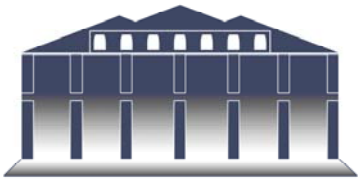
Selling 25 Underutilized Aircraft May Yield Up to $8.1 Million and Save $1.5 Million Annually

Final Report to the Joint Legislative Program Evaluation Oversight Committee

Report Number 2010-04

April 29, 2010



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John W. Turcotte
Director

April 29, 2010

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Senator Daniel G. Clodfelter, Co-Chair, Joint Legislative Program Evaluation Oversight Committee
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Honorable Co-Chairs:

Session Law 2009-451, Section 14.6 directed the Program Evaluation Division to study the number, use, and effectiveness of state aircraft; consider ways to achieve efficiency; and determine if it is desirable or feasible to sell or transfer aircraft.

I am pleased to report that the Departments of Commerce, Crime Control and Public Safety, Environment and Natural Resources, Justice, and Transportation; the Wildlife Resources Commission; and the University of North Carolina at Chapel Hill, Area Health Education Centers program cooperated with us fully and were at all times courteous to our evaluators during the evaluation.

Per Session Law 2009-451, Section 14.6, this report also was submitted to the Senate and the House of Representatives Appropriations Committees and the Fiscal Research Division.

Sincerely,

John W. Turcotte
Director

PROGRAM EVALUATION DIVISION
NORTH CAROLINA GENERAL ASSEMBLY

April 2010 Report No. 2010-04

Selling 25 Underutilized Aircraft May Yield Up to $8.1 Million and Save $1.5 Million Annually

Summary

Evaluation Purpose. The North Carolina General Assembly directed the Program Evaluation Division to study the number, use, and effectiveness of state aircraft; consider ways to achieve efficiency; and determine if it is desirable or feasible to sell or transfer aircraft.

In Fiscal Year 2008-09, eight state programs employed 89 full-time staff to operate 72 aircraft located at 23 locations across the state at a cost of $10.8 million.

Of the 72 aircraft operated by state programs, 79% flew fewer than 200 hours per year. Fifty-seven aircraft failed to meet the minimum transportation industry threshold of 200 flight hours per year. Agencies flew 36 aircraft (or 50% of the fleet) less than 100 hours. This number includes eight that did not or could not fly at all during Fiscal Year 2008-09. Based on utilization data, the Program Evaluation Division estimates that at least 25 of 72 aircraft and 5 hangar facilities could be eliminated. In addition, decentralized operations among eight independent programs contribute to mismanagement and inefficiency.

The General Assembly should eliminate 25 aircraft and five facilities. Elimination of these aircraft may result in up to $8.1 million in non-recurring proceeds from the sale of aircraft plus $1.5 million in recurring savings. The elimination of five facilities could result in an additional $26,060 in recurring savings.

In addition, the General Assembly should establish the Aviation Management Authority in the Department of Transportation. The authority would oversee management of all aircraft owned or operated by the state. Over a period of two years, the authority would initiate the following tasks:

- consolidate all aircraft used for passenger transport and photogrammetry missions;
- oversee the implementation of recommendations regarding safety issues at the Division of Forest Resources;
- oversee the elimination of 25 aircraft and five facilities;
- develop policies and procedures to guide management oversight of all state aviation resources;
- oversee management of all state aviation resources; and
- oversee maintenance operations and information management for all aircraft owned and operated by the state.

Scope

The North Carolina General Assembly directed the Program Evaluation Division to study the number, use, and effectiveness of the state's aircraft fleet and to consider ways to achieve efficiency savings.[1] The legislation also directed the division to determine if it is desirable or feasible to sell or transfer any aircraft to another state agency.

This evaluation addressed three central research questions:

- What aircraft are owned, controlled, or operated by a state program?
- Is the state's aircraft fleet sized, managed, and operated efficiently?
- Are there alternatives that could increase the efficiency and cost savings of the state's aircraft fleet?

The division evaluated eight aviation programs housed in seven agencies:

- Department of Commerce, Executive Aircraft Division;
- Department of Crime Control and Public Safety, State Highway Patrol;
- Department of Environment and Natural Resources,
    - Division of Forest Resources and
    - Division of Marine Fisheries;
- Department of Justice, State Bureau of Investigation;
- Department of Transportation, Division of Aviation;
- Wildlife Resources Commission, Enforcement Division; and
- University of North Carolina at Chapel Hill, Area Health Education Centers.

The evaluation did not examine aircraft used exclusively for training as part of an aviation degree program.

The Program Evaluation Division analyzed information from numerous sources including

- agency records including fiscal information, flight records, and aircraft specifications;
- agency documentation including policies and procedures, Memoranda of Understanding, and planning documents;
- interviews with administrators from each agency with aircraft;
- site visits to aircraft facilities;
- queries sent to agencies with aircraft and offices that use aircraft;
- state and federal legislation; and
- interviews with officials and a review of documents from other states.

[1] 2009 NC Sess. Laws, 2009-451.

Background

Aircraft are risky and expensive to own, operate, and maintain. Including the current report, three independent evaluations of the state's aircraft fleet have been undertaken since 2000.[2] It is not surprising that aviation has come under this level of scrutiny; in Fiscal Year 2008-09, it cost North Carolina $10.8 million to operate and maintain 72 aircraft.

Aircraft are expensive to own, operate, and maintain. Purchase prices vary depending on the type, size, and age of aircraft, but new aircraft similar to some owned by the state cost as much as $400,000 for a single engine airplane and $15 million for a executive helicopter. In addition to purchase price, there are fixed and variable costs to operating and maintaining aircraft, including pilot and crew, fuel, hangar space, maintenance, and insurance.

High costs are accompanied by exposure to risk. Aviation personnel require significant initial and ongoing training to operate and maintain aircraft. A mechanic's certificate requires a graduation certificate from a certified aviation technician school or documented evidence of at least 30 months of practical experience. A commercial pilot's license requires 250 hours of initial training and ongoing training each year. In addition, aircraft and personnel must meet numerous safety guidelines and requirements.

Despite inherent risks and high costs, aircraft are important tools to help government agencies meet their goals. Aircraft can oftentimes accomplish tasks more efficiently than other methods of transportation. Aircraft provide agencies with flexibility, unique capabilities, and increased efficiencies if they are well managed. Good management practices include

- maintaining aircraft to comply with federal and state regulations;
- systematically collecting, integrating, and analyzing flight and maintenance data to ensure safe and efficient use of aircraft;
- tracking and analyzing costs by aircraft and for the fleet to ensure efficient use; and
- determining the optimal size of the fleet.

In Fiscal Year 2008-09, eight state programs operated and maintained aircraft in North Carolina. These aircraft were used for a variety of purposes to help meet program or agency missions. There are four basic types of aviation missions flown by agencies in North Carolina: passenger transport, photogrammetry,[3] law enforcement, and natural resource protection. As seen in Exhibit 1, annual agency aviation costs ranged from $138,529 for the Wildlife Resources Commission to $3,462,412 for the Division of Forest Resources in Fiscal Year 2008-09.

[2] Governor's Commission to Promote Government Efficiency and Savings on State Spending. (2002, December). *Final Report*; Office of the State Auditor. (2003, November). *Performance Audit State Aircraft Operations*.

[3] The state's only photogrammetry airplane is operated by the Department of Transportation to acquire aerial photography and produce digital spatial information. This information is used for transportation planning, design, construction, and maintenance.

Exhibit 1

Number of Aircraft and Cost of North Carolina's Eight Aviation Programs, Fiscal Year 2008-09

State Program	Number of Aircraft	Cost of Aviation Program
Passenger Transport		
Area Health Education Centers	6	$ 1,465,332
Department of Commerce	3	1,570,084
Department of Transportation	3	1,340,245
Subtotal	**12**	**4,375,661**
Law Enforcement		
State Bureau of Investigation	3	449,550
State Highway Patrol	9	2,160,271
Marine Fisheries	6	216,127
Wildlife Resources Commission	4	138,529
Subtotal	**22**	**2,964,477**
Resource Protection		
Forest Resources	38	3,462,412
Subtotal	**38**	**3,462,412**
Statewide Total	**72**	$ **10,802,550**

Note: The Department of Transportation missions include passenger transport and photogrammetry; the one aircraft that conducts photogrammetry missions is included in the Passenger Transport category throughout the report.

Source: Program Evaluation Division based on cost data from state programs.

As shown in Exhibit 1, three programs (Departments of Commerce and Transportation and University of North Carolina's Area Health Education Centers (AHEC)) provide passenger transport services for state officials. Four programs (State Bureau of Investigation, State Highway Patrol, Division of Marine Fisheries, and Wildlife Resources Commission) use aircraft for law enforcement activities, and one program (Division of Forest Resources) supports resource protection. The Department of Transportation also flies photogrammetry missions that aid in the design, planning, and construction of highways. Agency and flight missions for each of these programs are shown in Exhibit 2.

During Fiscal Year 2008-09, these eight programs operated 72 aircraft.[4] Of these, 49 were owned by the state. Another 17 were federal surplus aircraft provided to the Division of Forest Resources for use in fire control. These aircraft are primarily used for this purpose; when the state can no longer use them, they must be returned to the federal government. Another six aircraft were owned by Medical Air, Inc., a non-profit organization that is an administrative unit of AHEC.

These 72 aircraft ranged in size from single engine airplanes without passenger space to a jet airplane that seats nine passengers to helicopters

[4] Since then, three aircraft have been sold. AHEC sold a Beechcraft Baron in August 2009, the Department of Commerce sold a Beechcraft King Air in October 2009, and the Department of Transportation sold a Cessna Conquest II 441 in January 2010.

that seat two to nine passengers. Different sized aircraft with different attributes are needed to complete different program missions. For example, the North Carolina Wildlife Commission owns single engine aircraft that can fly as slow as 40 miles per hour to patrol lakes and rivers to ensure boating laws are followed, whereas the Division of Forest Resources has aircraft designed to drop retardant on fires (see Appendix A for a listing of all aircraft).

Personnel for the eight aviation programs included 89 full-time positions:[5] 63 pilots, 21 mechanics, 4 administrative staff including schedulers, and 1 director. In addition, at least eight other individuals spent a portion of their time overseeing aviation programs or providing administrative support.

Agencies house aircraft at 23 different facilities across the state. Because each program administers leases independently, there were 27 separate leases at these 23 facilities (see Exhibit 3). Facilities included hangars, administrative buildings, and office space. Facilities ranged in size from "T-hangars," which are just large enough to house one aircraft to 26,400 square foot facilities with space for multiple aircraft, maintenance, and offices. The Departments of Commerce and Transportation are the only programs that share hangar space.[6] The Division of Forest Resources had the greatest number of facilities with 11.

[5] Staffing levels have changed since Fiscal Year 2008-09 due to reduction in force.

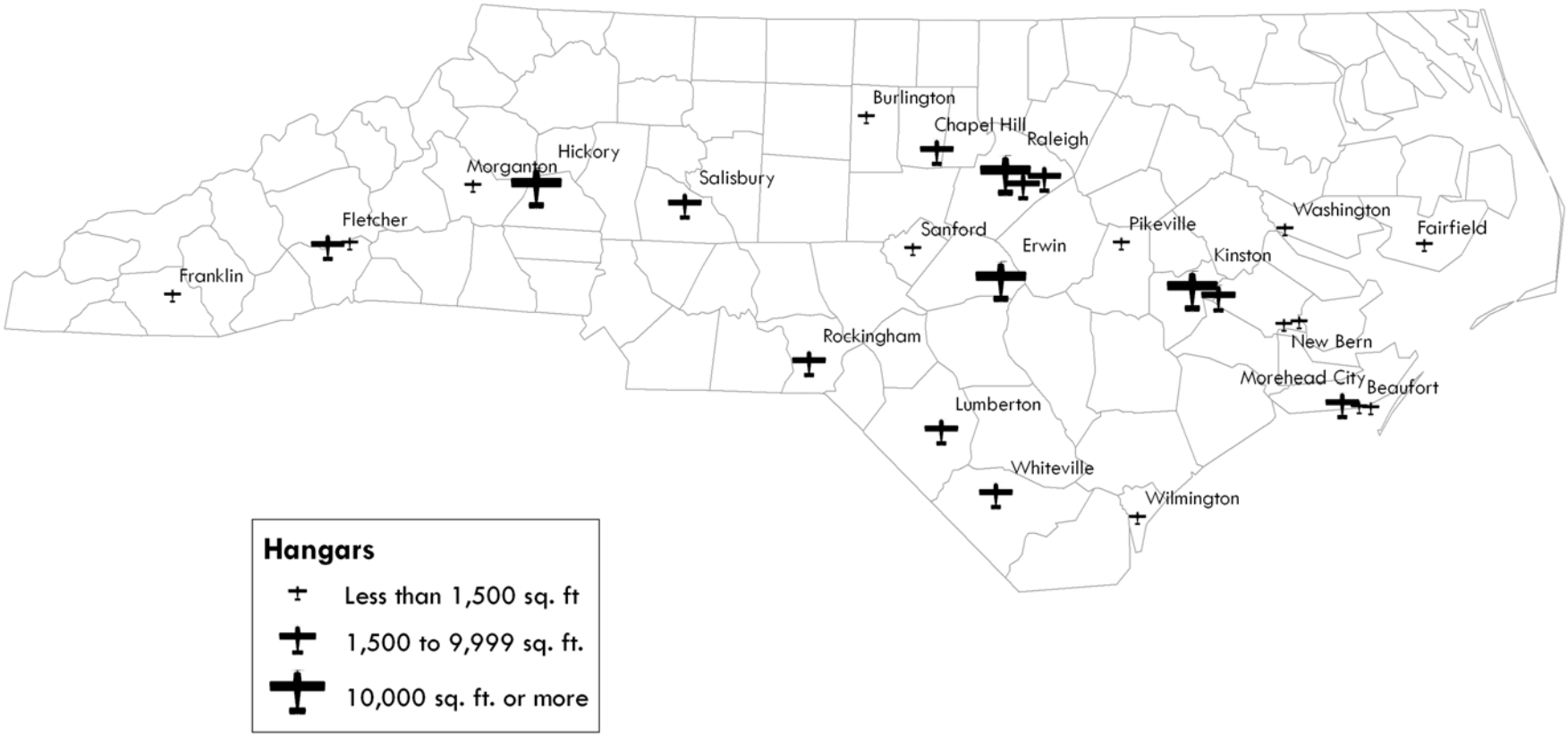
[6] Horace Williams airport is slated to close, and there are plans to move AHEC to Raleigh-Durham Airport. A new hangar and office space will be built adjacent to the current space occupied by the Departments of Transportation and Commerce. Construction is scheduled to begin in April 2010 and last approximately one year.

Exhibit 2: Aviation Program Missions, Flight Missions, Aircraft, Facilities, and Personnel, Fiscal Year 2008-09

State Program	Program Mission	Flight Mission	Aircraft	Facilities (Location)	Personnel
Passenger Transport					
Area Health Education Centers	Provide rapid, safe, and efficient transportation to health sciences faculty and health care leaders who provide medical care to underserved communities and educational programs in remote cites throughout North Carolina	Passenger transport	6 twin engine	1 (Chapel Hill)	5 pilots 3 mechanics 2 administrative support
Department of Commerce	Schedule and provide airlift support to North Carolina's economic development program, the Governor, state officials, agency representatives, and corporate clients in a safe and timely manner	Passenger transport	1 jet 1 twin engine 1 helicopter	1 (Raleigh)	5 pilots 2 mechanics 1 administrative support
Department of Transportation	Provide safe, reliable, and cost effective air transportation with timely response to assist in achieving the mission and goals of the state and the Department of Transportation's Photogrammetry Unit	Passenger transport, photogrammetry	3 twin engine	1 (Raleigh)	1 director 3 pilots 2 mechanics 1 administrative support
Law Enforcement					
State Bureau of Investigation	Provide law enforcement aviation investigative capability to the State Bureau of Investigation and aviation-based investigative assistance to other law enforcement agencies within the state	Marijuana eradication, aerial surveillance, intelligence gathering, aerial photography, passenger transport, and extradition of prisoners	2 single engine 1 twin engine	1 (Erwin)	2 pilots
State Highway Patrol	Ensure the safety of the citizens of North Carolina, reduce crime, and respond to natural and man-made disasters through airborne law enforcement operations	Marijuana eradication, aerial surveillance, intelligence gathering, aerial photography, search and rescue	9 helicopters	5 (Fletcher, Kinston, Raleigh (2), Salisbury)	21 pilots 3 mechanics
Division of Marine Fisheries	Enforce the rules and regulations of the Division of Marine Fisheries, helping sustain fisheries, protecting the health, lives, and property of the public, and providing a safe and secure environment for all persons	Enforcement of rules and regulations for marine and estuarine resources, fisheries data collection, air services for the Division of Coastal Management	3 single engine 3 helicopters	3 (Beaufort (2), Morehead City, Wilmington)	3 pilots
Wildlife Resources Commission	Enforce the rules and regulations established by the Wildlife Resources Commission and the General Assembly	Wildlife and boater enforcement, wildlife and fish tracking	4 single engine	4 (Burlington, Morganton, New Bern, Pikeville)	4 pilots
Resource Protection					
Division of Forest Resources	Develop, protect, and manage the multiple resources of North Carolina's forests through professional stewardship, enhancing the quality of life for citizens while ensuring the continuity of vital resources	Fire detection, suppression, and support, prescribed burning, timber damage assessment, aerial observation of water quality	29 single engine 2 twin engine 7 helicopters	11 (Fairfield, Fletcher, Franklin, Hickory, Kinston, Lumberton, New Bern, Rockingham, Sanford, Washington, Whiteville)	20 pilots 10 mechanics 1 avionics technician
Notes: In February 2009, 1 of the 21 State Highway Patrol pilot positions became a non-aviation position.					

Source: Program Evaluation Division based on data provided by state programs.

Exhibit 3: Location of 27 Hangar Facilities for State Aircraft, Fiscal Year 2008-09



Source: Program Evaluation Division based on data provided by state programs.

Findings

Finding 1. Of the 72 aircraft operated by state programs, 79% flew fewer than 200 hours per year, half flew less than 100 hours, and some were not used at all.

Because aircraft are so costly to purchase and maintain, assuring efficient operations is essential. One indicator of efficiency applied by the aviation transportation industry is flight hours per year, where flight hours under a certain threshold indicate inefficiency. Industry sources set that threshold between 200 and 400 flight hours per year:[7] if an aircraft is not flown a minimum of 200 hours per year, the operator should consider alternatives to owning aircraft such as chartering, fractional ownership, or using commercial flights.

To assess whether state aircraft were used efficiently, the Program Evaluation Division applied the minimum transportation industry threshold of 200 flight hours per year to aircraft operated by state programs. A three-year average[8] (Fiscal Years 2006-07, 2007-08, and 2008-09) of annual flight hours was used to account for the annual variation that programs may have experienced because of weather, budgets, and fire conditions.

Program Evaluation Division analysis found 79% (57) of state aircraft were flown fewer than 200 hours each year. Because this threshold was developed by the aviation transportation industry, it is particularly applicable to state aviation programs that have passenger transport as their primary mission: the Departments of Commerce and Transportation and the University of North Carolina's Area Health Education Centers (AHEC). As shown in the top section of Exhibit 4, 42% of all state transportation aircraft failed to meet this minimum threshold of efficient use. All Department of Transportation and two of the three Department of Commerce aircraft failed to meet the threshold. However, all six AHEC aircraft exceeded 200 hours per year.

The aviation transportation industry developed the 200-hour threshold that was adopted by the Program Evaluation Division to assess efficient use of aircraft. Because a similar standard for non-passenger aircraft appears not to exist and because of the large number of aircraft that failed to meet even the conservative transportation industry standard, the Program Evaluation Division further examined aircraft use by applying a more conservative use threshold of 100 flight hours per year. This threshold translates into 8.3 hours per month or 1.9 hours per week.

Half of all aircraft owned by the state (36 aircraft) flew an annual average that fell short of this more lenient threshold (see Exhibit 4). Among passenger transport aircraft, one operated by the Department of Commerce and one operated by the Department of Transportation flew less than 100 hours per year, on average. The Department of Commerce helicopter flew an average of 86 hours per year but only 33 hours in Fiscal Year 2008-09.

[7] Sources include Conklin & de Decker, AvWeb, Boardmember Magazine, Business Jet Traveler Magazine, and interviews with industry experts.

[8] For aircraft that did not have three years of flight data, averages were adjusted accordingly.

Among programs that flew law enforcement missions, five aircraft flew less than 100 hours. One of the State Bureau of Investigation single engine airplanes flew an average of 68 hours (104 hours in Fiscal Year 2007-08 and 32 hours in Fiscal Year 2008-09).[9]

The Division of Forest Resources had the greatest number of aircraft that flew under the 100-hour threshold at 29 (see Exhibit 4). According to Division of Forest Resources staff, the division has the second largest aviation fleet for forest protection in the country. However, the state is ninth in acres of forest land and experienced fewer acres of forest fires over the last three years than 16 other states. Other states use their National Guard, private companies, and resources from other states arranged through interstate compacts to fight fires.[10]

Exhibit 4: 57 Aircraft Flew Less than 200 Hours per Year, Fiscal Years 2006-07 to 2008-09

State Program	Average Hours Flown Per Year			Percentage of aircraft flying less than 200 hours
	Less than 100 hours	100-199 hours	200 or more hours	
Passenger Transport				
Area Health Education Centers	0	0	6	0%
Department of Commerce	1	1	1	67%
Department of Transportation	1	2	0	100%
Subtotal	**2**	**3**	**7**	**42%**
Law Enforcement				
State Bureau of Investigation	1	2	0	100%
State Highway Patrol	0	6	3	67%
Division of Marine Fisheries	3	2	1	83%
Wildlife Resources Commission	1	1	2	50%
Subtotal	**5**	**11**	**6**	**73%**
Resource Protection				
Division of Forest Resources	29	7	2	95%
Subtotal	**29**	**7**	**2**	**95%**
Statewide Total	**36**	**21**	**15**	**79%**

Notes: The three-year average (Fiscal Years 2006-07, 2007-08, 2008-09) was used to determine flight hours. Adjusted averages were calculated for aircraft that did not have three years of flight data. The Department of Transportation's photogrammetry aircraft flew an average of 199 flight hours per year. Salvage aircraft owned by the Division of Forest Resources (four aircraft) and the Division of Marine Fisheries (one aircraft) did not fly and were used for parts.

Source: Program Evaluation Division based on flight records from state programs.

Low-utilization aircraft cost the state more per hour to own and operate. Fixed costs are the annual costs of owning, maintaining, and administering aircraft regardless of how much the aircraft flies. Crew salaries and benefits, scheduled maintenance and inspections, operations overhead,

[9] This aircraft was purchased in February 2008. Flight hours for this aircraft were projected for Fiscal Year 2007-08 as if the aircraft had been used for 12 months.

[10] North Carolina is part of the Southeastern Interstate Forest Fire Protection Compact, which provides mutual aid for fighting forest fires among the southeastern states as well as any other states which are party to any regional forest fighting compacts. The compact can be found in NC Gen. Stat., Chapter 113, Article 4B.

depreciation, and insurance are fixed costs. Variable costs are the costs of operating and maintaining aircraft as a result of use, including contracted personnel, unscheduled maintenance, and fuel. The Program Evaluation Division collected data on fixed and variable costs for each aircraft in accordance with the U.S. Office of Management and Budget's *OMB Circular A-126, Improving the Management and Use of Government Aircraft* (see Appendix B). Some agencies do not track costs by aircraft, and as a result those agencies were only able to provide their best estimate.

The Program Evaluation Division calculated the cost per flight hour for each aircraft that flew in Fiscal Year 2008-09 using cost information provided by the programs and hours flown. Cost per hour is highly dependent on use: the fewer hours flown, the more it costs per hour to operate each aircraft because fixed costs accrue regardless of how much an aircraft is used. For example, three aircraft that flew less than 100 hours were matched to aircraft of the same make and model that flew more than 100 hours. As seen in Exhibit 5, aircraft with low utilization rates (shown on the left) had a higher cost per hour than similar aircraft flown more frequently, shown on the right.

Exhibit 5

Underutilized Aircraft Cost More per Hour to Fly, Fiscal Year 2008-09

	Low-Utilization Aircraft	High-Utilization Aircraft
King Air B200		
Agency	Department of Transportation	Department of Commerce
Tail Number	N3NC	N125NC
Total Cost	$388,017	$434,762
Flight Hours	27.5	146.7
Cost per Hour	**$14,109**	**$2,964**
Centurion 210R		
Agency	State Bureau of Investigation	State Bureau of Investigation
Tail Number	N60JM	N9057S
Total Cost	$77,067	$137,779
Flight Hours	32.3	131.6
Cost per Hour	**$2,386**	**$1,047**
Cessna C185		
Agency	Division of Forest Resources	Division of Marine Fisheries
Tail Number	N735AX	N735ED
Total Cost	$65,007	$55,321
Flight Hours	51	201
Cost per Hour	**$1,275**	**$275**

Note: The Department of Commerce has since sold aircraft N125NC.

Source: Program Evaluation Division based on flight and cost data provided by state programs.

The more an aircraft is flown, the more fixed costs are distributed across flight hours, thereby reducing the cost per hour for operation. If the low-utilization aircraft highlighted in Exhibit 5 were flown at the minimum

threshold (200 hours),[11] these aircraft would have had the following cost per hour:

- King Air B200 (N3NC) = $2,624
- Cessna Centurion 210R (N60JM) = $505
- Cessna C185 (N735AX) = $438

Another example of an aircraft that has a high cost per hour because of low utilization is the Department of Commerce's helicopter. Helicopters are generally more costly to fly than airplanes because they require a significant amount of maintenance. Therefore, utilization is important to justify ownership. At $13,808, the cost per flight hour of the Department of Commerce's helicopter is one of the highest of all state aircraft. This aircraft flew only 33 hours in Fiscal Year 2008-09, but the total cost of operating and maintaining it was $459,802. The low utilization and high cost of this helicopter calls into question the need to own this costly, specialized aircraft.

In Fiscal Year 2008-09, eight aircraft did not fly at all, costing the state $434,753. Seven Division of Forest Resources aircraft did not fly, four of which were used only for parts for other aircraft. In addition, the Division of Marine Fisheries had one helicopter that was used for parts and did not fly during Fiscal Year 2008-09. These aircraft still incurred fixed costs such as insurance, facility fees, and depreciation (see Exhibit 6).

Exhibit 6

Eight Aircraft that Did Not Fly Cost the State $435,000 in Fiscal Year 2008-09

Aircraft Not Flown		Cost of Aircraft
Division of Forest Resources		
Fire suppression airplane (N215NC)	$	388,549
Salvage airplane (N1623S)		26,043
Fire patrol airplane (N1833)		5,460
Fire patrol airplane (N9623Q)		2,295
Salvage airplane (De-Registered)		1,999
Salvage helicopter (N382CJ)		1,999
Salvage helicopter (N81785)		-
Division of Marine Fisheries		
Salvage helicopter (N431MP)		8,408
Total Cost	**$**	**434,753**

Note: Although the Division of Forest Resources's salvage helicopter (N81785) was housed in a hangar in Hickory, the division reported no costs for it.

Source: Program Evaluation Division based on cost data provided by the Division of Forest Resources and the Division of Marine Fisheries.

One of the aircraft that did not fly during Fiscal Year 2008-09 was the Canadair CL215 (N215NC) owned by the Division of Forest Resources (shown in Exhibit 6, line 1). This specialized fire-fighting aircraft could not

[11] Estimated fuel costs for 200 hours of flight time were added to the Fiscal Year 2008-09 costs to determine the cost per hour at the minimum threshold.

fly because it required an inspection estimated to cost $1 million. Division of Forest Resources staff estimated this inspection, which is due every six years or 5,000 flight hours, whichever comes first, would reveal between $500,000 and $1 million in needed repairs. Even if it were airworthy, the division did not have a qualified pilot on staff to fly this plane.[12] Because the division did not have the money for this inspection and the necessary repairs, or a pilot, the plane has been grounded since May 2008. It cost the state $388,549 in Fiscal Year 2008-09 for the hangar ($178,530), insurance ($40,318), depreciation ($160,676), and other expenses ($9,025). Despite the fact that the airplane did not fly, it was the fifth most costly aircraft in the state fleet.

Finding 2. The Program Evaluation Division estimates that 25 aircraft and five facilities can be eliminated. The Program Evaluation Division analyzed flight hours and fleet utilization by aircraft purpose within each aviation program to estimate the number of aircraft required to meet program missions (see Appendix C for a more detailed explanation of the analysis). Because aircraft were used for a range of purposes, the analysis was completed in three phases:

- **Phase One: Annual Flight Hours –** Eliminate passenger transport aircraft based on utilization, using the 200-hour benchmark described in Finding 1.
- **Phase Two: Daily Demand –** Eliminate non-passenger transport aircraft based on fleet demand, examining the patterns of daily use for each aviation program purpose.
- **Phase Three: Age of Remaining Aircraft –** Examine need for back-up aircraft based on age of remaining aircraft.

The first phase of analysis determined which state aircraft could be eliminated based on the 200-hour benchmark described in Finding 1. All state aircraft were examined in this phase, although only passenger aircraft were eliminated without further analysis. Aircraft were examined to determine whether the average hours flown per year by purpose within agency met the 200-hour benchmark described in Finding 1. Passenger transport and photogrammetry aircraft (those operated by the Departments of Commerce and Transportation and the Area Health Education Centers) were evaluated only in the first phase of this analysis because the 200-hour benchmark was developed specifically for passenger aircraft; aircraft that failed to meet this benchmark were identified for elimination without further analysis. Non-passenger aircraft that did not meet this benchmark were analyzed in the second phase based on patterns of daily usage.

First, the average annual flight hours were calculated for aircraft by program using flight information from three fiscal years (2006-07, 2007-08, and 2008-09). This average was divided by the number of aircraft and compared to the 200-hour benchmark (see Exhibit 7) identified by industry experts as the minimum number of hours a passenger transport aircraft should fly in one year to justify ownership. If the aircraft did not

[12] The Division of Forest Resources does have two qualified co-pilots; however, this aircraft requires a captain and a co-pilot.

meet this minimum it was identified for elimination. Based on this criterion, the passenger transport aircraft operated by the Department of Transportation should be eliminated; all other transport and photogrammetry aircraft are justified according to the 200-hour benchmark.

Exhibit 7: One Passenger Transport Aircraft Could Be Eliminated

State Program	Aircraft Purpose	Average Annual Flight Hours (Fleet)	Current Number of Aircraft	Average Annual Flight Hours (per Aircraft)	Meet Efficient Use Threshold?	Number of Aircraft to Eliminate
Area Health Education Centers	Passenger transport	1,607	6	268	Yes	0
Department of Commerce	Passenger transport	528	2	264	Yes	0
Department of Transportation	Passenger transport	42	1	42	No	1
Department of Transportation	Photogrammetry	214	1	214	Yes	0

Notes: Since Fiscal Year 2008-09, the Departments of Commerce and Transportation have sold aircraft; each department currently has two aircraft. The Area Health Education Centers program sold an aircraft in August 2009 and purchased an aircraft in January 2010.

Source: Program Evaluation Division based on flight records provided by state programs.

When the 200-hour benchmark was applied to non-passenger aircraft (operated by the Divisions of Forest Resources and Marine Fisheries, State Highway Patrol, State Bureau of Investigation, and the Wildlife Resources Commission), only one program—the Wildlife Resources Commission—met the threshold and therefore should retain all four of its aircraft. All other aviation program aircraft were evaluated in the second phase of the analysis.

The second phase of the analysis determined which non-passenger aircraft could be eliminated based on the patterns of daily usage for aircraft over a three-year period. This phase considered the number of aircraft, or fleet size, needed to fulfill each purpose within each agency. To identify aircraft for elimination, the Program Evaluation Division determined flight demand for each purpose within each agency by identifying the unique number of aircraft flown on each day between July 1, 2006 and June 30, 2009. This number ranged from zero up to the maximum number of aircraft flown on one day during this time period. For example, the maximum number of State Bureau of Investigation aircraft flown on any given day was four.

Using the same example, no bureau aircraft were flown on 727 (66.3%) of the total 1,096 days in the three-year time period. One aircraft was flown on 277 days (25.3%), two on 86 days (7.8%), three on 4 days (0.4%), and four on 2 days (0.2%).

Using these data for each purpose within each agency, the Program Evaluation Division calculated the daily demand threshold—the number of aircraft used on 95% of flight days by aircraft purpose within agency. The threshold represents the number of aircraft needed to meet fleet demand on all but the few days—in the above example, all but 6 days out of 1,096—when the maximum fleet was deployed at one time. This analysis suggests only two aircraft operated by the State Bureau of Investigation are needed to meet their flight missions. If a situation arose where the

bureau needed additional aircraft, the program could work with other state agencies such as the State Highway Patrol or one of the passenger transport programs[13] to meet this need.

The results of the second phase of the analysis are shown in Exhibit 8.

Exhibit 8

Patterns of Daily Use among Non-Passenger Transport Aircraft

State Program	Aircraft Purpose	Current Number of Aircraft	Number of Aircraft Required to Meet Daily Demand Threshold
Law Enforcement			
State Bureau of Investigation	Law enforcement	3	2
State Highway Patrol	Law enforcement	9	5
Division of Marine Fisheries	Law enforcement patrol	5	3
Division of Marine Fisheries	Salvage	1	0
Resource Protection			
Division of Forest Resources	Fire control	6	3
Division of Forest Resources	Fire patrol	18	7
Division of Forest Resources	Fire suppression	5	4
Division of Forest Resources	Fire suppression/ prescribed burn	2	1
Division of Forest Resources	Transport	3	2
Division of Forest Resources	Salvage	4	0

Note: Daily demand was calculated based on data over a three-year time period.

Source: Program Evaluation Division based on flight records provided by state programs.

The third phase of analysis considered the age of remaining aircraft. Aviation consultants Conklin & de Decker[14] suggest aircraft that are 25 years old or older have reduced availability because of more frequent unscheduled maintenance. The Program Evaluation Division found the average age of North Carolina's aircraft is 28 years old, suggesting that maintenance needs must be examined to ensure remaining aircraft are available to meet demand. Conklin & de Decker reported the following availability rates:

- at age 25, the average availability of aircraft is about 90%;
- at age 30, the average availability of aircraft is about 80%; and
- at age 35, the average availability of aircraft is about 50%.

These figures suggest that a 35-year old aircraft could only be expected to fly half of the time, and to ensure availability, an extra aircraft would be needed to fill in. However, this consideration would only apply to fleets that fly more than 50% of the time because, when demand is less, time for maintenance is already available.

[13] Approximately 20% of the State Bureau of Investigation flight missions are passenger transport. According to Bureau flight logs, 49 flights transported staff to meetings and 27 flew agents and staff to conferences. These flights could be accomplished with aircraft operated by other passenger transport programs (i.e., those operated by the Departments of Transportation and Commerce and AHEC) if current policies limiting use of aircraft by outside agencies were amended to permit it.

[14] Conklin & de Decker. *How Old is Too Old?* Retrieved March 31, 2010, from http://www.conklindd.com/Page.aspx?cid=1070.

Examining the age of the remaining aircraft by each program purpose, only those operated by the State Highway Patrol meet this criteria (i.e., four of their five remaining aircraft are 38 years old or older and the fleet flew more than the 50% of the time). Based on the criteria described above, the State Highway Patrol's four older aircraft require 100% redundancy (i.e., four extra aircraft). As a result of this phase of analysis, the number of aircraft retained by the State Highway Patrol should be nine, and thus none of their aircraft should be eliminated. None of the other programs met the age and usage criteria. Therefore, no additional aircraft were added for fleet redundancy.

Once the three phases of analysis for elimination were applied, the Program Evaluation Division reviewed results for feasibility. This review produced the following determinations.

- The analysis suggested the Division of Marine Fisheries should have three aircraft. The Division of Marine Fisheries grounded all three of their helicopters in August 2009 due to budget constraints and has been able to complete its flight missions without them. The division agrees that all three helicopters can be eliminated and the division can continue operating with three airplanes.
- The analysis suggested the Division of Forest Resources should have three fire control aircraft. The Division of Forest Resources uses two types of aircraft for fire control, airplanes in the eastern part of the state and helicopters in the western part of the state. Because these resources are region specific, the Program Evaluation Division determined the division should have two aircraft for each region and thus increased the number of fire control aircraft to four.

As a result of the analysis, the Program Evaluation Division determined that 25 aircraft can be eliminated (see Exhibit 9). Because the Division of Forest Resources aircraft are needed in emergency situations to respond to wildfires, the division may need to contract with outside sources to meet emergency needs on the few occasions when it is necessary. There are several resources available to the division to meet these needs including the North Carolina National Guard, forestry programs in southern states,[15] and private contractors.

Results of the analysis and the feasibility review suggest the Division of Forest Resources has enough aircraft to meet the maximum daily demand experienced over the last three fiscal years for all purposes except fire patrol. The Program Evaluation Division compared the cost of owning aircraft to the cost of contracting aircraft for the days when additional aircraft are needed to ensure that it would not cost more to contract these resources instead of owning aviation assets. The cost of contracting fire patrol aircraft through the Southeastern Interstate Forest Fire Protection Compact is estimated at $42,000 per year, enough to contract out the aircraft needed to cover 100% of the maximum demand reflected in the last three years of data. Elimination of 11 excess fire patrol airplanes will save $552,600 per year, more than 13 times the cost of contracting services on the few occasions when it is necessary.

[15] Resources are available through the Southeastern Interstate Forest Fire Protection Compact.

Exhibit 9

25 Aircraft Can Be Eliminated

State Program	Aircraft Purpose	Current Number of Aircraft	Number of Aircraft to Eliminate
Passenger Transport and Photogrammetry			
Area Health Education Centers	Passenger transport	6	0
Department of Commerce	Passenger transport	2	0
Department of Transportation	Passenger transport	1	1
Department of Transportation	Photogrammetry	1	0
Subtotal		**10**	**1**
Law Enforcement			
State Bureau of Investigation	Law enforcement	3	1
State Highway Patrol	Law enforcement	9	0
Wildlife Resources Commission	Law enforcement patrol	4	0
Division of Marine Fisheries	Law enforcement patrol	5	2
Division of Marine Fisheries	Salvage	1	1
Subtotal		**22**	**4**
Resource Protection			
Division of Forest Resources	Fire control	6	2
Division of Forest Resources	Fire patrol	18	11
Division of Forest Resources	Fire suppression	5	1
Division of Forest Resources	Fire suppression/ prescribed burn	2	1
Division of Forest Resources	Transport	3	1
Division of Forest Resources	Salvage	4	4
Subtotal		**38**	**20**
Total		**70**	**25**

Note: The Area Health Education Centers program and the Departments of Commerce and Transportation each sold aircraft since the start of Fiscal Year 2008-09. The Area Health Education Centers program purchased an airplane in January 2010.

Source: Program Evaluation Division based on flight records provided by state programs.

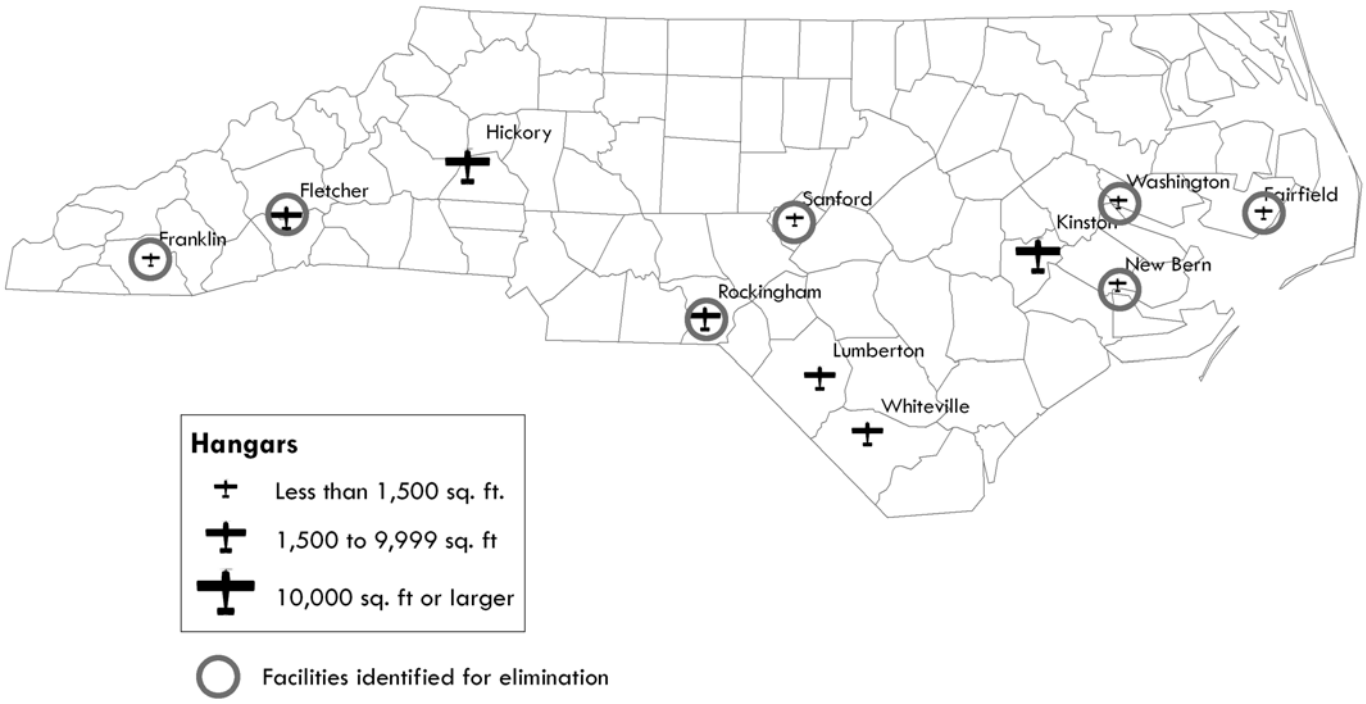
Assuming elimination of 20 aircraft from the Division of Forest Resources, five division facilities can be eliminated. Facilities operated by all aviation programs were considered for elimination, but only those operated by the Division of Forest Resources were identified for elimination. The division operated out of 11 facilities located across the state (see Exhibit 10) in Fiscal Year 2008-09. Based on excess capacity at aviation facilities, proximity to other facilities, and proposed elimination of aircraft, the Program Evaluation Division estimates five[16] division facilities at the following airports can be eliminated:

[16] The Division of Forest Resources has recently eliminated the hangars in Franklin and Sanford. The division is discussing a new lease at Davidson County Airport. Based on Program Evaluation Division analysis, a new facility at Davidson County Airport is not needed.

- Asheville Regional Airport in Fletcher;
- Coastal Carolina Airport in New Bern;[17]
- Richmond County Airport in Rockingham;
- Warren Field Airport in Washington; and
- Whitfield Airstrip in Fairfield.

To avoid increased exposure to risk during fire season, the division could develop a contingency plan that includes using regional airports for deployment and support during emergency conditions.

Exhibit 10: Five Division of Forest Resources Hangars Currently in Use Can Be Eliminated



Note: Based on the Program Evaluation Division's analysis of data from Fiscal Year 2008-09, seven facilities could be eliminated. Because the leases for the facilities in Franklin and Sanford have since been terminated, only five facilities remain for elimination.

Source: Program Evaluation Division based on data from the Division of Forest Resources.

In addition to eliminating some facilities, the Division of Forest Resources is paying too much for the hangar located in Hickory and needs to negotiate a new contract[18] or find a new location for its helicopter maintenance facility. Although the hangar was originally leased to house the Canadair CL215, the aircraft is too large for the hangar[19] and the aircraft currently sits outside and is un-flyable. The division spends nearly $200,000 per year on this hangar, more than the cost of a similar sized hangar at Raleigh-Durham Airport that is newer, more modern, and has features such as heat.

[17] The Wildlife Resources Commission also leases a hangar at Coastal Carolina Airport in New Bern. This hangar has not been identified for elimination.

[18] The Division of Forest Resources does not currently have a contract and is paying month to month.

[19] The Division of Forest Resources attempted to change the opening to the hangar to allow the Canadair CL215 to fit inside but was advised by the Fire Marshall that additional modifications would need to be made to the hangar to meet fire code. The division did not pursue these changes and chose to keep the aircraft outside.

Finding 3. Weaknesses in aviation program fleet management practices create inefficient operations. Most programs did not maintain integrated flight and maintenance records or track costs by aircraft (see Exhibit 11). These practices would enable aircraft programs to better plan, analyze, and track aircraft activities and costs, resulting in more efficient use of aircraft.

Exhibit 11: Most Aviation Programs Lacked Important Management Practices

Management Practice	Passenger Transport			Law Enforcement				Resource Protection
	AHEC	Dept. of Commerce	Dept. of Transportation	State Bureau of Investigation	State Highway Patrol	Marine Fisheries	Wildlife Resources Commission	Forest Resources
Electronic flight logs	◖	○	○	○	●	○	○	○
Electronic maintenance records	○	●	●	○	●	○	○	○
Electronic tracking, forecasting, and scheduling maintenance	●	●	●	○	●	○	○	◖
Integrated electronic maintenance and flight information	○	●	●	○	●	○	○	○
Inventory tracking	●				●			◖
Cost per hour calculations	◖	○	◖	○	●	○	●	○
Maintenance cost by aircraft	●	●	●	○	●	●	●	○
Long-term replacement plan	○	○	●	○	●	○	○	◖

● = Full implementation ◖ = Partial implementation ○ = Does not exist

Notes: AHEC stands for the University of North Carolina's Area Health Education Centers. The Division of Marine Fisheries, State Bureau of Investigation, and Wildlife Resources Commission do not have a maintenance program and therefore do not maintain inventory. The Department of Commerce has service contracts with aircraft manufacturers and does not maintain inventory. The two aircraft owned by the Department of Transportation are still under warranty.

Source: Program Evaluation Division based on information provided by state programs.

The Program Evaluation Division identified four criteria essential for good management of aviation programs:

- maintaining aircraft to comply with federal and state regulations;
- maintaining, integrating, and analyzing flight and maintenance information to ensure safe and efficient use of aircraft;
- tracking and analyzing costs by aircraft and for the fleet to ensure efficient use; and
- determining the optimal fleet size.

These practices can be facilitated by an electronic management system that integrates flight and maintenance records, tracks inventory, and tracks costs.

- **Electronic flight logs.** Flight logs contain information on flight time, time spent waiting for passengers, route, agency using or requesting flights, passengers, and pilots. Electronic flight logs allow management to easily review aircraft usage, pilot hours, and flight patterns, enabling efficient use of aircraft. Currently, most programs maintain separate paper log books for each aircraft. Of the eight programs, only the State Highway Patrol maintains electronic flight logs.

- **Electronic maintenance records.** Tracking maintenance activities electronically allows management to review maintenance that has been completed, ensure aircraft are up to date on required inspections, look for patterns of maintenance problems, determine which parts are required most frequently and maintain inventory for those parts, and potentially increase the resale value of aircraft. The five programs that do not have electronic maintenance records (see Exhibit 11) rely on paper log books to review maintenance activities on aircraft.

- **Electronic tracking, forecasting, and scheduling maintenance.** All aircraft are required to have regular inspections and maintenance, and the aircraft can not fly until the work has been completed. As shown in Exhibit 11, four of the eight programs use computer programs to track, forecast, and schedule maintenance.

- **Integrated electronic maintenance and flight information.** Numerous computer and internet-based programs integrate flight and maintenance information to help aircraft managers plan and analyze fleet performance. These programs enable managers, pilots, and mechanics to review aircraft operations and maintenance from any location. With paper log books, the information can only be reviewed where the log books are stored and information can not be easily integrated.

- **Aircraft costs.** Six of the eight programs do not know the cost of flying their aircraft. Only the Wildlife Resources Commission and the State Highway Patrol calculate cost per flight hour. The Department of Transportation and University of North Carolina's Area Health Education Centers (AHEC) estimate cost per hour based on the previous year's information to determine rates but do not calculate current cost. Knowing the cost per hour of flying for each aircraft would enable managers to make better and more timely decisions about which aircraft to fly.

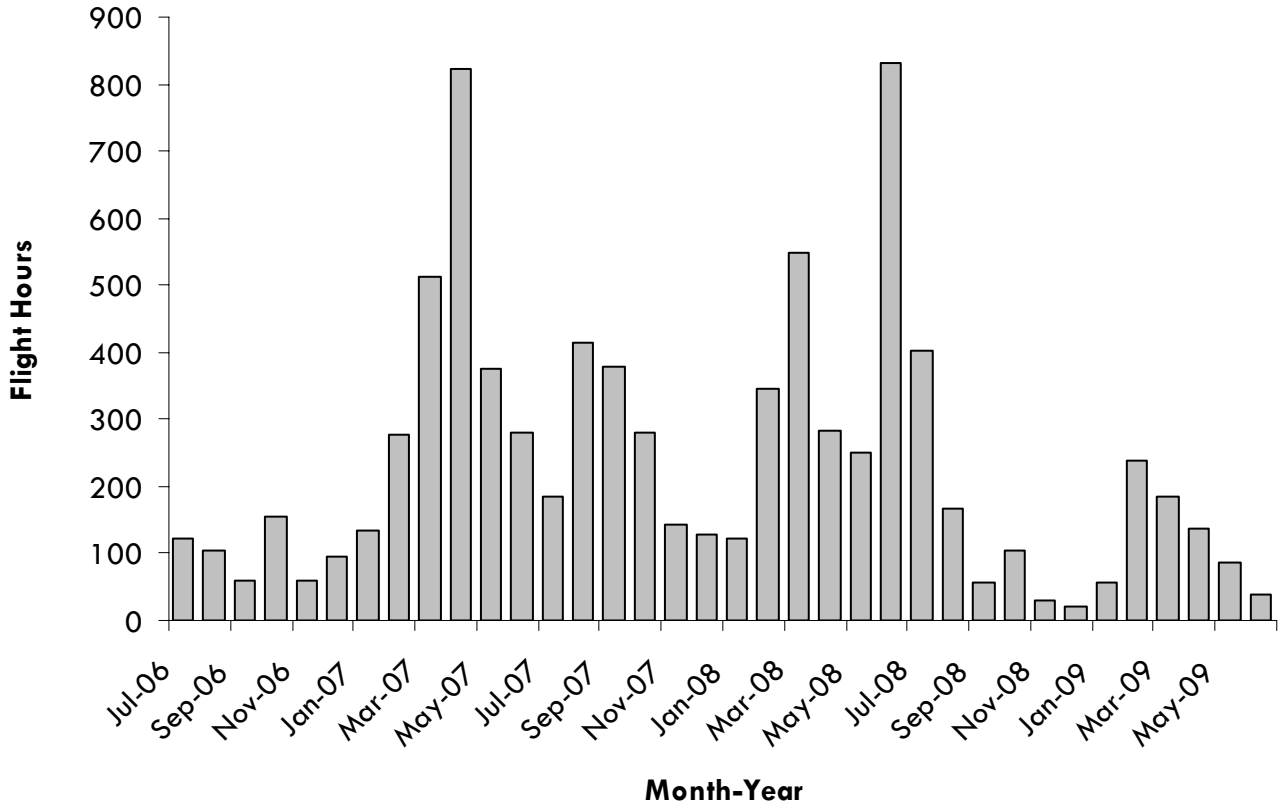
- **Maintenance costs.** A key component of calculating cost per hour is knowing how much is spent on maintenance. Two programs, the Division of Forest Resources and the State Bureau of Investigation, do not track maintenance costs by aircraft. Without this information, it is impossible to analyze the cost of keeping aircraft versus replacement.

- **Long-term replacement plan.** Two of the eight programs, Department of Transportation and State Highway Patrol, have current long-term replacement plans for their fleet that identifies fleet requirements, aircraft that can best meet those requirements, and a schedule for fleet replacement. The Division of Forest Resources is currently working with a private contractor to develop a plan. Most agencies stated there was no money available and therefore no reason to develop such a plan. These plans are especially important when operating and maintaining older aircraft that may need to be replaced. The average age of aircraft operated and maintained by the state is 28 years.

The Departments of Commerce and Transportation as well as the State Highway Patrol use aviation management programs such as *Skybooks*, *CAMP*, and aircraft-specific programs such as *Helotrac* to track aircraft information and forecast when maintenance and inspections are due. These programs also can track manufacturers' service bulletins, recommended upgrades, and airworthiness directives. Many of these programs also can track inventory and help program managers ensure they have the necessary parts on hand to keep aircraft flying. These programs provide an efficient way for managers to plan and analyze their fleet; they also eliminate hours of tracking information manually.

An example of how data could be used to increase management efficiency is demonstrated by an examination of the Division of Forest Resources flight hours over the last 36 months. The greatest number of hours flown in any one month was 832 in June 2008 (see Exhibit 12). During this month, the division's 20 full-time pilots each flew an average of 40 hours, or approximately 25% of the possible month's work hours. Over the 36 months, there was only one other month the division flew more than 800 hours; pilots flew an average of 234 flight hours per month, or 12 flight hours per pilot each month. If the division maintained electronic flight records, management would be able to determine the appropriate number of pilots needed based on this information.

Exhibit 12: Division of Forest Resources Flight Hours, Fiscal Years 2006-07 to 2008-09



Source: Program Evaluation Division based on flight data provided by the Division of Forest Resources.

Finding 4. Decentralized operations of state aircraft result in increased costs and fractured management. Aviation staffing, budgeting, policies, and safety are compromised by decentralization.

- **Staffing.** Having eight separate aviation programs results in duplication of effort and increased personnel costs. For example, the three passenger transport programs employ four schedulers, two in the University of North Carolina's Area Health Education Centers (AHEC) and one each in the Departments of Commerce and Transportation. Consolidating at least some operations is under consideration by the Departments of Commerce and Transportation. An interdepartmental memo on consolidation stated that one scheduler, one pilot, and one mechanic could be eliminated, saving the state $206,250 per year. Similarly, greater efficiencies might be realized if more agencies were involved with consolidation efforts.

- **Budgeting.** Decentralized aviation operations have meant decentralized budgeting. The eight separate aviation programs report to four different appropriations committees of the General Assembly. As a result, no one committee has a complete accounting of how much is being spent to purchase or operate all state aircraft for the state.

- **Policies.** In a review of aviation policies, procedures, and rules, the Program Evaluation Division noted differences across agencies in the level of detail, emphasis, and basic requirements related to pilot experience, record keeping, and cost recovery. For example, the State Highway Patrol manual includes detailed descriptions of pilot qualifications, whereas the Department of Commerce manual does not address qualifications at all.

- **Safety.** Safety and maintenance procedures appear to vary across agencies. Whereas AHEC reported it received a 22% discount in insurance rates because of superior maintenance practices, a recent report by a contracted consultant to the Division of Forest Resources raised serious safety concerns.

The recent review (see Appendix D for the Executive Summary) of the Division of Forest Resources aviation program completed by Conklin & de Decker,[20] an aviation consulting firm, found significant safety issues in the division. The report made 51 recommendations and identified 18 requiring urgent action. The report stated the division needs to focus on

- upgrading technology to reduce manual record-keeping and improve accuracy;
- decreasing the fleet to a manageable size to be flown and maintained;
- reducing the number of different types of aircraft in the fleet;
- incorporating a Safety Management System to increase the level of safety awareness through employee participation in the safety process; and
- institutionalizing standard operating procedures and processes that contribute to higher levels of safety, efficiency, and mission effectiveness, which can be accomplished by revising their manual to incorporate written standards.

The Conklin & de Decker report concludes, "the culture in the Aviation Branch is not professional (meaning: striving for excellence), lacks established high performance standards, and is not focused on safety."

Without centralized operations, passenger transport aircraft are not used efficiently. Aviation programs operated by the Departments of Commerce and Transportation and AHEC provide passenger transport service for state officials. Each agency operates different-sized aircraft. AHEC's twin engine airplanes with space for three to five passengers are best suited for shorter in-state trips. The Department of Transportation operates a larger twin engine that seats nine, and the Department of Commerce operates a jet, also seating nine. The jet is most efficient when traveling longer distances, and the larger twin engine is best suited for mid-range trips.

Collectively, these aircraft comprise a passenger fleet of complementary capabilities. However, with separate management, they do not function as a fleet. Furthermore, these three programs charge different rates for transport services. The Department of Transportation charges rates to cover

[20] Conklin & de Decker. (2010, January). *Safety and Training Program Review*. Report for Aviation Branch, Forest Protection Section, Division of Forest Resources, North Carolina Department of Environment and Natural Resources. Arlington, TX.

all aviation expenses,[21] whereas the Department of Commerce receives an appropriation to operate state aircraft; AHEC subsidizes its own aircraft. As a result, agencies seeking aviation services are left to shop around for the best rate instead of using the most efficient aircraft for the trip. For example, because the Department of Transportation charges $1,800 per hour, and the Department of Commerce charges $770, most agencies choose Department of Commerce aircraft even if it would be more efficient to fly the twin engine airplane operated by the Department of Transportation. Other examples of inefficient use include the following:

- In May 2008, the Department of Commerce's jet flew a route from Raleigh-Durham Airport (RDU) with stops in Greensboro, Oxford, North Wilkesboro, and Greensboro again for a Department of Agriculture trip. The jet is most efficient for longer trips. The Department of Agriculture paid $2,156. Based on the cost per hour for this aircraft, the Program Evaluation Division estimates the cost of the trip was $7,526.
- In September 2009, the Department of Commerce's helicopter flew from RDU to Cape Hatteras to Dare County and back to RDU for an energy conference. The helicopter is expensive to fly and should be used for unique economic development trips where it is important to land at a proposed site. The Department of Commerce paid $2,217. Based on the cost per hour for this aircraft, the Program Evaluation Division estimates the cost of the trip was $16,606.
- In October 2009, an AHEC airplane flew the University of North Carolina at Chapel Hill Chancellor from RDU to Montreal, Canada and back. AHEC's aircraft are best suited for shorter trips and not long hauls. The Chancellor's office paid $4,569 for this trip. Based on the cost per hour for this aircraft, the Program Evaluation Division estimates the cost of the trip was $7,912.

Legislation passed in 2009 has had the unintended consequence of exacerbating inefficient use of aircraft. Session Law 2009-451, Section 14.7 enforced appropriate use of state aircraft for passenger transport by effectively limiting use of Department of Commerce aircraft to members of the department, the Governor, or a state official who is employed by an agency that does not have its own aircraft. Although the intent was to stop use of Commerce aircraft for travel associated with collegiate athletics, the result has been to keep University of North Carolina officials from using Commerce aircraft for official business. Because University of North Carolina officials are limited to using AHEC aircraft even on trips when the Commerce jet would be more appropriate, the statute has the unintended consequence of not allowing state officials to use the most efficient aircraft.

Across all aviation missions, fractured management inhibits pooling of resources. Aircraft maintenance, pilot and mechanic training, and administrative responsibilities are conducted independently by each agency. Pooling resources and sharing administrative tasks, such as

[21] Aviation personnel are paid for by the Department of Transportation and are not included in the rate.

scheduling flights and training and ordering parts, could save programs time and money.

An informal meeting of state aircraft pilots convenes periodically and is among the only mechanisms identified by the Program Evaluation Division for collaboration across aviation programs. One important result of the pilots' meeting was the negotiation of a bulk fuel purchase that has reportedly resulted in reduced fuel costs to agencies. The meetings also provide a way for pilots to share information about training opportunities or operations.

Other states have consolidated aviation services to improve organization and efficiency. Research conducted by the Program Evaluation Division identified 11 states that have consolidated at least some aviation services. As shown in Exhibit 13, five of these states (Georgia, Illinois, Indiana, West Virginia, and Wisconsin) consolidated some or all state aircraft across missions. Six other states (Florida, Michigan, New Mexico, Tennessee, Texas, and Virginia) consolidated passenger transport services.

Exhibit 13: 11 Other States Have Consolidated Some or All Aviation Services

State	Agency Responsible for Aircraft Fleet	Current Number of Aircraft	Current Number of Facilities	Rationale for Consolidation
Consolidation of Most or All State Aircraft				
Georgia	Georgia Aviation Authority	55	18	Organization, standardization
Illinois	Department of Transportation	16	1	Efficiency
Indiana	State Police	7	4	Efficiency
West Virginia	Department of Administration	6	1	Efficiency, safety
Wisconsin	Department of Administration	19	1	Better management, efficiency, safety
Consolidation of Passenger Transport				
Florida	Department of Management Services	2	1	Efficiency
Michigan	Department of Transportation	5	1	Efficiency, safety
New Mexico	Department of General Services	3	1	Efficiency, streamlining, transparency
Tennessee	Department of Transportation	5	1	N/A
Texas	Department of Transportation	4	1	Efficiency
Virginia	Department of Aviation	2	1	Efficiency

Notes: Georgia consolidated all but university aircraft. Illinois consolidated all but law enforcement and university aircraft. Passenger transport in Tennessee has always been consolidated.

Source: Program Evaluation Division based on interviews with program directors in each state.

The goal of consolidation in nearly all of these 11 states was increased efficiency. Often, more efficient use of aircraft was a central aim: "Aircraft have no value when they are not flying," noted the director of aviation services in Texas. West Virginia's director of aviation described their "one-stop shopping" model for aviation services that made it easier for passengers to book flights.

In these states, consolidation of state aircraft provided more efficient budget reporting. The director of services in New Mexico reported consolidation of transport services allowed the state to compare "apples to apples" because the data were kept in one way and in one place and utilization justification was made the same way across aircraft. In Georgia, four agencies owned aircraft before consolidation but "no one knew where the budgets were" because agencies did not have aviation line items. Consolidation shifted aviation "from an agency model to an asset model" that defined aircraft as tools requiring centralized management.

Safety concerns also compelled consolidation in some states. For example, in West Virginia an insurance audit documented "disjointed" regulations across agencies with aircraft. These findings led to increased awareness of concerns about safety that prompted an executive order directing consolidation of all state aircraft in July 2005. Safety was also a driving concern in Georgia, Michigan, and Wisconsin.

States with consolidated aviation services handled maintenance in a variety of ways. Indiana outsourced maintenance to a private contractor, but the other 10 states consolidated maintenance in-house. As shown in Exhibit 13, all but two states operated a single facility where maintenance was conducted for all consolidated aircraft. Although Texas had just four aircraft that had been consolidated for passenger transport, the Texas Aviation Division, Flight Services Section performed maintenance for 40 to 50 state aircraft operated by the universities, Department of Justice, Department of Public Safety, and Parks and Wildlife. The Legislature funded construction of a large maintenance and hangar facility in Austin and negotiated a 99-year lease for the land at $19 per year. This rate enabled the section to charge maintenance at 26% below market rates, and maintenance fees helped support aviation transport services.

Aviation directors in other states reported consolidation achieved intended goals. Improved efficiency and operations associated with consolidation were attributed to

- reductions in the number of aircraft;
- centralized operations and data;
- more efficient use of aircraft;
- consolidated, improved maintenance; and
- enhanced safety.

In summary, the Program Evaluation Division found the majority of aircraft operated by North Carolina state programs did not meet the minimum threshold of 200 flight hours per year. Based on a three-phase analysis, 25 aircraft and five facilities can be eliminated. In addition, there are weaknesses in fleet management practices of the state's aviation programs. Finally, decentralized operations have resulted in increased costs and fractured management.

Recommendations

Recommendation 1. The North Carolina General Assembly should direct the establishment of the Aviation Management Authority. This report identified concerns regarding aviation management and safety that are compounded by fractured management across eight separate aviation programs. A single authority would address these concerns, implement necessary improvements, and assume responsibilities related to

- operating consolidated aviation passenger transport and photogrammetry services;
- providing management oversight for all other (i.e., non-passenger) aviation programs; and
- overseeing maintenance for all state aircraft.

This authority should be housed in the Department of Transportation to oversee the management of all aircraft owned or operated by the state. The current Division of Aviation within the Department of Transportation would become the Aviation Management Authority. The Department of Transportation was identified as the appropriate location for the authority because it has experience managing aviation resources and the necessary infrastructure. The current mission of the Division of Aviation is to develop, maintain, and promote a safe and effective statewide aviation system. A key focus of the division is identifying aviation system safety deficiencies and implementing programs to address problems. The Aviation Management Authority would continue to operate the programs that currently exist in the Division of Aviation in addition to assuming the responsibilities described in this recommendation.

Costs associated with additional staffing and operations would be covered by assets transferred from the passenger transport and photogrammetry programs (see Year One tasks described below). Ongoing support for the authority would be provided by an annual management fee of 3%[22] of total program costs paid to the authority by the state's non-passenger transport aviation programs. Under this recommendation, the state's non-passenger transport aviation programs would continue to operate their own aircraft. (The authority should evaluate this level of support after it has been in place for two years to determine if the fees need to be adjusted.)

Exhibit 14 provides a summary of a two-year implementation process for Aviation Management Authority activities and a detailed description follows.

[22] A 3% management fee assessed to each non-passenger transport program would yield approximately $200,000 per year.

Exhibit 14

Summary of Two-Year Implementation Process of Aviation Management Authority Activities

Year One
1. Consolidate all aircraft used for passenger transport and photogrammetry missions.
2. Oversee the implementation of recommendations in Conklin & de Decker's *Safety and Training Program Review* for the Division of Forest Resources, Aviation Branch; review all other reports submitted under this contract and oversee implementation as deemed necessary by the authority.
3. Oversee the implementation of Recommendation 2 of this report regarding the elimination of aircraft.
4. Develop policies and procedures to guide management oversight of all state aviation resources commencing in year two.
Year Two
5. Oversee management of all state aviation resources.
6. Oversee maintenance operations and information management for all aircraft owned and operated by the state.

Source: Program Evaluation Division.

Year One

The first task of the Aviation Management Authority in year one should be to consolidate state aircraft used for passenger transport and photogrammetry. All aviation passenger transport services for state programs and officials would be centralized under the authority. All aircraft currently operated by the Department of Commerce and the University of North Carolina's Area Health Education Centers (AHEC) would be transferred to the authority, along with associated staff positions, facilities, and other assets related to aviation operations. Responsibilities of the authority in regard to consolidation of passenger transport and photogrammetry would include the following tasks:

- acquiring, operating, maintaining, and housing aircraft;
- adopting air transportation guidelines to govern the use of state aircraft for transportation services, including appropriate use of aircraft, passenger prioritization, scheduling responsibilities and procedures, and rate structures;
- providing centralized scheduling and aviation transportation services to state entities;
- ensuring safety guidelines and requirements are met for staff training and aircraft operations;
- determining the appropriate number of aircraft and personnel;[23]
- adopting standardized, integrated electronic flight and maintenance data systems;
- conducting a fleet mix study to determine the appropriate number and type of aircraft needed for passenger transport and photogrammetry activities;
- disposing of state aviation assets no longer needed;

[23] Aircraft currently operated by the Departments of Commerce and Transportation are located at Raleigh-Durham Airport. AHEC airplanes are scheduled to move to an adjacent hangar in 2011 after construction of the hangar is complete.

- conducting analyses to ensure efficient operation of transportation aircraft; and
- developing a long-term fleet management plan.

The transfer of the passenger transport programs from the Department of Commerce and AHEC requires legislation mandating a Type I transfer. When part of an agency is transferred to another department under a Type I transfer, its statutory authority, powers, duties, functions (including budgeting and purchasing), records, personnel, property, and unexpended balances of appropriations, allocations, or other funds are transferred to the other department.[24] All aircraft used exclusively for passenger transport that are owned and operated by the Department of Commerce and AHEC; facilities that house passenger transport aircraft; passenger transport personnel; and current funding would be included in the transfer. Aircraft currently operated by AHEC are not state property but are owned by Medical Air, Inc., a non-profit established to provide air services to AHEC. The authority would need to negotiate with AHEC regarding the transfer of these assets to the state.

This step offers several potential benefits that can only be realized by creating a passenger transport fleet under a single management entity. Recurring savings may be realized by eliminating duplicative staff and administrative functions. For example, the Department of Transportation has discussed the possibility of consolidating its aviation program with the Department of Commerce's program and has identified potential staff reductions, including the elimination of one pilot, one scheduler, and one mechanic, resulting in annual savings of $206,250. In addition, the Aviation Management Authority would develop an appropriate, consistent rate structure to ensure efficient use of aircraft. A fleet mix study should guide the authority's decisions on which aircraft are needed to best fit the transportation needs of the state. For example, it might be cost effective to sell the Department of Commerce's helicopter because of its high operating cost and instead retain the Department of Transportation's twin engine airplane as a more efficient means of passenger transport.

Second, the Aviation Management Authority should oversee the implementation of safety recommendations provided by aviation consultant Conklin & de Decker to the Division of Forest Resources. Findings from the recent safety review conducted by Conklin & de Decker cited in this report, together with utilization and management information collected by the Program Evaluation Division, indicate immediate action is needed to ensure the safe and efficient operation of aircraft currently managed by the Division of Forest Resources. Under this recommendation, the Division of Forest Resources would be responsible for implementing recommendations and the authority would ensure all necessary actions are taken. To ensure safe and efficient operations, the Division of Forest Resources should provide quarterly reports to the authority addressing action items identified in the Conklin & de Decker report until the management database implemented by the authority in year two sufficiently replaces the need for quarterly reporting. The authority also

[24] NC Gen. Stat. § 143A-6(a).

should review and implement as necessary the forthcoming reports on the Division of Forest Resources from Conklin & de Decker.

Third, the Aviation Management Authority should oversee the implementation of Recommendation 2 of this report. Elimination of aircraft would ensure the appropriate number of state-operated aircraft and facilities meet but do not exceed the state's aviation needs. This step would ensure the continuation of total recurring savings ($1.5 million for personnel and operations and $26,060 for facilities) associated with Recommendation 2. In addition, the contract at Hickory Regional Airport should be renegotiated or another facility should be identified to house the Division of Forest Resources aircraft in the western part of the state.

Fourth, the Aviation Management Authority should develop policies and procedures, including the identification of aviation management tools such as data tracking programs, to guide management oversight of all state aviation resources commencing in year two. Consistent policies and procedures for all aviation activities are needed to ensure appropriate and efficient use of aviation resources and to standardize practices related to training, maintenance, and data tracking. To accomplish this step, the authority will need to develop guidelines on how state aviation programs will work with the authority such that programs will continue to operate under the control of each agency, but the authority will assume management oversight.

A single electronic data management system, such as those currently used by the Departments of Commerce and Transportation and the State Highway Patrol, should be acquired and implemented to manage all aviation resources. This program would electronically track flight, maintenance, and cost information consistently across all aircraft. A system could be tested with the consolidated passenger transport operations before rolling it out for all state aircraft in year two. The money from the annual management fee would cover the costs associated with purchasing and staffing the system.

Year Two

The first task of the Aviation Management Authority in year two should be to oversee management of all state aviation programs. Findings in this report identified management shortcomings in each aviation program related to efficiency, record-keeping, safety, and planning. Under this recommendation, agencies that use aircraft for non-passenger missions (excluding photogrammetry which is part of passenger transport consolidation) would continue to operate their own aircraft but management oversight would be shifted to the Aviation Management Authority. Oversight would include the following tasks:

- establishing and enforcing aviation policies and procedures developed in year one for all aviation programs;
- housing and operating flight and maintenance data systems acquired in year one;
- producing reports from the centralized data system to ensure safe, efficient operations of state aircraft in keeping with policies and procedures adopted by the authority;

- reviewing the fleet to ensure efficient operations across agencies, encouraging resource sharing and considering privatization where appropriate;
- examining aviation facilities and combining and/or closing facilities as needed to assure efficient operations; and
- convening staff from aviation programs to promote information sharing and efficiencies gained by coordinated operations.

All state aviation programs would be required to provide necessary data to the Aviation Management Authority to facilitate management oversight. If program data indicate noncompliance with the authority's policies and procedures, the authority should have the power to suspend that agency's aviation operations.

Second, the Aviation Management Authority should oversee maintenance operations for all state aircraft. The Aviation Management Authority should consider the best way to conduct centralized maintenance for all state aircraft to improve safety and yield cost savings. One option would be to consolidate maintenance in a limited number of facilities across the state. Under this arrangement, the authority would provide services to aviation programs that currently outsource maintenance and to programs that now have in-house maintenance. The number of mechanics needed will depend on demand and the number of aircraft that are retained, but savings associated with consolidated facilities, centralized management, and bulk purchases to stock a centralized parts inventory are expected. Most importantly, rigorous safety protocols could be standardized and enforced across aviation programs.

In summary, Recommendation 1 establishes an Aviation Management Authority to address aviation management shortcomings identified in this report. In its first year, the authority would consolidate and operate all passenger transport aircraft and operations; oversee the implementation of safety recommendations for the Division of Forest Resources; oversee the elimination of aircraft in Recommendation 2 of this report; and develop policies, procedures, and guidelines for all non-passenger aviation programs and acquire a single aviation management program to track aviation information. In its second year, the authority would assume management oversight of all state aviation programs and begin overseeing maintenance for all state aircraft.

After the authority is established it would continually assess the efficiency of all state aviation programs; evaluate fleet mix across aviation programs; develop long-term replacement plans in conjunction with agency aviation programs; purchase parts and other consumables to receive optimal pricing; and acquire and dispose of all aviation assets. All budget requests (expansion and continuation) would be reviewed and approved by the authority before going to the General Assembly. In addition, the Aviation Management Authority should report annually to the General Assembly on the cost and efficiency of all state aviation programs.

The Program Evaluation Division recommends the creation of an Aviation Management Authority to oversee the management of all aircraft owned and operated by the state. Other options for consolidating the fleet were considered during this evaluation and can be found in Appendix E.

Recommendation 2. The North Carolina General Assembly should eliminate 25 aircraft and five facilities. Elimination of 25 aircraft could result in up to $8.1 million in proceeds from sales and $1.5 million in annual recurring savings. The elimination of five facilities would result in $26,060 in recurring savings.

As described in Finding 2 of this report, the Program Evaluation Division analyzed flight hours and fleet utilization by aircraft purpose within each aviation program to estimate the number of aircraft required to meet program missions. The analysis was completed in three phases.

- **Phase One: Annual Flight Hours –** Eliminate passenger transport aircraft based on utilization, using the 200-hour benchmark described in Finding 1.
- **Phase Two: Daily Demand –** Eliminate non-passenger transport aircraft based on fleet demand, examining the patterns of daily use for each aviation program purpose.
- **Phase Three: Age of Remaining Aircraft –** Examine need for back up aircraft based on age of remaining aircraft.

Passenger transport and photogrammetry aircraft were evaluated only in the first phase of this analysis because the 200-hour benchmark was developed for passenger transport aircraft. Results indicated the Department of Transportation did not meet the 200-hour efficient use threshold benchmark and should eliminate its passenger transport aircraft, which flew an average of 42 hours per year.

The elimination of this aircraft alone could result in up to $4.6 million in proceeds from its sale and $307,343 in recurring savings from reduction in force and operation costs. However, if passenger transport services are consolidated, the Aviation Management Authority should complete a fleet mix analysis to determine if it is more cost effective to sell the Department of Commerce's helicopter because of its high operating cost ($5,357 per hour) and instead retain the Department of Transportation's twin engine airplane as a more efficient means of passenger transport.

Law enforcement and resource protection aircraft were examined in all three phases of the analysis. Results indicated the following aircraft from the State Bureau of Investigation and Divisions of Marine Fisheries and Forest Resources should be eliminated:

- the State Bureau of Investigation twin engine airplane,[25]
- three Division of Marine Fisheries helicopters, and
- 20 aircraft from the Division of Forest Resources.

The Program Evaluation Division estimates eliminating these 25 aircraft could yield up to $8.1 million in proceeds from selling 10 of these aircraft (see Exhibit 15). The 15 aircraft recommended for elimination that cannot be sold consist of the Division of Forest Resources 12 federally owned aircraft and 1 state-owned salvage aircraft and the Division of Marine Fisheries 1 federally owned aircraft and 1 salvage aircraft.

[25] The State Bureau of Investigation's twin engine aircraft was identified for elimination because its two single engine aircraft are required for marijuana eradiation missions funded by a federal Drug Enforcement Administration grant.

Exhibit 15

$8.1 Million in Potential One-Time Proceeds from Sale of 10 Aircraft

State Program	Number of Aircraft to Be Eliminated	Number of Aircraft to Be Sold	Potential One-Time Proceeds from Sale
Department of Transportation	1	1	$ 4,649,000
Division of Forest Resources	20	7	2,628,500
State Bureau of Investigation	1	1	650,000
Division of Marine Fisheries	3	1	190,000
Total	**25**	**10**	**$ 8,117,500**

Source: Program Evaluation Division based on aircraft specification data from state programs.

In addition to one-time proceeds from sales, the state could save an estimated $1.5 million in recurring funds (see Exhibit 16) related to personnel (salaries and benefits) and operations (insurance and depreciation).

Exhibit 16

$1.5 Million in Recurring Savings from Elimination of 25 Aircraft

State Program	Personnel	Operations	Total Cost Savings
Department of Transportation	$ 143,750	$ 163,593	$ 307,343
Division of Forest Resources	880,613	311,292	1,191,905
Division of Marine Fisheries	-	11,570	11,570
State Bureau of Investigation	-	12,000	12,000
Subtotal	**$ 1,024,363**	**$ 498,455**	**1,522,818**
Division of Forest Resources Reserve Fund			(51,000)
Total Savings			**$ 1,471,818**

Notes: Personnel savings for the Department of Transportation include the elimination of one pilot and one mechanic position. Personnel savings for the Division of Forest Resources include nine pilot and five mechanic positions.

Source: Program Evaluation Division based on cost data from state programs and salary and benefits data from the Fiscal Research Division.

Analyses indicated there were only a few days each year when the demand for multiple aircraft exceeded the daily demand threshold used to identify the number of aircraft to eliminate. However, the Division of Forest Resources may occasionally need to contract with other states or private operators to meet their needs during high fire years. A cost analysis comparing ownership of aircraft identified for elimination with contracting for additional aircraft as needed on extremely high demand days was conducted (see Finding 2). Results of this analysis indicated it would be more cost effective to contract for services to meet additional need. Based on data from the Southeastern Interstate Forest Fire Protection Compact, $51,000[26] of the cost savings identified should be included in the Division of Forest Resources budget to meet these additional needs. This money

[26] This amount includes enough to contract out the aircraft needed to cover 100% of the historic daily maximum demand and an extra 20% for years when demand exceeds historic trends.

should be used exclusively for purposes of contracting additional aircraft support and would revert back to the General Fund if it is not used during the fiscal year.

Five facilities currently leased by the Division of Forest Resources can be eliminated once the size of the fleet is reduced. These facilities and annual savings are shown in Exhibit 17. Facilities to eliminate were identified based on three criteria:

- size of the hangar and number of aircraft that could be housed,
- location of the hangar to ensure geographic coverage, and
- excess capacity at current hangars.

Elimination of these five facilities could result in recurring cost savings of $26,060. To ensure geographic fire protection coverage across the state, the Division of Forest Resources may need to develop contingency plans for use of regional airports across the state during high fire season.

Exhibit 17

Five Division of Forest Resources Facilities Can Be Eliminated to Save the State $26,060 Annually

Division of Forest Resources Facilities to Eliminate	Annual Costs
Asheville Regional Airport in Fletcher	$ 3,600
Coastal Carolina Airport in New Bern	3,960
Richmond County Airport in Rockingham	4,200
Warren Field Airport in Washington	2,300
Whitfield Airstrip in Fairfield	12,000
Total	**$ 26,060**

Source: Program Evaluation Division based on cost data provided by state programs.

The Division of Forest Resources hangar at Columbus County Airport also could be eliminated because the Lumberton facility is less than 40 miles away. However, because this facility is owned by the division and costs $1 annually to lease the land, the savings gained from elimination would be negligible.

Each agency may have additional criteria to determine which specific aircraft and facilities should be eliminated based on, for example, special capabilities needed for a particular purpose. Similarly, agencies may need to consider whether they can fulfill mission requirements with the recommended reduction in fleet size and facilities. The General Assembly (or, if it is implemented, the Aviation Management Authority) should require these agencies to provide detailed explanations of the criteria used to identify specific aircraft and facilities for elimination and justification for eliminating fewer aircraft and/or facilities than recommended.

Appendices

Appendix A: Specifications for the 72 State Aircraft Operated in Fiscal Year 2008-09

Appendix B: U.S. Office of Management and Budget's *OMB Circular A-126, Improving the Management and Use of Government Aircraft*

Appendix C: Aircraft to Be Eliminated

Appendix D: Executive Summary of Conklin & de Decker's *Safety and Training Program Review* of the Division of Forest Resources, Aviation Branch

Appendix E: Alternative Recommendations

Agency Responses

A draft of this report was submitted to the University of North Carolina's Area Health Education Centers, Department of Commerce, Department of Transportation, Department of Environment and Natural Resources, Department of Crime Control and Public Safety, Department of Justice, and Wildlife Resources Commission to review and respond. Their responses are provided following the appendices.

Program Evaluation Division Contact and Acknowledgments

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Staff members who made key contributions to this report include Sean Hamel, Carol H. Ripple, Pamela L. Taylor, and Larry Yates. John W. Turcotte is the director of the Program Evaluation Division.

Appendix A: Specifications for 72 State Aircraft Operated in Fiscal Year 2008-09

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Area Heath Education Centers									
Beechcraft Baron BE/58G	N210CH	Twin engine airplane with retractable landing gear, seats 5	Passenger transport	285	$771	30	$119,000	$130,000	Horace Williams Airport Chapel Hill
Beechcraft Baron BE/58G	N212CH	Twin engine airplane with retractable landing gear, seats 5	Passenger transport	266	$881	29	$145,000	$130,000	Horace Williams Airport Chapel Hill
Beechcraft Baron BE/58G	N213CH[1]	Twin engine airplane with retractable landing gear, seats 3	Passenger transport	253	$868	28	$130,000	$95,000	Horace Williams Airport Chapel Hill
Beechcraft Baron BE/55G	N214CN	Twin engine airplane with retractable landing gear, seats 5	Passenger transport	253	$868	29	$110,000	$130,000	Horace Williams Airport Chapel Hill
Beechcraft Baron BE/58G	N215CH	Twin engine airplane with retractable landing gear, seats 3	Passenger transport	275	$1,066	31	$135,000	$135,000	Horace Williams Airport Chapel Hill
Beechcraft Baron BE/58G	N58PY	Twin engine airplane with retractable landing gear, seats 5	Passenger transport	244	$1,021	8	$554,144	$475,000	Horace Williams Airport Chapel Hill
Department of Commerce									
Cessna Citation C550/Bravo	N122NC	Twin engine jet airplane with retractable landing gear, seats 9	Passenger transport	251	$2,688	11	$4,600,300	$2,500,000	Raleigh-Durham Airport Raleigh
Sikorsky S-76C+	N121NC	Medium sized business helicopter, seats 7	Passenger transport	86	$5,357	11	$6,285,700	$5,100,000	Raleigh-Durham Airport Raleigh
Beechcraft King Air 200	N125NC[2]	Twin engine jet airplane with retractable landing gear, seats 10	Passenger transport	193	$2,258	27	$1,222,992	$1,100,000	Raleigh-Durham Airport Raleigh

[1] Aircraft sold in August 2009.

[2] Aircraft sold in October 2009.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Transportation									
Beechcraft B200	N3NC[3]	Twin engine turboprop airplane with retractable landing gear, seats 9	Passenger transport	27.5	$14,110	2	$4,275,000	$4,649,000	Raleigh-Durham Airport Raleigh
Cessna Conquest 421	N2NQ[4]	Twin engine turboprop airplane with retractable landing gear, seats 6	Aerial photography, Passenger transport	126	$1,518	27	$1,250,000	$1,040,000	Raleigh-Durham Airport Raleigh
Beechcraft C90GTi	N2NC[5]	Twin engine turboprop airplane with retractable landing gear, seats 6	Aerial photography	199	$3,832	1	$3,200,000	$2,934,000	Raleigh-Durham Airport Raleigh
State Highway Patrol									
Bell 407	N407NC[6]	Helicopter, seats 5	Law enforcement	224	$2,387	1	$3,600,000	$3,600,000	State Highway Patrol Maintenance Hangar Raleigh
Bell Jet Ranger	N123NC	Helicopter, seats 2	Law enforcement	150	$1,351	38	$135,000	$300,000	State Highway Patrol Maintenance Hangar Raleigh
Bell OH-58	N303HP	Helicopter, seats 2	Law enforcement	188	$882	39	$0	$300,000	Asheville Regional Airport Fletcher
Bell OH-58	N304HP	Helicopter, seats 2	Law enforcement	180	$1,545	39	$0	$300,000	Rowan County Airport Salisbury
Bell OH-58	N305HP	Helicopter, seats 2	Law enforcement	188	$1,397	38	$0	$300,000	Kinston Regional Jetport Kinston
Bell OH-58	N306HP	Helicopter, seats 2	Law enforcement	182	$1,405	38	$0	$550,000	Rowan County Airport Salisbury
Bell OH-58	N308HP	Helicopter, seats 2	Law enforcement	143	$1,029	38	$0	$400,000	Raleigh Duty Station Raleigh
Bell OH-58	N309HP	Helicopter, seats 2	Law enforcement	204	$1,155	39	$0	$550,000	Kinston Regional Jetport Kinston
Bell OH-58	N312HP	Helicopter, seats 2	Law enforcement	252	$1,192	41	$0	$400,000	Asheville Regional Airport Fletcher

[3] Average Flight Hours were based on FY 2008-09.

[4] Aircraft sold in January 2010.

[5] Average Flight Hours were based on FY 2008-09.

[6] Average Flight Hours were projected based on seven months of use in FY 2008-09.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
State Bureau of Investigation									
Beechcraft King Air C90	N500KR	Twin engine turboprop airplane with retractable landing gear, seats 7	Law enforcement	148	$1,591	33	$828,437	$650,000	Harnett Regional Jetport Erwin
Cessna 210R	N9057S	Single engine airplane with non-retractable landing gear, seats 5	Law enforcement	161	$855	23	$318,904	$250000	Harnett Regional Jetport Erwin
Cessna CT210R7	N60JM[7]	Single engine airplane with non-retractable landing gear, seats 5	Law enforcement	68	$2,036	24	$307,000	$250,000	Harnett Regional Jetport Erwin
Department of Environment and Natural Resources, Division of Forest Resources									
Beechcraft T34	N800Z[8]	Single engine airplane with retractable landing gear, seats 1	Fire control	48	$1,087	52	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Beechcraft T34	N8457[9]	Single engine airplane with retractable landing gear, seats 1	Fire control	4	$11,703	52	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Beechcraft T34	N93013	Single engine airplane with retractable landing gear, seats 1	Fire control	64	$817	56	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Canadair CL215	N215NC[10]	Twin engine propeller airplane, capable of scooping water from lakes, no passengers	Fire suppression	83	$4,667	41	$4,016,901	Limited market	Hickory Regional Airport Hickory
Cessna C172	N5182F	Single engine airplane with non-retractable landing gear, seats 1	Fire patrol	66	$778	44	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Cessna C182	N103NC	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	87	$774	10	$225,150	$143,000	Lumberton Municipal Airport Lumberton

[7] Average Flight Hours were projected based on five months of use in FY 2008-09.

[8] Average Flight Hours were based on FY 2006-07 and FY 2007-08.

[9] Average Flight Hours were projected based on FY 2007-08 and FY 2008-09.

[10] Average Flight Hours were based on FY 2006-07 and FY 2007-08.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Environment and Natural Resources, Division of Forest Resources (continued)									
Cessna C182	N920NC	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	51	$1,361	9	$253,400	$147,000	Division of Forest Resources Region 1 Headquarters Kinston
Cessna C182	N1712S	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	324	$258	6	$344,378	$170,000	Columbus County Airport Whiteville
Cessna C182	N22593[11]	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	122	$618	5	$384,200	$260,000	Division of Forest Resources Region 1 Headquarters Kinston
Cessna C182	N3521K	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	144	$797	8	$294,000	$150,000	Richmond County Airport Rockingham
Cessna C182	N42058	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	113	$719	11	$219,100	$139,000	Hickory Regional Airport Hickory
Cessna C182	N6492G	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	291	$338	7	$325,800	$165,000	Whitfield Airstrip Fairfield
Cessna C182	N9542W	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol, Photography	170	$420	12	$201,400	$139,000	Coastal Carolina Airport New Bern
Cessna C185	N735AX	Single engine airplane with non-retractable landing gear, tail dragger, seats 3	Fire patrol, Water quality	80	$812	24	$86,059	$183,000	Asheville Regional Airport Fletcher
Cessna C185	N735DN	Single engine airplane with non-retractable landing gear, tail dragger, seats 3	Transport (people & equipment)	109	$521	24	$86,059	$183,000	Division of Forest Resources Region 1 Headquarters Kinston

[11] Average Flight Hours were based on FY 2007-08 and FY 2008-09.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Environment and Natural Resources, Division of Forest Resources (continued)									
Cessna C185	N735EK	Single engine airplane with non-retractable landing gear, tail dragger, seats 3	Fire patrol, Photography	80	$1,586	24	$86,059	$183,000	Davidson County Airport Lexington
Cessna C206	N29FC[12]	Single engine airplane with non-retractable landing gear, seats 3	Fire patrol	37	$1,410	41	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Cessna C305A	N1833[13]	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Fire patrol, Photography	76	$72	44	$8,450	$110,000	Division of Forest Resources Region 1 Headquarters Kinston
Cessna L19	N150FS	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Fire patrol	71	$689	58	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Cessna L19	N4FS	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Fire patrol	91	$605	58	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Cessna L19	N64835	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Fire patrol	144	$386	58	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Cessna L19	N9623Q[14]	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Fire patrol	81	$28	58	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Dehavilland DHC2	De-Registered	Single engine airplane with non-retractable landing gear, seats 3	Salvage	-	-	54	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston

[12] Average Flight Hours were based on FY 2008-09.
[13] Average Flight Hours were based on FY 2006-07.
[14] Average Flight Hours were based on FY 2006-07.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Environment and Natural Resources, Division of Forest Resources (continued)									
Dehavilland DHC2	N90721	Single engine airplane with non-retractable landing gear, tail dragger, seats 3	Transport (equipment)	28	$1,817	57	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston
Melex M18A	N21525	Single engine airplane with non-retractable landing gear, tail dragger, can carry fire retardant to be dropped on fires, no passengers	Fire suppression	75	$1,703	15	$159,737	$130,000	Division of Forest Resources Region 1 Headquarters Kinston
Melex M18A	N2152X	Single engine airplane with non-retractable landing gear, tail dragger, can carry fire retardant to be dropped on fires, no passengers	Fire suppression	71	$1,945	15	$159,737	$130,000	Division of Forest Resources Region 1 Headquarters Kinston
Melex M18B	N40139	Single engine airplane with non-retractable landing gear, tail dragger, can carry fire retardant to be dropped on fires, no passengers	Fire suppression	60	$2,078	13	$179,073	$150,000	Division of Forest Resources Region 1 Headquarters Kinston
Piper PA 18-150	N4138Z	Single engine airplane with non-retractable landing gear, tail dragger, seats1	Fire patrol	20	$2,382	44	$8,865	$55,500	Division of Forest Resources Region 1 Headquarters Kinston
Piper PA31-350	N7854Q	Twin engine airplane with retractable landing gear, seats 4	Transport (people)	4	$12,301	32	Federally owned	Federally owned	Division of Forest Resources Region 1 Headquarters Kinston

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Environment and Natural Resources, Division of Forest Resources (continued)									
Rockwell S2R	N8431V[15]	Single engine airplane with non-retractable landing gear, tail dragger, no passengers	Fire suppression	25	$2,286	34	$62,494	$40,000	Division of Forest Resources Region 1 Headquarters Kinston
Snow S2C	N1623S	Single engine airplane with non-retractable landing gear, tail dragger, no passengers	Salvage	-	-	46	$15,425	Salvage	Division of Forest Resources Region 1 Headquarters Kinston
Bell UHIH	N382CJ	Helicopter, seats 9	Salvage	-	-	45	Federally owned	Federally owned	Hickory Regional Airport Hickory
Bell UHIH	N60124	Helicopter, seats 9	Fire control	104	$2,022	41	Federally owned	Federally owned	Macon County Airport Franklin
Bell UHIH	N6132N	Helicopter, seats 9	Fire control	57	$3,212	43	Federally owned	Federally owned	Hickory Regional Airport Hickory
Bell UHIH	N6132Z	Helicopter, seats 9	Fire control	85	$2,347	41	Federally owned	Federally owned	Asheville Regional Airport Fletcher
Bell UHIH	N81785	Helicopter, seats 9	Salvage	-	-	46	Federally owned	Federally owned	Hickory Regional Airport Hickory
Eurocopter As350B3	N350NC	Helicopter, seats 4	Fire suppression, Prescribed burning	91	$2,422	7	$2,323,800	$1,950,000	Division of Forest Resources Region 1 Headquarters Kinston
Eurocopter As350B3	N370NC[16]	Helicopter, seats 4	Fire suppression, Prescribed burning	46	$6,625	2	$2,545,240	$2,700,000	Lumberton Municipal Airport Lumberton

[15] Average Flight Hours were based on FY 2006-07 and FY 2007-08.

[16] Average Flight Hours were based on FY 2008-09.

Make/ Model	Tail Number	Description	Purpose	Average Flight Hours FY 2007-09	Cost per Hour	Age	Original Cost	Current Value	Location
Department of Environment and Natural Resources, Division of Marine Fisheries									
Aviat Husky	N49372	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Law enforcement	177	$291	14	$123,544	$105,000	Wilmington Regional Airport Wilmington
Cessna 182	N63921	Single engine airplane with non-retractable landing gear, seats 3	Law enforcement	154	$374	5	$330,722	$300,000	Michael J. Smith Airport Beaufort
Cessna 185	N735ED	Single engine airplane with non-retractable landing gear, seats 3	Law enforcement	253	$219	23	$127,650	$95,000	Michael J. Smith Airport Beaufort
Bell OH-58C	N431MP[17]	Helicopter, seats 3	Law enforcement	31	$273	41	Federal surplus	$190,000	Division of Marine Fisheries Headquarters Morehead City
Bell OH-58C	N433MP	Helicopter, seats 3	Law enforcement	98	$422	37	Federal surplus	$190,000	Division of Marine Fisheries Headquarters Morehead City
Bell OH-58C	N434MP[18]	Helicopter, seats 3	Law enforcement	18	$100	41	Federal surplus	$190,000	Division of Marine Fisheries Headquarters Morehead City
Wildlife Resources Commission									
Cub CC-18-Ranger	N65NC	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Law enforcement	269	$131	4	$186,748	$149,398	Foothills Regional Airport Morganton
Maule MXT-7-180	N3118K	Single engine airplane with non-retractable landing gear, seats 1	Law enforcement	191	$219	14	$107,136	$35,000	Triad Aviation Burlington
Maule MXT-7-180	N9232P	Single engine airplane with non-retractable landing gear, seats 1	Law enforcement	287	$139	18	$73,329	$35,000	Coastal Carolina Airport New Bern
Piper PA-18-150	N4181Z	Single engine airplane with non-retractable landing gear, tail dragger, seats 1	Law enforcement	55	$389	43	$23,308	$25,000	Wayne County Airport Pikeville

[17] Average Flight Hours were based on FY 2006-07.

[18] Average Flight Hours were based on FY 2007-08 and 2008-09.

Appendix B: U.S. Office of Management and Budget's *OMB Circular A-126, Improving the Management and Use of Government Aircraft*

Although cost data are not the only measures of the effectiveness of an agency's aircraft program, they can be very useful in identifying opportunities to reduce aircraft operational costs. These opportunities might include changing maintenance practices, purchasing fuel at lower costs, and the replacement of old, inefficient aircraft with aircraft that are more fuel efficient and have lower operations and maintenance costs.

The most common measures used to evaluate the cost effectiveness of various aspects of an aircraft program are expressed as the cost per flying hour or per passenger mile for certain types of aircraft costs. These measures may be developed using the Standard Aircraft Cost Elements and include, but are not limited to: maintenance costs/flying hour, fuel and other fluids cost/flying hour, accident repair costs/flying hour (or per aircraft), and variable cost/passenger mile.

VARIABLE COSTS

The variable costs of operating aircraft are those costs that vary depending on how much the aircraft are used. The specific variable cost elements include:

Crew costs - variable - The crew costs which vary according to aircraft usage consist of travel expenses (particularly reimbursement of subsistence (i.e., per diem and miscellaneous expenses), overtime charges, and wages of crew members hired on an hourly or part-time basis.

Maintenance costs - variable - Unscheduled maintenance and maintenance scheduled on the basis of flying time vary with aircraft usage and, therefore, the associated costs are considered variable costs. In addition to the costs of normal maintenance activities, variable maintenance costs shall include aircraft refurbishment, such as painting and interior restoration, and costs of or allowances for performing overhauls and modifications required by service bulletins and airworthiness directives. If they wish, agencies may consider all of their maintenance costs as variable costs and account for them accordingly. Otherwise, certain maintenance costs will be considered fixed as described in a subsequent paragraph. Variable maintenance costs include the costs of:

Maintenance labor - variable - This includes all labor (i.e., salaries and wages, benefits, travel, and training) expended by mechanics, technicians, and inspectors, exclusive of labor for engine overhaul, aircraft refurbishment, and/or repair of major components.

Maintenance parts - variable - This includes cost of materials and parts consumed in aircraft maintenance and inspections, exclusive of materials and parts for engine overhaul, aircraft refurbishment, and/or repair of major components.

Maintenance contracts - variable - This includes all contracted costs for unscheduled maintenance and for maintenance scheduled on a flying hour basis or based on the condition of the part or component.

Engine overhaul, aircraft refurbishment, and major component repairs - These are the materials and labor costs of overhauling engines, refurbishing aircraft, and/or repairing major aircraft components.

NOTE 1: In general, the flight hour cost is computed by dividing the costs for a period by the projected hours flown during the period. However, when computing the flight hour cost factor for this cost category, divide the total estimated cost for the activities in this category (e.g., overhaul, refurbishment and major repairs) by the number of flight hours **between** these activities.

NOTE 2: Separate cost or reserve accounts for engine overhaul, aircraft refurbishment, major component repairs, and other maintenance cost elements, may, at the agency's discretion, be identified and quantified separately for mission-pertinent information purposes. Reserve accounts are generally used when the aircraft program is funded through a working capital or revolving fund.

Fuel and other fluids - The costs of the aviation gasoline, jet fuel, and other fluids (e.g., engine oil, hydraulic fluids and water-methanol) consumed by aircraft.

Lease costs - variable - When the cost of leasing an aircraft is based on flight hours, the associated lease or rental costs are considered variable costs.

Landing and tie down fees - Landing fees and tie down fees associated with aircraft usage are considered variable costs. Tie down fees for storing an aircraft at its base of operations should be considered part of operations overhead, a fixed cost.

FIXED COSTS

The fixed costs of operating aircraft are those that result from owning and support the aircraft and that do not vary according to aircraft usage. The specific fixed cost elements include:

Crew costs - fixed - The crew costs which do not vary according to aircraft usage consist of salaries, benefits, and training costs. This includes the salaries, benefits, and training costs of crew members who also perform minimal aircraft maintenance. Also included in fixed crew costs are the costs of their charts, personal protective equipment, uniforms, and other personal equipment.

Maintenance costs - fixed - This cost category includes certain maintenance and inspection activities which are scheduled on a calendar interval basis and take place regardless of whether or how much the aircraft are flown. Agencies are encouraged to simplify their accounting systems and account for all maintenance costs as variable costs. However, if they wish, agencies may account for the following costs as fixed costs:

Maintenance labor - fixed - This includes all projected labor expended by mechanics and inspectors associated with maintenance scheduled on a calendar interval basis. This does not include variable maintenance labor or work on items having a TBO or retirement life.

This category also includes costs associated with unallocated maintenance labor expenses, i.e., associated salaries, benefits, travel expenses and training costs. These costs should be evenly allocated over the number of the aircraft in the fleet.

Maintenance parts - fixed - This includes all parts and consumables used for maintenance scheduled on a calendar basis.

Maintenance contracts - fixed - This includes all contracted costs for maintenance or inspections scheduled on a calendar basis.

Lease costs - fixed - When the cost of leasing an aircraft is based on a length of time (e.g., days, weeks, months, or years) and does not vary according to aircraft usage, the associated leased costs are considered fixed costs.

Operations overhead - These include all costs, not accounted for elsewhere, associated with direct management and support of the aircraft program. Examples of such costs include: personnel costs (salaries, benefits, travel, uniform allowances, training, etc.) for management and administrative personnel directly responsible for the aircraft program; building and ground maintenance; janitorial services; lease or rent costs for hangers and administrative buildings and office space; communications and utilities costs; office supplies and equipment; maintenance and depreciation of support equipment; tie down fees for aircraft located on base; and miscellaneous operational support costs.

Administrative overhead - These costs represent a pro-rated share of salaries, office supplies and other expenses of fiscal, accounting, personnel, management, and similar common services performed outside and the aircraft program but which support this program. For purposes of recovering the costs of operations, agencies should exercise their own judgement as to the extent to which aircraft users should bear the administrative overhead costs. Agencies may, for example, decide to charge non-agency users a higher proportion of administrative overhead than agency users. For purposes of A-76 cost comparisons, agencies should compute the actual administrative costs that would be avoided if a decision is made to contract out the operation under study.

Self-insurance costs - Aviation activity involves risks and potential casualty losses and liability claims. Theses risks are normally covered in the private sector by purchasing and insurance policy. The government is self insuring; the Treasury's General Fund is charged for casualty losses and/or liability claims resulting from accidents. For the purposes of analyses, government managers will recognize a cost for "self-insurance" by developing a cost based on rates published in OMB Circular No. A-76.

Depreciation - Depreciation represents the cost or value of ownership. Aircraft have a finite useful economic or service life. Depreciation is the method used to spread the cost of the purchase price, less residual value, over an asset's useful life. A-76 provides guidance on computing depreciation charges to be used in computing the fixed

costs of an aircraft or aircraft program. Although these costs are not direct outlays in the sense of most other aircraft costs, it is important to recognize them for A-76 cost comparison purposes and when replenishing a working capital fund by recovering the full cost of aircraft operations. Depreciation costs depend on aircraft acquisition or replacement costs, useful life, and residual or salvage value. To calculate the cost of depreciation that shall be allocated to each year, subtract the residual value from the total of the acquisition cost plus any capital improvements and, then, divide by the estimated useful life of the asset.

OTHER COSTS

There are certain other costs of the aircraft program which should be recorded but are not appropriate for inclusion in either the variable or fixed cost categories for the purposes of justifying aircraft use or recovering the cost of aircraft operations. These costs include:

Accident repair costs - These costs include all parts, materials, equipment and maintenance labor related to repairing accidental damage to airframes or aircraft equipment. Also included are all accident investigation costs.

Aircraft costs - This is the basic aircraft inventory or asset account used as the basis for determining aircraft depreciation charges. These costs include the cost of acquiring aircraft and accessories, including transportation and initial installation. Also included are all costs required to bring aircraft and capitalized accessories up to fleet standards.

Cost of Capital - The cost of capital is the cost to the Government of acquiring the funds necessary for capital investments. The agency shall use the borrowing rate announced by the Department of Treasury for bonds or notes whose maturities correspond to the useful life of the asset.

Appendix C: Aircraft to Be Eliminated

The Program Evaluation Division analyzed flight hours and fleet utilization by aircraft purpose within each aviation program to estimate the number of aircraft required to meet program missions. This appendix provides additional detail on the thresholds and analysis described in Finding 2. A flowchart depicting the three phases of this analysis is presented at the end of this appendix.

Phase One

This phase of the analysis consisted of the following steps:

1. The average annual flight hours by purpose within program was calculated using flight information from three fiscal years (2006-07, 2007-08, and 2008-09). Averages were adjusted to account for partial data.
2. This average was divided by the number of aircraft used for this purpose and was compared to the 200-hour benchmark.
3. If the hours per aircraft was greater than or equal to the 200-hour benchmark, aircraft were identified as meeting the 200-hour benchmark and were not recommended for elimination.
4. If passenger transport aircraft did not meet this 200-hour benchmark, aircraft were identified for elimination.
5. Law enforcement and resource protection aircraft that did not meet the 200-hour benchmark were analyzed in phase two based on patterns of daily use.

Exhibit C1 summarizes data examined in this phase. The right-hand column reflects the results for each purpose within programs.

Exhibit C1: Phase One of Elimination Analysis Based on Utilization

State Program	Aircraft Purpose	3-Year Annual Average Flight Hours	Current Fleet	Hours per Aircraft	Keep all Aircraft?	Next Analytic Step
Passenger Transport						
Area Health Education Centers	Passenger transport	1,607	6	268	Yes	None
Department of Commerce	Passenger transport	528	2	264	Yes	
Department of Transportation	Passenger transport	42	1	42	No	
Department of Transportation	Photogrammetry	214	1	214	Yes	
Law Enforcement						
State Bureau of Investigation	Law enforcement	503	3	168	No	Continue to Phase 2
State Highway Patrol	Law enforcement	1,711	9	190	No	
Wildlife Resources Commission	Law enforcement patrol	802	4	200	Yes	None
Division of Marine Fisheries	Law enforcement patrol	731	5	146	No	Continue to Phase 2
Division of Marine Fisheries	Salvage	0	1	0	No	
Resource Protection						
Division of Forest Resources	Fire control	358	6	60	No	Continue to Phase 2
Division of Forest Resources	Fire patrol	1,916	18	106	No	
Division of Forest Resources	Fire suppression	286	5	57	No	
Division of Forest Resources	Fire suppression/ prescribed burn	107	2	54	No	
Division of Forest Resources	Transport	141	3	47	No	
Division of Forest Resources	Salvage	0	4	0	No	

Source: Program Evaluation Division based on flight records provided by state programs.

Phase Two

This phase of the analysis consisted of the following steps:

1. The flight demand for each aircraft purpose within agency was determined by identifying the unique number of aircraft flown on any given day between July 1, 2006 and June 30, 2009.
2. The daily demand threshold was calculated by determining the number of aircraft used on 95% of flight days. This step eliminates outlier days that account for fewer than 5% of days in the three-year time period.

The daily demand threshold calculated for each program within each agency is shown in the right-hand column of Exhibit C2.

Exhibit C2: Phase Two of Elimination Analysis Based on Fleet Demand

State Program	Aircraft Purpose	Current Number of Aircraft	Number of Aircraft Needed to Meet Daily Demand Threshold
Law Enforcement			
Division of Marine Fisheries	Law enforcement patrol	5	3
Division of Marine Fisheries	Salvage	1	0
State Bureau of Investigation	Law enforcement	3	2
State Highway Patrol	Law enforcement	9	5
Resource Protection			
Division of Forest Resources	Fire control	6	3
Division of Forest Resources	Fire patrol	18	7
Division of Forest Resources	Fire suppression	5	4
Division of Forest Resources	Fire suppression/ prescribed burn	2	1
Division of Forest Resources	Transport	3	2
Division of Forest Resources	Salvage	4	0

Source: Program Evaluation Division based on flight records provided by state programs.

Phase Three

The third phase of the analysis evaluated the age of the aircraft that remained after phases one and two and applied availability rates identified by aviation consultants Conklin & de Decker:[1]

- at age 25, the average availability of aircraft is about 90%;
- at age 30, the average availability of aircraft is about 80%; and
- at age 35, the average availability of aircraft is about 50%.

This phase of the analysis consisted of the following steps:

1. The age of the aircraft not identified for elimination in phase two were examined.
2. If the aircraft age was 25 to 29 years old and the percentage of days flown was greater than or equal to 90% of all possible days, the fleet size was increased by 10% to allow for diminished reliability.
3. If the aircraft age was 30 to 34 years old and the percentage of days flown was greater than or equal to 80% of all possible days, the fleet size was increased by 20% to allow for diminished reliability.
4. If the aircraft age was 35 years old or older and the percentage of days flown was greater than or equal to 50% of all possible days, the fleet size was increased by 100% to allow for diminished reliability.

[1] Conklin & de Decker. *How Old is Too Old?* Retrieved March 31, 2010, from http://www.conklindd.com/Page.aspx?cid=1070.

Only the aircraft operated by the State Highway Patrol met this criteria (i.e., four of their five remaining aircraft are 38 years old or older and the fleet flew more than the 50% availability that can be expected due to its age). Exhibit C3 summarizes the results of this phase of the analysis.

Exhibit C3: Phase Three of Elimination Analysis Based on Aircraft Age

State Program	Aircraft Purpose	Age of Remaining Aircraft	Percentage of Days Flown During 3-Year Time Period (N=1,096)	Adjustment Needed to Account for Aging Aircraft?
Law Enforcement				
Division of Marine Fisheries	Law enforcement patrol	5, 14, 23	61.4%	No, all aircraft less than age 25
Division of Marine Fisheries	Salvage		0%	No
State Bureau of Investigation	Law enforcement	23, 24	33.7%	No, all aircraft less than age 25
State Highway Patrol	Law enforcement	1, 38, 38, 38, 38	75.5%	Yes, 4 aircraft greater than age 35 and fly more than 50% of days; require 4 additional aircraft to compensate
Resource Protection				
Division of Forest Resources	Fire control	41, 41, 52, 56	29.7%	No, all aircraft greater than age 30 but fly less than 50% of days
Division of Forest Resources	Fire patrol	5, 6, 7, 8, 9, 10, 11	67.2%	No, aircraft less than age 25
Division of Forest Resources	Fire suppression	13, 15, 15, 34	20.0%	No, 1 aircraft greater than age 30 but flies less than 80% of days
Division of Forest Resources	Fire suppression/ prescribed burn	2	11.8%	No, all aircraft less than age 25
Division of Forest Resources	Transport	24, 57	15.9%	No, 1 aircraft greater than age 35 but flies less than 50% of days
Division of Forest Resources	Salvage		0%	No

Source: Program Evaluation Division based on aircraft specifications and flight records provided by state programs.

Feasibility Review

The results of the analysis were reviewed for feasibility, and the following determinations were made:

- The analysis suggested the Division of Marine Fisheries should have three aircraft. The Division of Marine Fisheries grounded all three of their helicopters in August 2009 due to budget constraints and has been able to complete its flight missions without them. The division agrees that all three helicopters can be eliminated and the division can continue operating with three airplanes.
- The analysis suggested the Division of Forest Resources should have three fire control aircraft. The Division of Forest Resources uses two types of aircraft for fire control, airplanes in the eastern part of the state and helicopters in the western part of the state. Because these resources are region specific, the Program Evaluation Division determined the division should have two aircraft for each region and thus increased the number of fire control aircraft to four.

The results of all three phases of the analysis and the feasibility review are summarized in Exhibit C4.

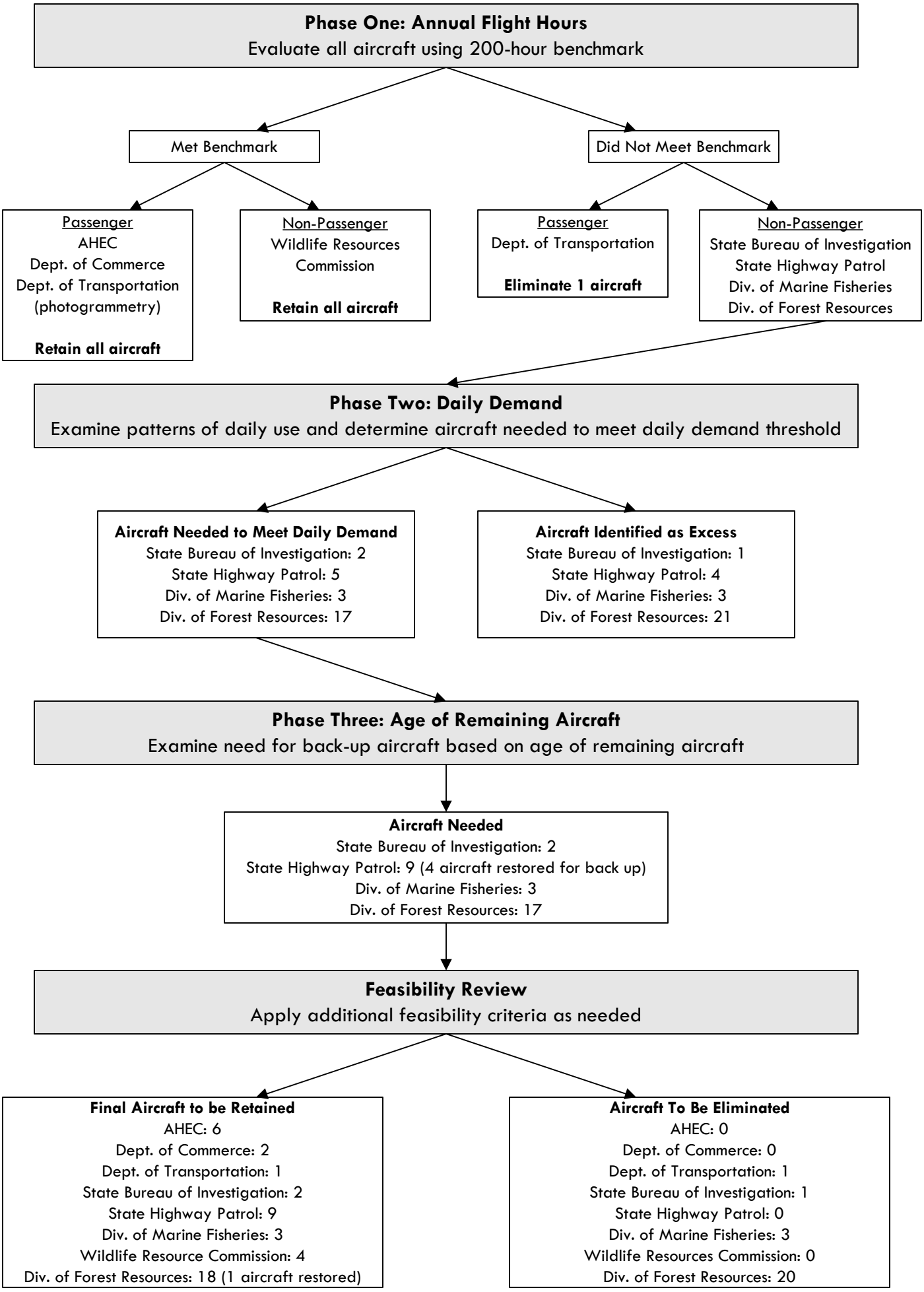
Exhibit C4: Summary of Aircraft to Eliminate

State Program	Aircraft Purpose	Number of Aircraft Needed to Meet Mission Requirements	Number of Aircraft to Eliminate
Passenger Transport			
Area Health Education Centers	Passenger transport	6	0
Department of Commerce	Passenger transport	2	0
Department of Transportation	Passenger transport	0	1
Department of Transportation	Photogrammetry	1	0
Law Enforcement			
State Bureau of Investigation	Law enforcement	2	1
State Highway Patrol	Law enforcement	9	0
Wildlife Resources Commission	Law enforcement patrol	4	0
Division of Marine Fisheries	Law enforcement patrol	3	2
Division of Marine Fisheries	Salvage	0	1
Resource Protection			
Division of Forest Resources	Fire control	4	2
Division of Forest Resources	Fire patrol	7	11
Division of Forest Resources	Fire suppression	4	1
Division of Forest Resources	Fire suppression/ prescribed burn	1	1
Division of Forest Resources	Transport	2	1
Division of Forest Resources	Salvage	0	4
Total		**45**	**25**

Note: The Departments of Commerce and Transportation have since sold one aircraft each.

Source: Program Evaluation Division based on flight records provided by state programs.

Flowchart of Three Phase Analysis for Aircraft Elimination



Appendix D: Executive Summary of Conklin & de Decker's Safety and Training Program Review

EXECUTIVE SUMMARY

The North Carolina Division of Forest Resources (NC-DFR) Aviation Branch conforms to most generally accepted standards of the industry. The Aviation Branch's operating priorities are: #1 - get the job done, #2 - minimize cost, and #3 - safety.

The findings in this report represent opportunities for increasing the level of safety in the air and/or on the ground. It is also an opportunity to improve compliance to regulations and aviation "Best Practices."

Of the 51 recommendations in this report, 13 recommendations concern administration, 10 are flight operations issues, and 28 are associated with maintenance. The following eighteen (18) findings require urgent action.

- Administration Finding
    - #12 indicates a lack of safety awareness that can be addressed by instituting a Safety Management System (SMS). It will take time to have a fully functioning SMS in the Aviation Branch. Since fire season is ahead, the SMS issue should be evaluated as soon as possible.
- Operations Findings
    - #3. The system for disseminating critical flight information needs to be in place before fire season begins. This is a safety of flight issue.
    - #8 and #9. Over 75% of the pilots assigned to Aviation East are not maintaining Night or Instrument Flying currency. Records were not retained for pilots in Aviation West. Inadvertent penetration of IMC (Instrument Meteorological Conditions) is frequently a threat and can be mitigated by maintaining currency before IMC is encountered. Night currency is a necessity per Aviation Handbook - Para 1.30. These are reasonable requirements and requalifications should be completed before fire season.
- Maintenance Findings
    - #10, #12, and #14. These three findings relate to improper storage of flammable materials and personnel smoking where solvents and fuel are present in the Kinston hangar. These should be rectified as soon as possible.
    - #11, #13, and #22. These three findings relate to the Hickory hangar where improper storage of flammable materials, clothing being stored with

accelerants, and six 55-gallon barrels of oil constitute a major fire hazard. These should be corrected as soon as possible.

- #19 and #21. These two findings relate to spare parts storage and traceability at Kinston. Approximately 90% of the spare parts are untraceable. This makes these parts suspected unapproved parts. If any of these parts are installed on an Aviation Branch aircraft, it jeopardizes the airworthiness of the aircraft. These parts need to be inspected and tagged for airworthiness status. If the airworthiness cannot be verified, the parts must be removed from the spare parts inventory as soon as possible. Airworthy spare parts storage must be secured to prevent suspected unapproved parts from entering the inventory.

- #23 and #24. These findings relate to the lack of tire cages at Kinston and Hickory. Tire cages are used to protect mechanics from serious injury caused during inflation of a tire if the wheel assembly fails. A tire cage should be acquired for Kinston and Hickory as soon as possible.

- #25. This relates to the avgas fuel truck at Kinston. The placard identifying the type of fuel in the truck's servicing tank is unreadable. NFPA 407 - Para 4.3.18 calls for signs to be located on the sides and rear of the truck with letters at least 3" high and be of a color that contrasts with the background. This prominent signage helps to reduce the probability of uploading the wrong fuel on the aircraft that would result in a catastrophic engine failure. This should be accomplished as soon as possible.

- #26, #27, and #28. These three findings relate to fuel system quality assurance within the Aviation Branch. Fuel is the lifeblood of the aircraft, therefore it should have a high safety priority. Extensive measures must be implemented and maintained to insure the proper type of fuel is uploaded, the fuel is free of contamination (debris, water, and bacterial growth), and has not exceeded its storage life. Although this is an extensive correction, it must be addressed as soon as possible.

There are other findings that need to be addressed, but they are not as time critical as those above.

Although the 51 findings in this report may appear overwhelming, it is important to recognize the Aviation Branch is a large organization with 28 employees flying 33 aircraft (13 different types) at 9 locations with urgent missions during fire season. This is a major challenge but can be managed if NC-DFR focuses on implementing the recommendations in this report and modernizing the Aviation Branch by:

1. Upgrading technology to reduce manual record keeping and improve accuracy. (Improves administrative efficiency.)

2. Decreasing the fleet to a manageable size to be flown and maintained. (Reduces maintenance costs.)

3. Reducing the number of different types of aircraft in the fleet. (Standardizes the fleet to reduce maintenance costs and spare parts inventory.)

4. Incorporating a Safety Management System to increase the level of safety awareness through employee participation in the safety process.

5. Institutionalizing SOP's and processes that contribute to a higher level of safety, efficiency, and mission effectiveness. This can be accomplished by revising the Policy and Procedures Manual to incorporate written standards.

It was clear to the audit team that the Aviation Branch has technically competent and skilled employees. The job now is to change the organization's priorities to: #1 - Safety, #2 - Get the job done, and #3 - Be cost effective.

Appendix E: Alternative Recommendations

The Program Evaluation Division recommends the creation of an Aviation Management Authority to oversee the management of all aircraft owned and operated by the state. Other options for consolidating the fleet were considered during this evaluation. These options are described below.

Alternate Recommendation 1a. The North Carolina General Assembly should direct the Department of Environment and Natural Resources to establish a Division of Aviation to oversee the department's aircraft programs. The division would oversee aircraft operations and maintenance, resulting in increased efficiency, centralized management and budgetary oversight, and cost savings to the state.

The division should determine how best to ensure safe and efficient operations of aircraft currently operated by the Divisions of Forest Resources and Marine Fisheries. The division would employ an executive director and other personnel.

The division would assume ownership, maintenance, housing, and overall management of all aircraft currently operated by the Department of Environment and Natural Resources, Divisions of Forest Resources and Marine Fisheries. Findings from the recent safety review conducted by Conklin & de Decker cited in this report, together with utilization and management information collected by the Program Evaluation Division, indicate immediate action is needed to ensure the safe and efficient operation of aircraft currently managed by the Division Forest Resources. In addition, the Division of Marine Fisheries also is housed in the department and efficiencies would be realized if one division oversaw both aircraft programs.

The new division within the Department of Environment and Natural Resources would have the following responsibilities:

- acquiring, operating, maintaining, housing, and disposing of department aviation assets;
- ensuring safety guidelines and requirements are met related to staff training and aircraft operations;
- determining the appropriate number and location of aircraft, personnel, hangars, and office facilities;
- adopting standardized, integrated electronic flight and maintenance data systems;
- conducting analyses to ensure efficient operation of transportation aircraft; and
- developing a long-term fleet management plan.

Alternate Recommendation 1b. The North Carolina General Assembly should direct the consolidation of all passenger transport services and photogrammetry in the Division of Aviation, Department of Transportation. The division would oversee aircraft operations, resulting in increased efficiency, centralized management and budgetary oversight, and cost savings to the state.

The division should determine how best to ensure safe and efficient operations of aircraft currently operated by the three state programs in North Carolina that provide passenger transport services. The division would have the following responsibilities:

- acquiring, operating, maintaining, housing, and disposing of state aviation assets;
- adopting air transportation guidelines to govern the use of state aircraft for transportation services, including appropriate use of state aircraft, passenger prioritization, scheduling responsibilities and procedures, and rate structures;
- providing centralized scheduling and aviation transportation services to state entities;
- ensuring safety guidelines and requirements are met related to staff training and aircraft operations;
- determining the appropriate number and location of aircraft, personnel, hangars, and office facilities;
- adopting standardized, integrated electronic flight and maintenance data systems;
- conducting analyses to ensure efficient operation of transportation aircraft; and
- developing a long-term fleet management plan.

The transfer of the passenger transport programs from the Department of Commerce and AHEC requires legislation mandating a Type I transfer. When part of an agency is transferred to another department under a Type I transfer, its statutory authority, powers, duties, functions (including budgeting and purchasing), records,

personnel, property, and unexpended balances of appropriations, allocations, or other funds are transferred to the other department.[1] All aircraft used exclusively for passenger transport that are owned and operated by the Department of Commerce and AHEC; facilities that house passenger transport aircraft; passenger transport personnel; and current funding would be included in the transfer. Aircraft currently operated by AHEC are not state property but are owned by Medical Air, Inc., a non-profit established to provide air services to AHEC. The authority would need to negotiate with AHEC regarding the transfer of these assets to the state.

This step could realize additional recurring savings by eliminating duplicative staff and administrative functions. In addition, the Division of Aviation would be able to develop an appropriate rate structure and ensure efficient use of aircraft. The division also should consider the appropriate mix of aircraft needed to complete passenger transport missions. For example, the Division of Aviation would determine whether it is cost effective to sell the Department of Commerce's helicopter because of its high operating cost and instead retain the Department of Transportation's twin engine airplane as a more efficient means of passenger transport.

Alternate Recommendation 1c. The North Carolina General Assembly should direct the establishment of the Division of Aviation Maintenance in the Department of Administration to oversee all aviation maintenance. The division would oversee aircraft maintenance, resulting in increased efficiency and cost savings to the state.

All aviation maintenance personnel and funding would be transferred to the new Division of Aviation. The division would employ an executive director and other personnel and have the following responsibilities:

- ensuring safety guidelines and requirements are met related to staff training and aircraft maintenance, in keeping with applicable rules and requirements;
- determining the appropriate location of maintenance facilities and personnel; and
- adopting standardized, integrated electronic flight and maintenance data systems.

The Division of Aviation Maintenance should establish centralized maintenance operations for all aircraft owned and operated by the state and extend information systems to all state aircraft. The authority should consider how best to consolidate maintenance, examining the number and location of facilities, establishing a system to track parts, and retaining mechanics.

Software systems have been developed to track flight information, aircraft maintenance, and inventory and to help schedule and forecast required maintenance. The Division of Aviation Maintenance should purchase a single system that can be used by all agencies with aircraft; this system would provide a single platform to analyze flight data statewide. This system could be piloted with the aircraft operated by the authority and then disseminated to other agencies.

This step could result in cost savings associated with purchasing parts and maintaining inventory as the maintenance supervisor would be able to negotiate with aircraft suppliers. It also has the potential to greatly increase the efficiency of aircraft overall. Most of the agencies that currently operate aircraft in North Carolina do not have integrated information systems that could facilitate efficient operations and improve safety. Given management shortcomings identified in this report, adopting a centralized information system is a critical step toward improving aviation operations.

[1] NC Gen. Stat. § 143A-6(a).

North Carolina
Department of Commerce

Beverly Eaves Perdue, Governor **J. Keith Crisco, Secretary**

March 29, 2010

Mr. John W. Turcotte, Director
Program Evaluation Division
North Carolina General Assembly
300 North Salisbury Street, Suite 100
Raleigh, North Carolina 27603-5925

RE: Department of Commerce Formal Response to the Evaluation of the State's Aircraft Fleet

Dear Mr. Turcotte:

Thank you for the opportunity to review and respond to the draft report containing potential findings and recommendations from your evaluation of the state aircraft fleet provided to our department on March 17, 2010. Below are some comments/reactions we have developed after reviewing your evaluation.

First and most importantly, we believe there is a unique distinction between providing day-to-day passenger service and using the department's aircraft in its intended purpose supporting the state's economic development program. The department's aircraft, a helicopter and business jet, complement each other transporting senior company executives conducting site and community reviews. These aircraft are requirements to maintain North Carolina's competitive advantage in today's intense economic development site selection process.

Companies willing to create new jobs and investment in North Carolina operate on increasingly tight decision timeframes and typically have a limited amount of time to visit communities and/or sites. The only way for the state to expose these decision-makers to the maximum number of communities across the state, in the time allowed, is to use the state aircraft. Commerce's aircraft are critical marketing tools needed for recruiting companies to locate to North Carolina, creating jobs for our citizens and increasing the tax base.

The aircraft are managed as a whole entity not as individual pieces of equipment; every flight has the potential to make a direct impact on citizens of this state. We should not judge how often an aircraft flies, but the results it produces for the State of North Carolina. When the aircraft are used for their intended purpose, there are many success stories, here are several recent examples:

- Spirit AeroSystems will create 1,000 jobs, invest $570 Million in its Lenoir County facility
- Siemens Energy will add 825 jobs, invest $135 Million in Mecklenburg County
- Celgard will create 200 jobs, invest $59 Million in Concord and create 80 jobs, invest $31 Million in Charlotte
- IEM will create 430 jobs relocating their headquarters to Durham County
- Kennametal will create 70 new jobs, invest $14 Million in their Asheboro plant

In addition, the department helicopter flew Nights in Rodanthe production executives on a low-level aerial survey along the Outer banks for film locations which an airplane could not have accomplished.

Whether it is a Fortune 500 company or Film Studio, clients expect to fly over a site at a low altitude to get a better perspective of the topography and neighboring land uses, a perspective that is simply not available from the ground, the state's helicopter is the aircraft of choice.

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The department typically flies senior company executives who normally have Key Person Life Insurance to protect the company against a sudden and unexpected death. These policies place restrictions on these executives for high-risk activities and may require them to fly on aircraft operated with two pilots, two engines and aircraft age restrictions. The Commerce Department operates with two pilots, two engines and state of the art aircraft to ensure we comply with any company executive travel insurance restrictions.

We agree with your report that the legislation passed in 2009 restricting state agencies from flying on our department's aircraft had untended consequences, these restrictions need to be lifted. Also, efficiencies in maintenance consolidation needs to be studied by a team to ensure aircraft safety and on-time aircraft takeoff reliability is a top priority and inspections/heavy maintenance are accomplished on time.

We agree with the report that aircraft are important tools to help agencies meet their goals. It cannot be emphasized enough that for the state to maintain a global competitive edge in job recruitment for the people of North Carolina, the state's Economic Development team must have immediate and priority access to the state's business jet and helicopter to ensure the state can respond to companies interesting in creating jobs and investment opportunities in North Carolina. Therefore, it is in the state's best interest to leave Commerce's aircraft under the direct operational control of the North Carolina's lead Economic Development agency.

The technical response was provided to Ms. **Catherine Moga Bryant of your staff. If you need additional information, please do not hesitate to contact Ms. Rita Harris, Legislative Liaison, at 715-2785 or rharris@nccommerce.com**

Sincerely,

J. Keith Crisco

CC: Britt Cobb, Governor's Office
Dale Carroll, Department of Commerce
Joe Fitzpatrick, Department of Commerce
Kevin McLaughlin, Governor's Office
Denise Sessoms, Department of Commerce

North Carolina Department of Crime Control and Public Safety

Beverly Eaves Perdue, Governor — Reuben F. Young, Secretary

April 16, 2010

Dr. John W. Turcotte
Program Evaluation Division
North Carolina General Assembly
300 North Salisbury Street
Suite 100
Raleigh, NC 27603

Reference: Formal Response to Preliminary Findings of the Study on State-Owned Aircraft

Dear Mr. Turcotte:

The Department of Crime Control and Public Safety would like to thank the Program Evaluation Division for the hard work conducted on the evaluation of the state aircraft fleet. We look forward to working with the Division and the General Assembly to ensure the most efficient use of state resources occurs during these tough economic times.

The mission of the State Highway Patrol (SHP) is to ensure safe, efficient transportation on our streets and highways, reduce crime, protect against terrorism, and respond to natural and man-made disasters. This mission is accomplished in partnership with all levels of government, on a daily basis. The Highway Patrol's Aviation Unit is a critical component of those partnership efforts. We have saved numerous lives by participating in missing person searches, fugitive chases, and disaster response missions. These successes have been possible through the dedication of the Highway Patrol command staff and its support of the Aviation Unit. The SHP Aviation Unit is the only statewide airborne law enforcement unit that is available 24 hour a day / 7 days a week. The SHP Aviation Unit's ability to conduct operations day and night using thermal imaging systems, powerful spotlights, night vision goggles and other special mission equipment show the unique characteristics of the unit and their ability to perform missions with unwavering dedication to the state.

The Department is pleased that the report demonstrates that the SHP uses good management practices, maintains adequate staffing for the amount of hours flown, and ensures they are good stewards of state resources through proper budget management. The Aviation Unit is guided by comprehensive airborne law enforcement policies and procedures which include a Safety Management System (SMS) for the unit and a rescue Standard Operating Guideline (SOG). The documents and practices praised in the report are used by the SHP Aviation Unit exclusively.

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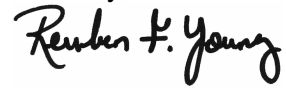
Due to the unique nature of this work, the inherent danger associated with such operations, and the need to respond immediately to calls for service, it is the position of our Department that distributing oversight and management functions among several divisions will create neither efficiency nor effectiveness within airborne law enforcement operations. We are happy to share data pertaining to mission logs, costs, and other information that is a matter of public record with the Department of Transportation (or any other state agency) at any time. We do not feel that giving DOT authority to manage a law enforcement function is in the best interests of the people of North Carolina.

During the 2009 Legislative Session, the General Assembly deemed it prudent to transfer a law enforcement division from the Department of Administration (State Capitol Police) to our Department, citing the inherent need for law enforcement services to be managed by a Department created for the purpose of promoting public safety. Law enforcement agencies deal with 24-hour schedules, arrest proceedings, and highly emotional encounters with the public. For this reason, the Secretary of Crime Control and Public Safety and the Highway Patrol Commander are the most qualified to supervise the Highway Patrol's Aviation program. As noted, the goal of the SHP Aviation Unit is to support the entire law enforcement and emergency response community throughout the state. This type of collaboration is best accomplished through efficient use of resources that are coordinated through one, public safety-oriented department.

After reviewing the study it is our interpretation of your report, that the evaluation team did not prefer the practice to consolidate law enforcement agencies with other agencies due to the unique aspect of our core mission – to protect and serve the citizens of North Carolina. A consolidation plan of this type would have to address a number of complex issues which are fundamentally challenging. These include but are not limited to: training mechanics on specific aircraft, priority of maintaining aircraft for public safety missions, scheduling of aircraft maintenance to ensure multiple aircraft are not out of service at the same time, an emergency response capability 24 hours a day / 7 days a week, a parts acquisition process limited to law enforcement agencies for surplus military aircraft parts and aircraft through a reduced price federal program, a computerized maintenance system embedded within the SHP mainframe computer considered law enforcement sensitive, a chain of command for uniformed members conducting law enforcement operations, a quality control process that ensures law enforcement sensitive missions are flown by current members of the unit who have gone through comprehensive background checks to ensure the missions will not be compromised.

In conclusion, the Department of Crime Control and Public Safety is pleased that the Performance Evaluation Division recognizes the valuable work of the SHP Aviation Unit. The Department looks forward to working with the Performance Evaluation Division, the General Assembly, the Governor, her cabinet, and the Council of State in achieving what we all want which is to minimize the cost of providing our citizens a safe and prosperous North Carolina while ensuring the citizens of this great state are always protected.

Sincerely,



Reuben F. Young
Secretary

RFY/ctw

cc: Colonel W. Randy Glover, Highway Patrol Commander

NCDENR
North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary
David Knight, Asst. Secretary Natural Resources

April 20, 2010

John W. Turcotte, Director
Program Evaluation Division
Legislative Services Office
300 N. Salisbury St., Suite 100
Raleigh, NC 27603-5935

Dear Mr. Turcotte,

On behalf of Secretary Freeman and the Department of Environment & Natural Resources (DENR), I am responding to the April 2010 Program Evaluation Division's findings and recommendations relating to the number, use, and effectiveness of state aircraft, and specifically how it relates to the Division of Marine Fisheries (DMF) and Division of Forest Resources (DFR) aviation programs. We appreciate your continued willingness to work with DENR to find the best way to provide the necessary missions of DENR's aviation programs.

Both DMF and DFR provide essential and unique services to the State of North Carolina. The bottom line for these two programs is that they need to be able to be in perpetual operational readiness, and have immediate response times. Both divisions appreciate the opportunity to respond to the April 2010 final Aviation Program Evaluation (APE) report.

DMF Response

Finding 1. Of the 72 aircraft operated by state programs, 79% flew fewer than 200 hours per year, half flew less than 100 hours, and some were not used at all.

DMF was under the 200 and 100 hour flying thresholds during the three years of this study for the following reasons:

1. In fiscal year 2008-2009, DMF deliberately reduced the number of flight hours per pilot due to budget restrictions. This occurred in all operations, not just air patrols.
2. During FY2008-2009, one pilot reached retirement age and had reduced flying hours during the last half of that year. DMF is in the process of hiring a pilot for fill the vacant position.

Recommendation 1. The North Carolina General Assembly should direct the establishment of the Aviation Management Authority.

DMF agrees with the benefits of state-wide oversight of maintenance operations and information management for all aircraft owned and operated by the state. Coordinated oversight of maintenance activities may increase safety and reduce cost, especially for maintenance currently conducted through private vendor contracts. Costs can fluctuate and are difficult to forecast. Although DMF agrees with this recommendation, oversight must be coordinated and streamlined to reduce potential impacts on operational readiness that is 24 hours, 7 days a week.

DMF acknowledges the recommendation that non-passenger transport aviation programs will support the Aviation Management Authority through payment of 3% of the total division's aviation program budget. Depending on how maintenance is coordinated and paid (e.g., will it be included in the 3% or in addition to), this 3% may be a cost savings or it may be an additional cost. If the cost ends up being higher than 3%, DMF may have difficulty paying.

Recommendation 2. The North Carolina General Assembly should eliminated 25 aircraft and five facilities.

DMF agrees with elimination of the three helicopters. DMF agrees that law enforcement air patrol missions can be maintained with the three fixed wing aircraft.

In closing, DMF thanks the Program Evaluation Division for this opportunity to comment on the aviation program evaluation and recommendations and looks forward to improving operation of aviation program for safety, effectiveness, and efficiency.

DFR Response

The DFR is mandated by the North Carolina General Statutes to detect and suppress all forest fires under the jurisdiction of the state. DFR accomplishes this mandate through the use of ground and aerial resources. DFR first used an airplane in support of fire control in 1948 and purchased its first airplane in 1953. DFR has operated a safe and effective aviation program at current fleet levels since 1985. This aviation program has helped North Carolina develop aggressive initial fire attack strategies that allow the state to have one of the lowest fire size averages in the nation. DFR has a variety of aircraft that fill a role in ensuring that we maintain the ability to keep fire sizes at a minimum.

North Carolina is a high fire danger state. We experience a large number of wildfires every year. We also experience large, complex, expensive fires and fires that threaten a large number of homes and properties. Nationally, North Carolina ranked third, fifth, and fourth in 2007, 2008 and 2009 respectively, for the most number of wildfires in a state. The number of houses protected/threatened during this three-year period exceeded 16,000 homes valued at over $2.2 billion. The average fire size for the 3-year time period was the third best (meaning smallest) for states that had 3,000 or more fires for each of the three years. A combination of ground and aerial resources are required to provide for the safety of firefighters and the general public while minimizing losses of forestland, homes, and personal property to wildfires.

The United States Forest Service and the University of Wisconsin-Madison reported that North Carolina has the most area (13 million-plus acres) of any of state designated as wildland and urban interface (WUI) – where homes are at risk from wildfire. This same study concluded that North Carolina ranked fifth in the nation for the number of homes (2.3 million) within the WUI[1].

The APE uses flight hours and patterns of daily usage to determine efficiency and make recommendations for fleet and facility cuts. DFR flight hours were lower than normal during the study period because of a budget reduction policy that deliberately reduced flying for non-emergency purposes to save money. In addition, variables other than flight hours and patterns of daily usage need to be considered to ensure that our fire-fighting ability is not diminished due to a reduction in the DFR's aviation fleet and program. We must plan and prepare for a worst case scenario to ensure that we have adequate aviation resources available and that these resources are positioned appropriately to accomplish this emergency mission. Response time and initial attack preparedness should be considered. Some of the aircraft used by DFR are special purpose aircraft that only fly for fire control. For example, our single engine air tankers, which are used to drop retardant on fires, fly an average of 100 hours per plane during a normal fire season year. During a below normal fire year they obviously fall below the 100-hour efficiency standard used in the APE, but they are a crucial part of the reason that North Carolina has a very low average fire size. They are also a crucial resource, even in below normal fire years, for keeping small fires from becoming large very expensive fires.
A better measure of efficiency for a wildland fire fighting aviation fleet may be to look at cost per number of fires, cost per average fire size, cost per homes protected, etc. Use of a flight hour standard alone and daily usage do not appropriately address how many aircraft DFR needs to ensure that we maintain our current level of response to wildland

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[1] The Wildland-Urban Interface in the United States; V. C. RADELOFF,1; R. B. HAMMER,2; S. I. STEWART,3; J. S. FRIED,4; S. S. HOLCOMB,1; AND J. F. MCKEEFRY1; 1. *Department of Forest Ecology and Management, University of Wisconsin-Madison, 1630 Linden Drive, Madison, Wisconsin 53706 USA;* 2. *Department of Rural Sociology, University of Wisconsin-Madison, Madison, Wisconsin 53706 USA;* 3.*USDA Forest Service, North Central Research Station, Evanston, Illinois 60201 USA;* 4. *USDA Forest Service, Pacific Northwest Research Station/FIA, Portland, Oregon 97205 USA*

fire in North Carolina. Many variables need to be considered to ensure that our fire-fighting ability is not diminished due to a reduction in the DFR's aviation fleet and program. We do not feel that the APE adequately addresses all of the appropriate variables to determine how the DFR aviation program should proceed to measure or achieve efficiency.

DFR recognizes the need to ensure that we are operating a safe, effective and efficient aviation program. We began discussions concerning an independent aviation review in 2008 and secured funding in 2009 to commission a third party review. Conklin & de Decker, an aviation consulting firm that specializes in wildland fire aircraft, was approved to conduct the study. The study is currently evaluating DFR's wildland fire aviation resources and programs and will provide a report that should address DFR's aviation needs for the next 20 years focusing on the following seven areas at a minimum.

1. Aircraft to meet current and projected emergency response as indicated by legislative mandates with respect to wildland fire but also with assisting with non-fire emergencies such as hurricanes, floods, etc.
2. Staffing levels
3. Safety program
4. Training program
5. Maintenance program
6. Infrastructure (hangars, airbases, etc.)
7. Efficiencies (consolidation of facilities, etc.)

All work is currently on schedule for this contract, which will expire August 1, 2010. DFR feels that the Conklin & de Decker report will provide a more comprehensive look at the DFR aviation program than the APE, and therefore will be a better decision-making tool. DFR recommends that no changes to the DFR aviation program be implemented until the Conklin and de Decker report is finalized and the report recommendations considered.

We will now address specific sections and recommendations of the APE.

Exhibit 8: Patterns of Daily Use among Non-Passenger Transport Aircraft

This table in the APE outlines the number of aircraft required to meet the "daily demand threshold." It is difficult to determine the daily demand threshold for fire occurrence, when it is dictated by weather, fuel conditions, human behavior, and other factors that are not easily predictable. DFR must plan and prepare for a worst case scenario. DFR has gradually built its aviation fleet over many decades based upon historic fire occurrence. Even with this historical background there are not always enough aircraft to meet the fire response need due to the unpredictability of fire occurrence. Reducing the aviation fleet that is designed to detect and suppress wildfires across the entire state – over 18 million acres – is analogous to eliminating fire departments because they do not respond to an established number of fire calls. This may be attractive from a budgetary perspective, but it is a disservice to the citizens that reside in the area protected by those fire departments.

Recommendation 1: The North Carolina General Assembly should direct the establishment of the Aviation Management Authority

If this authority is created, DFR should have representation on it to ensure the mission and requirements of its aviation program are met and understood by the Authority. DFR agrees that a more comprehensive management information system (MIS) is needed to track operational and maintenance practices.

Year One

First task – DFR can support this task and is willing to eliminate its passenger transport aircraft.

Second task – DFR is currently addressing this issue. DFR began internal discussions in 2008 for a comprehensive evaluation of the aviation program with outcomes to improve safety and efficient and cost effective operations. The

Conklin & de Decker Safety and Training report stated: "It was clear to the audit team that the Aviation Branch has technically competent and skilled employees." The purpose now is to provide better tools to enhance the operation of the aviation program and employees' skills; exactly what this report is helping DFR address. The recommendations in the Conklin & de Decker Safety and Training report have been reviewed and action items identified. DFR will provide quarterly reports to the Department to ensure recommendations are discussed and action is taken to implement as approved.

Third task – DFR is addressing this task by utilizing the Conklin & de Decker evaluation of the aviation program as a basis. This evaluation will assist the Department and DFR with planning for the future of the program and to address current needs.

Fourth task – DFR would like to discuss this task further to ensure the policies and programs developed/used meet the needs of the DFR's special purpose mission, specifically fire control. This is very different from transportation services.

Year Two

First task - DFR is willing to agree to some of the tasks listed, but other tasks should be discussed once the Conklin & de Decker report is finalized.

Second task - DFR is open to discussions on this matter but it must be realized that some DFR mechanics have dual roles in their job. The helicopter mechanics also operate as the crew chief when the helicopter is in flight. It must be noted that during times of high fire danger DFR's aircraft must be given high priority for maintenance. There are times when DFR's mechanics have worked through the night to get aircraft back in service and ready to respond to fires for the next operational period.

Recommendation 2: The North Carolina General Assembly should eliminate 25 aircraft and five facilities DFR concurs that there are opportunities to reduce fleet size. This is one area that the aviation consultant, Conklin & de Decker, hired by the DFR is exploring. This consultant specializes in evaluating an aviation program used for wildfire detection and suppression. DFR has tentatively identified 10 aircraft that can be eliminated from the fleet at this time. However, DFR recommends that any decisions made with respect to fleet size and type of aircraft needed for fire control wait until the evaluation of DFR's aviation program is completed by Conklin & de Decker. This evaluation will assist the Department and DFR in determining aviation needs now and into the future.

DFR does not agree with the facility reduction recommendations by the APE. DFR is in the process of eliminating hangars in Franklin and Washington. However, additional reductions in facilities will adversely affect the response time for aircraft to reach the area where they are needed.

Other avenues of obtaining aviation resources for fire control have been used by the DFR to supplement the aviation fleet in times of severe fire danger and activity. However, these avenues are costly and limited.

- The N.C. National Guard (NCNG) helicopters are not primarily set up, nor are the pilots trained, for aerial wildfire control operations. The NCNG helicopters are generally not available for initial wildfire attack when homes are threatened or lives are in danger, but can be available within 24 hours of the initial request if they have not been called to duty at other locations.

Private contractors are a limited resource nationwide, and are typically very expensive. To contract one air tanker similar to the air tankers DFR has in Kinston would cost about $ 235,000 for a 90 day contract whether it flew or not. This is an average based upon four contractors that have a contract with the Department of the Interior (DOI) for fighting forest fires[2]. None of the contractors are located in North Carolina or adjoining states and per diem would need to be

[2] 3/1/2010 DOI On Call Single Engine Air Tanker Contract Information

included in the cost. To contract three air tankers similar to the ones DFR owns would cost over $700,000 for 90 days.

- Interstate Compacts are enacted when a state's capacity has been exceeded in response to wildfire activity but these resources are not always available when needed. In addition, if compact aircraft were available their response time would not allow for use on initial attack. David Frederick, Fire Director of the Southern Group of State Foresters, stated in an email on April 8, 2010 to the Program Evaluation Division, "*...in relation to use of the Southeastern Forest Fire Compact aviation resources it is important to remember that periods of high fire occurrence are usually weather driven affecting numerous states or the whole region which may make help from other states unavailable during times of need. Even if aviation resources are available from another state there is a time lag between ordering resources and them arriving which could adversely impact initial attack and rapid initial attack is the key to keeping fires small and limiting damage.*"

Appendix E: Alternative Recommendations

1a. DFR does not recommend establishing a Division of Aviation in DENR. A better option may be to hold quarterly meetings between DFR, DMF and DENR to discuss/review aviation operations. This will not require the establishment of a new division within DENR and associated personnel/operating expenses that go along with a new division.

1b. DFR can support this recommendation but DFR does not have aircraft used for passenger transportation. Additional personnel in the aircraft are there as part of a specific mission. Aircraft are used to transport firefighters to fires, equipment/supplies to firefighters, etc.

1c. DFR is open to discussions on this matter but it must be realized that some DFR mechanics have dual roles in their job. The helicopter mechanics also operate as the crew chief when the helicopter is in flight. It must be noted that during times of high fire danger DFR's aircraft must be given high priority for maintenance. There are times when DFR's mechanics have worked through the night to get aircraft back in service and ready to respond to fires for the next operational period.

Sincerely,

David W. Knight
Assistant Secretary for Natural Resources

One NorthCarolina *Naturally*

NORTH CAROLINA
STATE BUREAU OF INVESTIGATION
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ROY COOPER
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ROBIN P. PENDERGRAFT
DIRECTOR

April 20, 2010

John W. Turcotte, Director
Program Evaluation Division
Legislative Services Office
NC General Assembly
300 N. Salisbury Street, Suite 100
Raleigh, NC 27603-5925

Dear Mr. Turcotte:

The State Bureau of Investigation sincerely appreciates the opportunity to provide feedback and additional information to help the Program Evaluation Division (PED) staff better understand the unique law enforcement mission provided by the State Bureau of Investigation Air Wing to all law enforcement across this state. Our response will address the primary law enforcement concerns in PED report No 2010-04 and supply information to provide a thorough account of SBI Aircraft operations during the period covered in the report.

We were aware that the PED would recommend sale of one of the Cessna aircraft, a recommendation we oppose as detailed below. However, the most recent report causes us even more concern with the proposed sale, instead, of the SBI Air Wing King Air. It is our view that the loss of this larger aircraft would undermine the SBI's critical role in rapid deployment and anti-terrorism response across North Carolina.

The law enforcement missions and investigations assigned to the SBI Air Wing are uniquely sensitive and require experienced, specially trained Agent Pilots. Those agents are selected for the assignment based on aviation and investigative training, expertise, education, experience, skill, judgment, and performance. The missions and investigative responsibilities are unlike the passenger transport functions provided by other units of state government.

The SBI Air Wing, when fully staffed, has three SBI Agent Pilots, three aircraft and an approximate annual cost of $449,550 for service to the entire state. It provides the primary investigative function and coordinates the statewide multi-agency Domestic Cannabis Eradication and Suppression Program (DCE/SP) which is conducted annually in North Carolina. Through the work of the SBI Air Wing, the state was able to secure nearly $325,000.00 in federal funds in 2009 ($375,000.00 for 2010) to eradicate illegal drugs across North Carolina in conjunction with local sheriffs' offices and other law enforcement personnel. North Carolina is

generally in the top five states for large-scale illegal drug growing operations. Without this relatively modest state investment of $449,550 for the SBI Air Wing the federal funds may not be available to North Carolina. North Carolina is on track to receive more than $700,000.00 over the next two years in federal funds to eliminate illegal drugs in North Carolina, an investment that is valued by local communities and law enforcement seeking to rid their communities of illegal drugs and the violent crime that accompanies the drug trade.

In the Program Evaluation Division's Initial Draft Report No. 2010-04, PED recommended the sale of one of the SBI's single engine Cessna aircraft. In our formal response we noted that its sale will negatively impact statewide drug eradication efforts and the federal funds the SBI is able to secure to combat illegal drugs. The SBI Air Wing has sold two single engine Cessna aircraft in the last two years and has made every effort in the challenging state budget crisis to make efficient use of both state and federal dollars to conduct its law enforcement missions. Moreover, we shared that due to a retirement of a SBI Agent Pilot the Unit operated with only two trained SBI Agent Pilots but expects the new SBI Agent Pilot to assume his full flight responsibilities in August 2010. With this information, PED reconsidered its recommendation to sell one of the two remaining single engine Cessnas utilized for drug eradication, aerial surveillance and other law enforcement missions.

Now, in this subsequent final report PED recommends the sale of the SBI's twin engine King Air aircraft. The State Bureau of Investigation has a dual aviation mission which supports the two Cessna aircraft for Marijuana Eradication and surveillance operations. However, equally as critical is the role and use of the twin engine King Air aircraft. In a post 9-11 world of heightened state law enforcement readiness around the clock, it is critical to be able to rapidly deploy our SBI Special Response Team (SRT/SWAT), SBI Bomb Squad, SBI hostage negotiation teams, to conduct prisoner extradition, and to deploy specialized agents to crime scenes anywhere across this state. The single engine (2) Cessnas have neither the capacity nor the room to deploy these rapid response teams or conduct prisoner extradition.

The SBI Air Wing operations are an important resource for the State's Terrorism Response Plan. Due to the Law Enforcement mission associated with the Homeland Security initiatives the SBI Air Wing is heavily integrated into the state fusion center operations (the Information Sharing And Analysis Center, known as ISAAC/State Terrorism Intelligence and Response Unit). State law enforcement in conjunction with local law enforcement will be the first responders in any major criminal and/or terrorist event much like state and local emergency management are when natural disasters like hurricanes strike NC.

Much like first responders during natural disasters, the SBI must be prepared to respond to violent criminal or terrorist incidents quickly and effectively with a fully trained law enforcement team. The SBI has an established relationship with the FBI and other federal agencies and participates in joint operations. This is a critical partnership that at times necessitates rapid deployment by our agency for specific and sensitive investigative matters. The SBI pilots who fly the King Air as well as the Cessna aircraft are ready to conduct interviews or make arrests throughout the state. Because the SBI has statewide jurisdiction agents are uniquely positioned to carry out their law enforcement duties wherever they land, including searches, interrogations, serving warrants and making arrests as necessary.

As a metric for the recommendation, PED calculates that 200 flight hours per year is an appropriate business aircraft threshold. The sources referenced indicate that the 200-flight-hour standard applies to business aviation. SBI offers that there is a fundamental difference between business aviation and law enforcement aviation. Moreover, prior to the severe budget crisis, the SBI King Air flew 199.5 hours. As the budget environment worsened the SBI instituted budget management measures in an effort to stretch operational funding. In the last three years, the King Air flew on average 148.2 hours per year. This span of time was during a period of tight budgets and the SBI was making concerted efforts to reduce costs. In addition, the SBI was short one pilot due to a retirement. The new SBI pilot will graduate the SBI Academy in May and will be flight ready in 2010.

For these reasons the State Bureau of Investigation would respectively oppose the sale of the twin engine King Air. This 1976 aircraft was purchased with Federal Asset Forfeiture Funds, not state funds, in 1997 for $600,000. In this report PED estimates the sale of the 1976 King Air aircraft would sell for $650,000 in this depressed economic environment. We respectfully disagree and note that the sale of the King Air would negatively impact the critical role that the SBI performs in protecting the citizens of North Carolina.

We appreciate the opportunity to provide constructive feedback to the Program Evaluation Division concerning this important endeavor. Furthermore, we wish to commend your staff for the professionalism in which they approached this very difficult and comprehensive undertaking.

Very Truly Yours,

Robin Pendergraft

Robin Pendergraft
Director
N.C. State Bureau of Investigation

Attachment

The following are a few typical examples of investigations and operations in which the SBI Air Wing has played a critical role:

Bombing Suspect - SBI Air Wing arrived at a major North Carolina Airport before dawn in bad weather and low visibility conditions in order to be mission ready and on scene when the weather improved enough to begin searching for suspect. Air Wing was briefed on the suspect and vehicles he might be driving at the airport. Soon after the aerial surveillance began, Air Wing acquired visual contact with the suspect's vehicle and tracked his movements and whereabouts undetected. Air Wing's undetected surveillance of suspect gave ground units sufficient info of the suspect's whereabouts and time to acquire an arrest warrant and a search warrant for suspect's residence. The surveillance also gave ground units time to elicit assistance of the local department of social services to take custody of suspect's children and remove them from suspect's home. Suspect was apprehended by surprise and taken into custody without incident.

Illegal Drug Trafficking Enforcement - A joint drug enforcement operation was set up by SBI, ICE, a County Sheriff's Office, and a Local PD to arrest a suspect known to be transporting illegal drugs based on confidential information and undercover operations. Air Wing was asked to provide aerial surveillance of the operation to locate the suspect's vehicle, to identify any locations the suspect might be using to stash drugs, to relay communications between the ground units, to prevent detection of the ground units involved, and establish a safe location for the vehicle stop and arrest. At high altitude and with gyroscopically stabilized binoculars, Air Wing searched for and acquired the target vehicle on an Interstate Highway where suspect was thought to be traveling. Air Wing maintained surveillance of the target vehicle throughout the operation. During the surveillance Air Wing discovered the presence of another vehicle that appeared to be traveling in conjunction with the suspect vehicle. This second vehicle appeared to be involved in counter surveillance activity. In other words, this vehicle was attempting to determine if other vehicles (undercover law enforcement) might be following the target vehicle. Air Wing called the counter surveillance maneuvers to the ground units to prevent them from being detected by the second suspect vehicle. Air Wing followed these vehicles to multiple locations and relayed that information to the ground units. Eventually the suspect vehicles separated and Air Wing was asked to stay with the first target vehicle. A decision was made to stop the first vehicle and arrest its occupant. After surveying the general area for a safe location to for the vehicle stop, Air Wing positioned the ground units in the area and called for the take down. The Air Wing's view from the sky allowed the take down to occur in an area and under circumstances that prevented the suspect from running and prevented injury to ground units and innocent motorists. The vehicle was stopped without incident and two arrests were made including a major high level drug trafficker who was a passenger in the suspect vehicle. The second vehicle was found at a location discovered from information provided by the arrested suspects. Third suspect was taken into custody without incident.

Corruption within a County Sheriff's Office - Several surveillance missions were conducted by Air Wing in a corruption case against deputies of a certain North Carolina county sheriff's office. Allegations were made that these deputies were involved in criminal activities such as stealing illegal drugs from targeted criminal suspects, threatening deadly force against these suspects to maintain their silence, keeping the stolen drugs for personal use, and selling the stolen drugs for personal profit in the deputies' own illegal drug trafficking operation.

Undetected from high altitude and with the aid of gyroscopically stabilized binoculars, Air Wing observed the deputies' illegal activities and located the stash houses used by deputies to store the stolen drugs. Air Wing provided ground units with the information and intelligence gathered during the aerial surveillance, which ultimately lead to the issuance of arrest warrants for the corrupt deputies and search warrants for the drug stash locations. Based on the violent and intimidating behavior these deputies demonstrated toward their targets, the deputies were considered extremely dangerous. Unknown to these deputies, ground units set up a sting in the form of a fictitious enforcement operation to be conducted jointly with the sheriff's office to arrest these deputies. As the corrupt deputies arrived for the fictitious mission briefing, they were arrested without incident. These corrupt deputies were convicted and sentenced to prison.

Extradition of fugitive murder suspects - Air Wing had just returned from an overnight mission to Texas to extradite a prisoner who was a suspect in a North Carolina homicide investigation. A request came in from a County Sheriff's office requesting assistance to pick up two fugitives who were suspects in another North Carolina murder investigation. The two suspects had allegedly committed a brutal murder of an elderly gentleman in a quiet neighborhood in North Carolina and had fled the state without a trace. A local law enforcement agency in a state located in the extreme southwestern United States had arrested the two in that state for shoplifting and discovered that the two were wanted in North Carolina for murder. The out of state agents told the North Carolina Sheriff's Office that time was of the essence in that the two could only be held for 24 hours on the shoplifting charges according to their state's law and would thereafter be released. If these suspects were released, the chances of locating them again would have been very difficult if not impossible. Air Wing immediately prepared for the mission and flight. Air Wing flew to the local county airport in North Carolina where the murder had occurred and picked up the SBI agents and Deputies assigned and their equipment. The flight departed North Carolina at midday and arrived at the small local airport in the southwestern state in time to take custody of the two suspects before they were scheduled to be released. Air Wing had the suspects searched before they were boarded on the aircraft. Air Wing arranged the placement of the suspects and the agents in the aircraft in a manner that would prevent the suspects from gaining access to critical areas of the aircraft and/or items that could be used as potential weapons. The suspects were restrained in the SBI aircraft and flown back to North Carolina.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

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EUGENE A. CONTI, JR.
SECRETARY

April 20, 2010

Mr. John W. Turcotte, Director
North Carolina General Assembly
Program Evaluation Unit
Legislative Office Building, Suite 100
300 North Salisbury Street
Raleigh, North Carolina 27603

RE: State Aircraft Fleet Study Report – NCDOT Formal Response

Dear Mr. Turcotte:

The North Carolina Department of Transportation (NCDOT) has completed its review of the Program Evaluation Division's *State Aircraft Fleet Study* report and, offers the following comments.

General
The Department supports the concept of reasonable, properly planned, and executed state aircraft passenger fleet and operational consolidation models. To this end, NCDOT initiated, negotiated and proposed a merger between the Department of Commerce (DOC) and the NCDOT passenger aircraft operations. Under this plan, DOC would merge with NCDOT and the State would recognize meaningful annual savings. This reasonable consolidation model follows on the recommendation of this report and previous State studies, supports the Governor's efforts to have Cabinet Departments work together to identify program and resource efficiencies, closely aligns with the general direction being pursued by the Governor's Budget Reform and Accountability Commission (BRAC), and is based on detailed planning to ensure that no unforeseen safety or service issues are created by the action.

NCDOT believes an Aviation Management Authority in the Department has merit and is receptive to participating in a feasibility study to explore and determine the exact role of the new agency. The new Aviation Management Authority may allow the State to realize some of the benefits associated with full consolidation while allowing the alert/law enforcement agencies continued autonomy of their missions.

Recommendation 1 – The North Carolina General Assembly should direct the establishment of the Aviation Management Authority in the NCDOT. NCDOT believes an Aviation Management Authority in Department has merit and is receptive to participating in a feasibility study to explore and determine the exact role of the agency to include minimum safety training for pilots/mechanics, minimum aircraft maintenance

requirements, possible consolidation of maintenance operations, aircraft rate structures, implementation of an electronic flight data program and general oversight for the State aviation fleet. While NCDOT generally supports the specific finding of the report, additional study of fleet mix and formal negotiations with other State agencies may result in a modified plan of action that provides improved efficiencies and a higher level of safety and service.

While the recommendation to pay for the agency via a 3 percent annual management fee is acceptable, the exact amount would require some additional review once final roles and responsibilities for the agency are formally established. The 3 percent recommendation within the study is an acceptable benchmark for planning purposes.

- **Year One. The first task of the Aviation Management Authority in year one should be to consolidate the state aircraft used for passenger transport and photogrammetry.** NCDOT generally supports this recommendation.

- **Year Two. The first task of the Aviation Management Authority in year two should be to oversee management of all state aviation programs.** NCDOT generally supports this recommendation.

Recommendation 2 – The North Carolina General Assembly should eliminate 25 aircraft and five facilities. The NCDOT believes a fleet mix study should be performed prior to implementation of this recommendation to more fully understand the benefits and impacts of this action. A recommended scope for the study is shown below:

1. **Identify the aircraft that offer the best-value to the State under a Consolidated Fleet –** For example, while the NCDOT King Air B200 flew under 200-hours; the aircraft should be retained under a consolidated fleet since it is less than 3 years old and has low-flight hours. The SBI King Air aircraft would most likely be sold under a consolidated fleet since the aircraft age is 20+ years.

2. **Review common mission types and identify aircraft best suited to complete these missions** – The most common missions for the State are relatively short haul, regional trips. Consequently, the State Aircraft Fleet should be assembled to complete these short-haul missions while retaining some ability to complete longer haul missions.

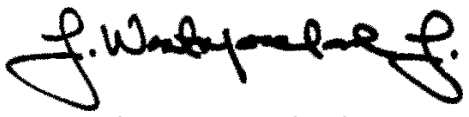
3. It is highly possible an Aircraft Fleet Mix study under a consolidated organization would offer **even more efficient use of aircraft and additional aircraft sold/ aircraft facilities closed**. Consequently, Exhibits 15 and 16 should be considered benchmarks.

The results of an approved fleet mix study may modify the final action plan.

Conclusion

Thank you for the opportunity to respond to the State Aircraft Fleet report. The report identified the need for significant improvement in the State Aircraft Operations. NCDOT has been at the forefront of passenger aircraft fleet consolidation and has provided a strong framework with expediting passenger aircraft consolidation quickly and efficiently without jeopardizing safety or level of service. These same planning and leadership skills will be instrumental in the possible formation of an Aviation Management Authority in NCDOT and to implement the overall recommendations of the report. NCDOT welcomes an opportunity to partner with other agencies in the implementation of the recommendations in the report.

Sincerely,



Jim Westmoreland, PE
Deputy Secretary for Transit

JW/rw

cc: Catherine Moga Bryant, Senior Program Evaluator, Program Evaluation Division
Eugene A. Conti, Secretary
Jim Trogdon, Chief Operating Officer - NCDOT
Johanna Reese, Legislative Liaison – NCDOT
Richard Walls, Director of Aviation - NCDOT

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

April 21, 2010

Mr. John W. Turcotte, Director
N.C. General Assembly Program Evaluation Division
300 N. Salisbury Street
Raleigh, NC 27603-5925

Dear Mr. Turcotte:

Thank you for the opportunity to respond to the Program Evaluation Division's report on state aircraft. We appreciate the Division's findings that the N.C. Wildlife Resources Commission's Law Enforcement Division aircraft are well utilized and efficient in their current operational missions. We offer the following comments:

Recommendation 1. The North Carolina General Assembly should direct the establishment of the Aviation Management Authority. We appreciate the Division's incorporation of agency comments reflected in their recommendation to establish a single aviation management authority in the Department of Transportation. As we noted in our prior response, our aircraft are used for emergency response and law enforcement operations and must therefore be available at a moment's notice. Our aircraft are strategically located throughout the state to cover specific geographical areas each averaging approximately 12,100 square miles. Each aircraft is assigned to and operated by one pilot. Our pilots are highly trained sworn law enforcement officers who also perform regular patrol duties when not flying. They are located in work areas in which they are intimately acquainted with the terrain and the unique areas associated with their subject matter jurisdiction. Retaining the flexibility to determine duty station, maintenance facilities and maintenance service providers is important to our operational readiness. This flexibility is a functional imperative and an element of our core mission. We interpret the revised recommendation to mean that the Aviation Authority would provide management oversight in lieu of full consolidation. As a result, the Wildlife Resources Commission removes its objection to the recommendation; however, in the absence of additional detail with respect to the cost versus benefit of the services that we would receive from the Aviation Management Authority, we are unable to concur with the recommendation.

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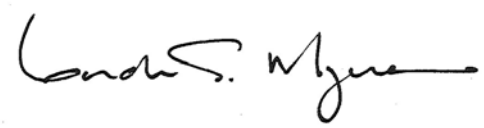
Recommendation 2. The North Carolina General Assembly should eliminate 25 aircraft and five facilities. Because our aircraft operations are not affected by this recommendation, we have no comment.

The North Carolina Wildlife Resources Commission offers our endorsement of the goals set forth in aircraft evaluation to study air fleet effectiveness and to evaluate ideas to achieve greater efficiency. We also welcome opportunities to work with other agencies to jointly develop operational improvements and efficiencies. We are committed to examining collaborative options and we understand that the Governor's Budget Reform and Accountability Commission is also examining a broad set of opportunities to consolidate or realign services which may also include air fleet effectiveness. We support any opportunity to improve government performance and efficiency while retaining if not enhancing core function.

Thank you for the opportunity to respond to this evaluation and recommendations. If you have any questions concerning this response, please contact Major David Stokes of the Enforcement Division at 919-707-0030, or by e mail at david.stokes@ncwildlife.org.

Sincerely,



Gordon Myers
Executive Director

DMS

cc: Mallory Martin
Colonel Everhart

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April 20, 2010

Mr. John W. Turcotte
Director, Program Evaluation Division
North Carolina General Assembly Legislative Services Office
300 N. Salisbury Street, Suite 100
Raleigh, North Carolina 27603-5925

Dear Mr. Turcotte:

We appreciate the opportunity to comment on the draft findings and recommendations from the Program Evaluation Division's very thorough and detailed study of the number, use, and effectiveness of the state's aircraft fleet. As with previous independent evaluations of the state's aircraft fleets, the University of North Carolina at Chapel Hill's AHEC Medical Air Operations fleet is confirmed as the most lean and efficient operation in the state. AHEC's Medical Air Operations was the only agency listed with 0% underutilized aircraft. This compares to an underutilized aircraft average of 79% statewide.

As noted in previous communications, the University does favor the establishment of a more integrated Division of Aviation. UNC Chapel Hill will begin the yearlong construction on April 19, 2010, of a new hangar attached to the Department of Transportation (DOT) hangar at Raleigh Durham International Airport. Immediate consolidation of passenger transport and photogrammetry missions under a new Division would facilitate the planning and relocation of AHEC Medical Air Operations with the DOT and Department of Commerce (DOC) Aviation Divisions.

Although we favor this consolidation, we are very concerned about the change in the final report in terms of the recommended location of the proposed Aviation Management Authority within the Department of Transportation. We strongly favor the proposal in the draft report to create a Division of Aviation within the

Department of Administration. Given the historic lack of collaboration among the air operations in the various state agencies, we believe a new Division in a neutral entity like the Department of Administration offers the greatest potential for true integration of state air operations.

Regardless of the administrative location of a new consolidated passenger aviation division, we believe Medical Air Operations needs to play a more prominent leadership role in such a merged division. As noted in the report, Medical Air Operations has the greatest experience in flying passengers of any state aviation agency, operates with the greatest efficiency, and has a remarkable safety record over the last 40 years. Because of this experience in operating a high-quality, passenger responsive, and highly efficient passenger operation, it is essential that a new passenger division be able to benefit from the leadership and experience of Medical Air Operations. We are disappointed that the report from the Program Evaluation Division does not speak to this issue.

Another issue that will be important in any discussion about integration of air transportation services involves the transfer of assets. The aircraft operated by Medical Air Operations are owned by Medical Air, Inc., a 501 (c) (3) non-profit foundation. Since the cost of purchasing new aircraft in recent years has been covered through grants from related organizations, such as UNC Health Care, those organizations will need to be fully consulted in terms of how these assets are transferred to this new state agency, and whether compensation will be required as part of this transfer.

In terms of operating costs, Medical Air Operations was established and operated for most of its life on a self-supporting basis, based on mileage charges to the University departments and state agencies utilizing these services. Because of increased fuel costs and other expenses in recent years Medical Air Operations has required a subsidy from the AHEC Program operating budget. These state AHEC operating funds were not appropriated specifically to support Medical Air Operations, but were deemed allowable given the important role Medical Air Operations plays in supporting the clinical and educational missions of AHEC. In the event of a transfer of Medical Air pilots, mechanics, and office staff to a new merged entity, none of the AHEC operating budget funds should be transferred to

this new entity. A more reasonable approach is for AHEC to simply pay any mileage or other charges required for the use of air services in the new merged entity.

The North Carolina AHEC Program has a long history of service to the people of North Carolina and we welcome the opportunity to discuss the recommendations of this report, and to structure any new state passenger service in a way that allows Medical Air Operations to continue to efficiently operate in order to continue to serve the communities of North Carolina.

Sincerely,

H. Holden Thorp
Chancellor

William L. Roper
CEO, UNC Health Care System
Dean, School of Medicine

cc: Bruce Carney, Provost
Tom Bacon
Nadine O'Malley
Dwayne Pinkney
Kevin FitzGerald

Thorp/turcotte