\$86,624,398
Helicopter (Green 4 Route)	4	\$24,233,690	\$2,791,804	\$21,441,886	\$19,373,020
Fixed Wing (Black Routes)	9	\$16,704,781	\$5,726,812	\$10,977,968	\$9,918,736
Helicopter (Green 1, 1A, and 2 Routes)	3	\$32,841,879	\$19,640,108	\$13,201,771	\$11,927,970
<b>Total Two-Years All Routes</b>	<b>26</b>	<b>\$202,323,116</b>	<b>\$60,826,377</b>	<b>\$141,496,738</b>	<b>\$127,844,124</b>
Fixed Wing (Blue Routes)	10	\$337,705,864	\$85,824,027	\$251,881,836	\$205,648,491
Helicopter (Green 4 Route)	4	\$63,666,432	\$7,334,589	\$56,331,842	\$45,992,035
Fixed Wing (Black Routes)	9	\$43,886,580	\$15,045,406	\$28,841,174	\$23,547,327
Helicopter (Green 1, 1A, and 2 Routes)	3	\$86,281,753	\$51,598,232	\$34,683,520	\$28,317,301
<b>Total Five-Years All Routes</b>	<b>26</b>	<b>\$531,540,629</b>	<b>\$159,802,254</b>	<b>\$371,738,372</b>	<b>\$303,505,154</b>
Fixed Wing (Blue Routes)	10	\$734,934,189	\$186,774,996	\$548,159,189	\$378,116,380
Helicopter (Green 4 Route)	4	\$138,554,412	\$15,961,830	\$122,592,472	\$84,563,430
Fixed Wing (Black Routes)	9	\$95,508,404	\$32,742,844	\$62,765,760	\$43,295,384
Helicopter (Green 1, 1A, and 2 Routes)	3	\$187,771,126	\$112,290,929	\$75,480,197	\$52,065,712
<b>Total Ten-Years All Routes</b>	<b>26</b>	<b>\$1,156,768,131</b>	<b>\$347,770,599</b>	<b>\$808,997,618</b>	<b>\$558,040,906</b>

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

**Table 3a. Ten-Year Profile of Las Vegas Fixed-Wing Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes By Revenue, and Costs, 2000-2001 to 2009-2010, Without the Proposed Rule (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
2	\$30,712,895	\$12,125,285	\$18,587,610	\$12,821,604
3	\$28,835,324	\$10,772,438	\$18,062,885	\$12,459,652
6	\$37,027,591	\$10,258,760	\$26,768,831	\$18,464,953
7	\$40,704,954	\$10,646,336	\$30,058,617	\$20,734,224
10	\$248,777,564	\$60,725,720	\$188,051,844	\$129,716,848
11	\$153,448,034	\$33,925,295	\$119,522,738	\$82,445,950
14	\$9,123	\$4,467	\$4,656	\$3,212
15	\$75,330,064	\$18,847,424	\$56,482,639	\$38,961,330
19	\$92,180,979	\$23,609,830	\$68,571,149	\$47,299,899
23	\$27,907,661	\$5,859,441	\$22,048,220	\$15,208,708
<b>Total</b>	<b>\$734,934,189</b>	<b>\$186,774,996</b>	<b>\$548,159,189</b>	<b>\$378,116,380</b>

\* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

**Table 3b. Ten-Year Profile Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on Hualapai Lands, By Revenue, and Costs, 2000-2001 to 2009-2010, Without The Proposed Rule (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
18	\$13,391,101	\$3,828,213	\$9,562,888	\$6,596,413
20	\$49,190,604	\$4,308,087	\$44,882,517	\$30,959,647
22	\$31,789,563	\$3,959,192	\$27,830,371	\$19,197,195
24	\$44,183,144	\$3,866,338	\$40,316,696	\$27,810,175
<b>Total</b>	<b>\$138,554,412</b>	<b>\$15,961,830</b>	<b>\$122,592,472</b>	<b>\$84,563,430</b>

\* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 3c. Ten-Year Profile Of Tusayan and Other Fixed-Wing Operators Conducting Air Tours in Marble Canyon and through Zuni Point, North Rim, Dragon, and Fossil Canyon Corridors, By Revenue and Costs, 2000-2001 to 2009-2010, Without the Proposed Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
1	\$3,410,391	\$1,424,747	\$1,985,844	\$1,369,821
5	\$139,402	\$52,734	\$86,668	\$59,783
8	\$46,321,850	\$19,934,043	\$26,387,807	\$18,202,125
9	\$223,094	\$86,468	\$136,626	\$94,244
10	\$23,463,683	\$4,249,173	\$19,214,510	\$13,254,035
12	\$4,032,354	\$1,363,482	\$2,668,872	\$1,840,970
13	\$33,057	\$7,601	\$25,456	\$17,559
16	\$17,734,665	\$5,574,464	\$12,160,201	\$8,388,022
17	\$149,908	\$50,132	\$99,776	\$68,825
<b>Total</b>	<b>\$95,508,404</b>	<b>\$32,742,844</b>	<b>\$62,765,760</b>	<b>\$43,295,384</b>

• A unique **code** has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 3d. Ten-Year Profile of Tusayan Helicopter Operators Conducting Air Tours Through Zuni Point, North Rim and Dragon Corridors (Green Routes), By Revenue and Costs, 2000-2001 to 2009-2010, Without the Proposed Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
4	\$31,377,483	\$18,906,771	\$12,470,712	\$8,602,210
21	\$131,368,348	\$80,442,223	\$50,926,125	\$35,128,485
25	\$25,025,295	\$12,941,935	\$12,083,360	\$8,335,017
<b>Total</b>	<b>\$187,771,126</b>	<b>\$112,290,929</b>	<b>\$75,480,197</b>	<b>\$52,065,712</b>

\* A unique code has been **assigned** to each operator

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Table 4. One-Year, Two-Year, Five-Year, and Ten-Year Profile of Operators Under the Proposed Rule, By Route, Revenue, and Costs Who Were Operating In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Route	Number of Operator	Loss in Total Operations	Loss of Gross Operating Revenue	Reduction in Variable Operating Costs	Loss of Undiscounted Net Operating Revenue	Loss of Discounted Net Operating Revenue
Fixed Wing (Blue Routes)	10	3,754	\$5,868,099	\$1,491,309	\$4,376,789	\$4,090,457
Helicopter (Green 4 Route)	4	761	\$1,106,291	\$127,448	\$978,842	\$914,806
Fixed Wing (Black Routes)	9	1,148	\$762,589	\$261,434	\$501,155	\$468,369
Helicopter (Green 1, 1A, and 2 Routes)	3	3,326	\$1,499,263	\$896,589	\$602,673	\$563,246
<b>Total One-Year All Routes</b>	<b>26</b>	<b>8,989</b>	<b>\$9,236,242</b>	<b>\$2,776,780</b>	<b>\$6,459,459</b>	<b>\$6,036,878</b>
Fixed Wing (Blue Routes)	10	8,843	\$13,822,725	\$3,512,885	\$10,309,840	\$9,272,613
Helicopter (Green 4 Route)	4	1,793	\$2,605,947	\$300,214	\$2,305,733	\$2,073,764
Fixed Wing (Black Routes)	9	2,705	\$1,796,333	\$615,827	\$1,180,505	\$1,061,740
Helicopter (Green 1, 1A, and 2 Routes)	3	7,835	\$3,531,620	\$2,111,980	\$1,419,640	\$1,276,816
<b>Total Two-Years All Routes</b>	<b>26</b>	<b>21,176</b>	<b>\$21,756,625</b>	<b>\$6,540,906</b>	<b>\$15,215,718</b>	<b>\$13,684,933</b>
Fixed Wing (Blue Routes)	10	32,565	\$50,905,762	\$12,937,109	\$37,968,653	\$30,231,234
Helicopter (Green 4 Route)	4	6,604	\$9,597,074	\$1,105,616	\$8,491,459	\$6,761,032
Fixed Wing (Black Routes)	9	9,961	\$6,615,461	\$2,267,944	\$4,347,517	\$3,461,561
Helicopter (Green 1, 1A, and 2 Routes)	3	28,853	\$13,006,106	\$7,777,915	\$5,228,192	\$4,162,768
<b>Total Five-Years All Routes</b>	<b>26</b>	<b>77,983</b>	<b>\$80,124,403</b>	<b>\$24,088,584</b>	<b>\$56,035,821</b>	<b>\$44,616,595</b>
Fixed Wing (Blue Routes)	10	103,208	\$161,333,987	\$41,001,162	\$120,332,825	\$77,629,043
Helicopter (Green 4 Route)	4	20,929	\$30,415,697	\$3,503,992	\$26,911,705	\$17,361,264
Fixed Wing (Black Routes)	9	31,569	\$20,966,165	\$7,187,722	\$13,778,445	\$8,888,742
Helicopter (Green 1, 1A, and 2 Routes)	3	91,443	\$41,219,833	\$24,650,293	\$16,569,539	\$10,689,332
<b>Total Ten-Years All Routes</b>	<b>26</b>	<b>247,149</b>	<b>\$253,935,682</b>	<b>\$76,343,169</b>	<b>\$177,592,514</b>	<b>\$114,568,381</b>

Source : U.S. Department of Transportation, Federal Aviation Administration, Office Of Aviation Policy and Plans, April 1999.

**Table 4a. Ten-Year Profile Of Las Vegas Fixed-Wing Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes Under the Proposed Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Change in Total Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
2	15,700	\$6,742,146	\$2,661,763	\$4,080,383	\$2,632,335
3	9,535	\$6,329,979	\$2,364,784	\$3,965,195	\$2,588,024
6	5,653	\$8,128,359	\$2,252,020	\$5,876,339	\$3,790,940
7	6,508	\$8,935,620	\$2,337,102	\$6,598,518	\$4,256,832
10	18,125	\$54,612,068	\$13,330,612	\$41,281,456	\$26,631,469
11	15,470	\$33,685,170	\$7,447,338	\$26,237,832	\$16,926,535
14	6	\$2,003	\$981	\$1,022	\$659
15	11,169	\$16,536,582	\$4,137,418	\$12,399,164	\$7,998,941
19	15,630	\$20,235,723	\$5,182,870	\$15,052,854	\$9,710,888
23	5,412	\$6,126,337	\$1,286,274	\$4,840,062	\$3,122,418
<b>Total</b>	<b>103,208</b>	<b>\$161,333,987</b>	<b>\$41,001,162</b>	<b>\$120,332,825</b>	<b>\$77,659,041</b>

\* A unique code has been assigned to each operator.

source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

**Table 4b. Ten-Year Profile Of Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on Hualapai Lands of Operators Under the Proposed Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
18	2,886	\$2,939,637	\$840,376	\$2,099,261	\$1,354,274
20	7,189	\$10,798,404	\$945,718	\$9,852,685	\$6,356,159
22	4,931	\$6,978,498	\$869,129	\$6,109,370	\$3,941,273
24	5,923	\$9,699,158	\$848,769	\$8,850,389	\$5,709,558
<b>Total</b>	<b>20,929</b>	<b>\$30,415,697</b>	<b>\$3,503,992</b>	<b>\$26,911,705</b>	<b>\$17,361,264</b>

. A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

**Table 4c. Ten-Year Profile Of Tusayan and Other Fixed-Wing Operators Conducting Air Tours in Marble Canyon and through Zuni Point, North Rim, Dragon, and Fossil Canyon Corridors Operators Under the Proposed Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
1	2,605	\$748,655	\$312,719	\$435,936	\$281,231
5	96	\$30,602	\$11,576	\$19,026	\$12,274
8	8,902	\$10,168,650	\$4,375,955	\$5,792,696	\$3,736,981
9	101	\$48,974	\$18,982	\$29,992	\$19,349
10	8,522	\$5,150,787	\$932,786	\$4,218,001	\$2,721,115
12	2,455	\$885,189	\$299,314	\$585,875	\$377,960
13	37	\$7,257	\$1,669	\$5,588	\$3,605
16	8,809	\$3,893,143	\$1,223,716	\$2,669,428	\$1,722,100
17	42	\$32,908	\$11,005	\$21,903	\$14,130
<b>Total</b>	<b>31,569</b>	<b>\$20,966,165</b>	<b>\$7,187,722</b>	<b>\$13,778,445</b>	<b>\$8,888,745</b>

• A unique code has been assigned to each operator.

source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

**Table 4d. Ten-Year Profile Of Tusayan Helicopter Operators Conducting Air Tours Through Zuni Point, North Rim and Dragon Corridors (Green Routes) Operators Under the Proposed Rule, By Revenue and Costs In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)**

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
4	12,266	\$6,888,038	\$4,150,446	\$2,737,592	\$1,766,074
21	66,742	\$28,838,200	\$17,658,812	\$11,179,388	\$7,212,041
25	12,435	\$5,493,595	\$2,841,035	\$2,652,559	\$1,711,218
<b>Total</b>	<b>91,443</b>	<b>\$41,219,833</b>	<b>\$24,650,293</b>	<b>\$16,569,539</b>	<b>\$10,689,333</b>

\* A unique code has been assigned to each operator.

source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

Estimated Initial Operator Start-up Costs Associated With Filing a Flight Plan (2000-2001)						
Operator Number	a) Cost to Create a Template	b) Rewrite Existing Ops Manual	c) Pilot Training Setup	d) Initial Pilot Training	Total	Discounted Total
1	\$360	\$360	\$360	\$0	\$1,080	\$2,682
2	\$360	\$360	\$360	\$0	\$1,080	\$1,009
3	\$360	\$360	\$360	\$0	\$1,080	\$1,009
5	\$0	\$360	\$0	\$0	\$360	\$336
6	\$360	\$360	\$360	\$0	\$1,080	\$1,009
7	\$360	\$360	\$360	\$0	\$1,080	\$1,009
8	\$360	\$360	\$360	\$0	\$1,080	\$1,009
9	\$0	\$360	\$0	\$0	\$360	\$336
10	\$360	\$360	\$360	\$0	\$1,080	\$1,009
11	\$360	\$360	\$360	\$0	\$1,080	\$1,009
12	\$360	\$360	\$360	\$0	\$1,080	\$1,009
13	\$0	\$360	\$0	\$0	\$360	\$336
14	\$0	\$360	\$0	\$0	\$360	\$336
15	\$360	\$360	\$360	\$0	\$1,080	\$1,009
16	\$360	\$360	\$360	\$0	\$1,080	\$1,009
17	\$0	\$360	\$0	\$0	\$360	\$336
18	\$360	\$360	\$360	\$0	\$1,080	\$1,009
19	\$360	\$360	\$360	\$0	\$1,080	\$1,009
20	\$360	\$360	\$360	\$0	\$1,080	\$1,009
21	\$360	\$360	\$360	\$0	\$1,080	\$1,009
22	\$360	\$360	\$360	\$0	\$1,080	\$1,009
23	\$360	\$360	\$360	\$0	\$1,080	\$1,009
24	\$360	\$360	\$360	\$0	\$1,080	\$1,009
25	\$360	\$360	\$360	\$0	\$1,080	\$1,009
<b>Total</b>	<b>\$6,840</b>	<b>\$8,640</b>	<b>\$6,840</b>	<b>\$0</b>	<b>\$22,320</b>	<b>\$20,850</b>

Source : U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, April 1999.

<b>Table 6</b>		
<b>Financial Data for Some Carriers Impacted by the Proposed Rule</b>		
<b>OPS REV</b>	<b>CY 1997</b>	<b>CY 1998</b>
6	\$2,175,087	\$1,213,402
7	\$4,560,593	\$696,147
10	\$31,776,607	\$23,434,825
11	\$9,355,910	\$6,584,310
19	\$12,982,744	\$13,707,166
21	\$12,345,599	\$11,800,103
<b>TOTAL</b>	<b>\$73,196,540</b>	<b>\$57,437,953</b>
<b>OPS EXP</b>	<b>CY 1997</b>	<b>CY 1998</b>
6	\$1,876,019	\$909,672
7	\$4,527,750	\$1,099,609
10	\$29,726,391	\$21,456,014
11	\$8,775,607	\$7,165,878
19	\$11,171,050	\$13,011,611
21	\$11,935,397	\$11,083,630
<b>TOTAL</b>	<b>\$68,012,214</b>	<b>\$54,726,414</b>
<b>OPS PROFIT/LOSS</b>	<b>CY 1997</b>	<b>CY 1998</b>
6	\$299,068	\$303,730
7	\$32,643	(\$401,462)
10	\$2,050,216	\$1,978,811
11	\$580,303	(\$581,568)
19	\$1,811,694	\$695,555
21	\$410,202	9716,473
<b>TOTAL</b>	<b>\$5,184,326</b>	<b>\$2,711,539</b>
<b>NET PROFIT/LOSS</b>	<b>CY 1997</b>	<b>CY 1998</b>
6	\$299,070	\$303,730
7	\$61,704	(\$370,581)
10	(\$93,704)	(\$1,201,019)
11	(9649,540)	(\$1,927,921)
19	\$2,179,183	\$1,505,456
21	\$392,202	9718,473
<b>TOTAL</b>	<b>\$1,988,915</b>	<b>(\$973,862)</b>
<b>PAX REV</b>	<b>CY 1997</b>	<b>CY 1998</b>
6	\$915,864	\$492,089
7	\$4,508,918	\$337,555
10	\$10,225,986	9403,430
11	\$4,356,950	\$2,603,525
19	\$12,510,705	\$13,381,799
21	\$244,167	\$221,823
<b>TOTAL</b>	<b>\$32,762,610</b>	<b>\$17,440,221</b>

Source: U.S. Department of Transportation/Bureau of Transportation Statistics, Form 298C, Schedule F1, April 1999