

Aviation Operations Business Use Case

October 16, 2018

Flight Services We Provide

- State Business Travel
- Search and Rescue
- Medical Services for Rural Communities
- State Wildfire Surveillance and Review

Constraint Thresholds

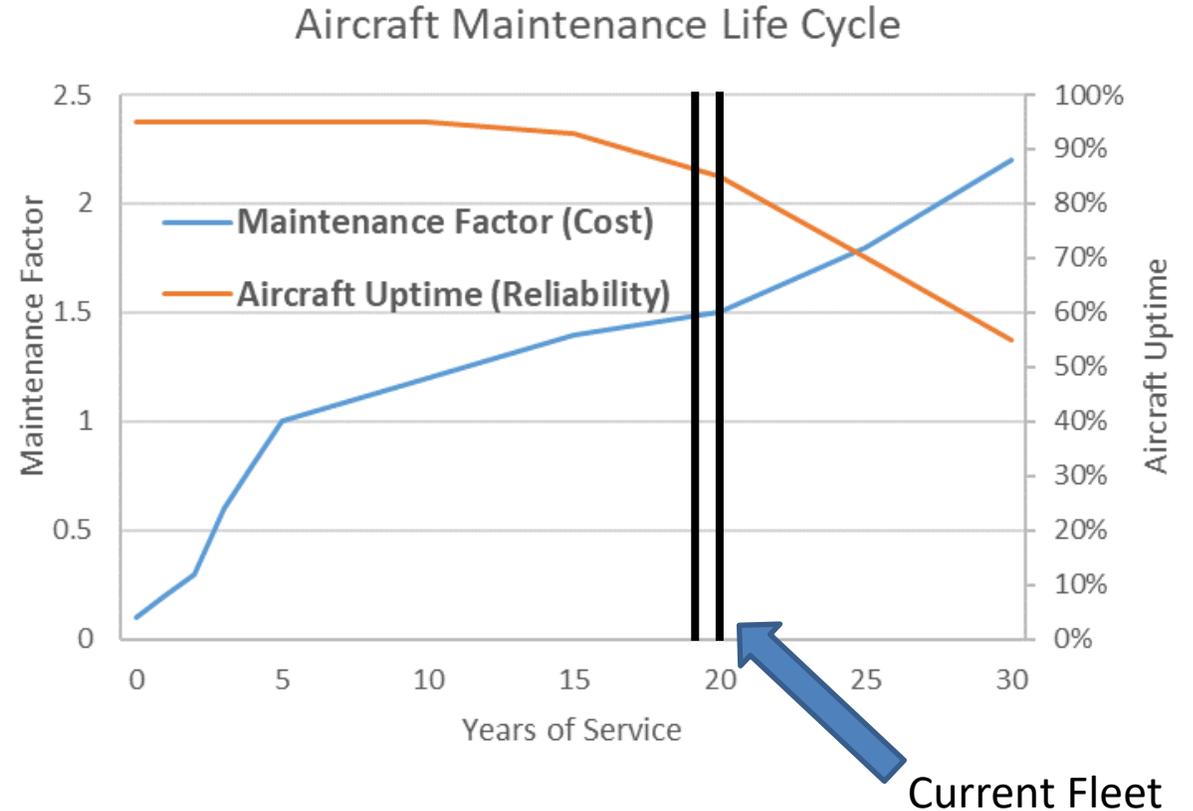
The challenge is threefold:

1. Current aircraft are nearing end of life cycle.
2. Changing mission needs among state agencies.
3. Operating expenses will soon exceed utility.

Within 3-5 years, the cost to maintain aircraft (OE) will surpass revenue from flight hours (QT) to the point it is no longer financially feasible to continue flight operations.

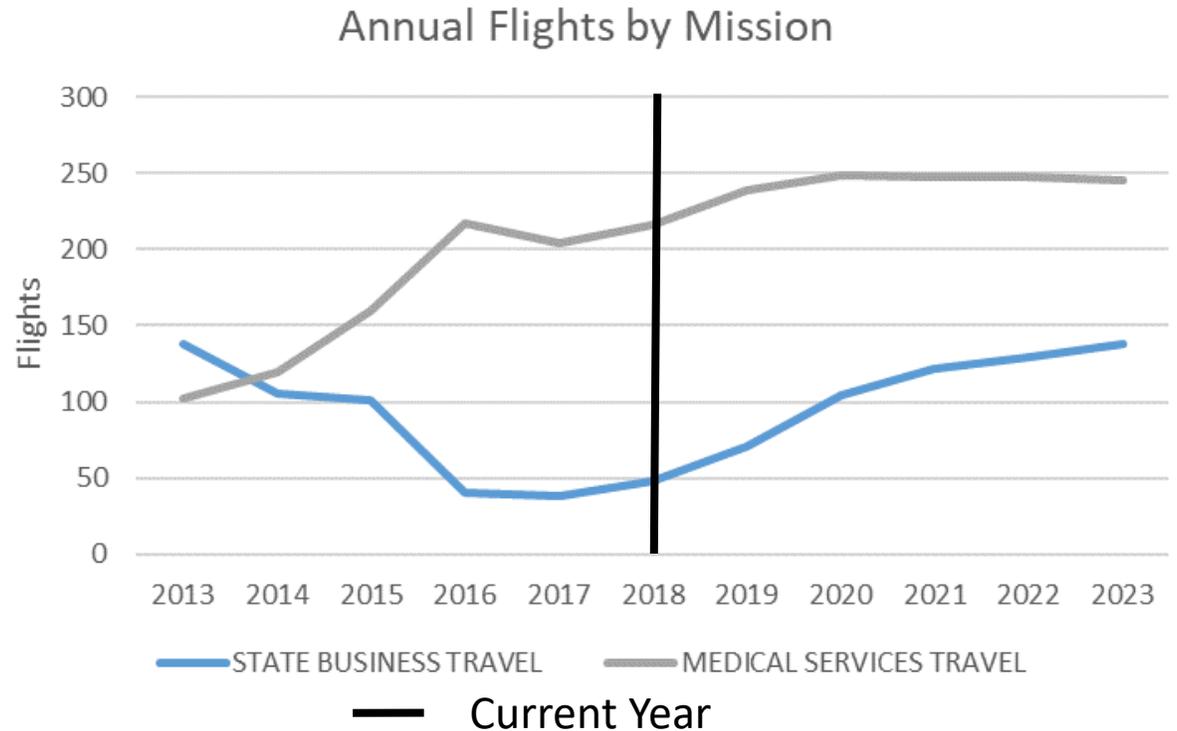
Maintenance Cost Trends for Aging Fleet

- Current Fleet
 - 2000 King Air 200 (Market Value - \$1.7M)
 - 1998 King Air C90 (Market Value - \$1.0M)
- Historical Operating Expenditures
 - FY2015: \$1,287,355
 - FY2016: \$830,982
 - FY2017: \$1,202,868
- Around 20 – 25 years into the life cycle, aircraft see declining availability (shown as a decrease in reliability) as unscheduled maintenance increases operating expenses.



Flight Trends by Mission: 2013-18F

- Medical services travel has accounted for over 200 flights annually since 2016.
- State business travel dropped from 150 flights per year in 2013, to under 50 flights per year by 2016.
- Six state agencies have utilized UDOT aircraft since 2017, compared to 25 agencies since 2013.
- Unmet demand exists for state business travel; the unmet demand may be calculated as the difference between the 2013 usage rates by state agencies, and the 2018 usage rates; 100 annual flights among 19 agencies.



Cost Comparisons

STATE OPERATED FLEET

Maintain Fleet: maintain existing fleet for next 3-5 years

Renewal: renew fleet with similar aircraft

Replacement: replace current aircraft with new fleet mix

PRIVATELY OPERATED FLEET

Charter: liquidate existing fleet and charter on-demand SLC based services

Managed Aircraft: state purchased aircraft are operated and maintained by private management company

SkyShare: fractional purchase of aircraft in shared asset company

Minimum Criteria

- Meet Agency Mission Needs?
 - Maximum Utility (Passenger Seat Count)
- Meet Agency Cost Constraints?
 - Lowest Operating Expense (Hourly Rate)
- We also considered:
 - Regional missions entail longer flights necessitating higher altitudes which require pressurization and dual engines.
 - Localized missions entail shorter flights and may be performed at lower altitudes and slower speeds.

Calculations

- Operating Expense: ongoing cost to maintain and fly fleet
 - Variable costs (e.g. fuel, parts) + fixed costs (e.g. labor, insurance, lease)
- Direct Operating Cost: What it costs to operate a specific aircraft for one hour with all other variables held constant.
 - Annual operating expense / annual hours flown = DOC
- Acquisition Total: Upfront purchase price less current fleet value
 - Total purchase price - liquidation value of current aircraft = TAC

State Owned Fleet

- Renew Fleet – Utility (14 Pax) / OE (\$841/hr)
 - 8 PAX, Twin Engine: \$6,707,818 acquisition: \$1,015/hr operating
 - 6 PAX, Twin Engine: \$3,775,000 acquisition: \$758/hr operating
 - Total acquisition (\$10,482,818) minus existing fleet liquidation value = \$7,782,818
- Replace Fleet – Utility (24 Pax) / OE (\$520/hr)
 - 10 PAX, Twin Engine: \$8,249,618 acquisition: \$1,064/hr operating
 - 10 PAX, Single Engine: \$2,808,400 acquisition: \$501/hr operating
 - 4 PAX, Single Engine: \$1,502,761 acquisition: \$221/hr operating
 - Total acquisition (\$12,560,779) minus existing fleet liquidation value = \$9,860,779

Privately Operated Fleet

- Charter Services – Utility (15 Pax) / OE (\$1,537/hr)
 - Total acquisition (\$0) minus existing fleet liquidation value = -\$2,700,000
 - 7 PAX Jet: \$3,000/hr;
 - 8 PAX Single Engine: \$1,450/hr
- SkyShare Program – Utility (14 Pax) / OE (\$1,888/hr)
 - Total acquisition (\$3,360,000) minus existing fleet liquidation value = \$660,000
 - 6 PAX, Jet: \$1,650/hr
 - 8 PAX, Single Engine: \$1,050/hr

Summary of Metrics Against Criteria

Which options meet state agency capacity needs?
Can state agencies afford it?

The Fleet Replacement option provides 60 percent more seats (utility) than any other option with an average operating expense (affordability) nearly 40 percent lower than the next best option.

	Renew	Replace	Charter	Skyshare
Utility	14	24	15	14
Affordability	\$841	\$520	\$1,537	\$1,888

Conclusion & Recommendation

The **Fleet Replacement option** provides increased service to meet growing demand. Recommended aircraft for this fleet include:

- One twin engine, ten passenger aircraft
- One single engine, ten passenger aircraft
- One single engine, four passenger aircraft

This constitutes a **70 percent increase** in seat capacity with a **45 percent reduction** in the average OE versus existing fleet.

This fleet is expected to generate \$457,200 in revenue annually.

- 216 flight hours in twin engine, 10 pax aircraft = \$215,700
- 336 flight hours in single engine, 10 pax aircraft = \$168,000
- 294 flight hours in single engine, 4 pax aircraft = \$73,500

UDOT averages over 1,100 passengers a year on state aircraft representing an average savings of \$320,000 in mileage, hotel and per diem travel expenses annually; or \$3.2 million over 10 years.

