

U.S. Department of Transportation Federal Aviation Administration

Airports Division Southwest Region Arkansas/Oklahoma FAA ASW-630 10101 Hillwood Parkway Fort Worth, TX 76177

September 9, 2021

Mr. George Jackson Airport Manager P.O. Box 1293 Jonesboro, AR 72403

RE: Airport Master Plan Update Jonesboro Municipal Airport Jonesboro, Arkansas

Dear Mr. Jackson,

Our office is in receipt of the revised aviation forecast and critical aircraft analysis for Jonesboro Municipal Airport, in Jonesboro, Arkansas.

The forecasts of aviation activities and the existing and future critical aircraft designation shown below and presented in Working Paper No. 1 received August 17, 2021 is hereby approved subject to the conditions below:

This forecast was prepared at the same time as the evolving impacts of the COVID-19 public health emergency. Forecast approval is based on the methodology, data, and conclusions at the time the document was prepared. However, consideration of the impacts of the COVID-19 public health emergency on aviation activity is warranted to acknowledge the reduced confidence in growth projections using currently-available data.

Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

A copy of the forecast summary and critical aircraft is attached. Should you have any questions or require additional information please feel free to contact me at (817) 222-5641 or phuong.m.tran@faa.gov.

Sincerely,

Phuong Tran

Phuong (Fawn) Tran Community Planner Arkansas/Oklahoma Airports District Office

cc: Jim Duguay, Michael Baker International Olufemi Adeoye, Arkansas/Oklahoma Airports District Office

AAC	AAC Total	ADG	ADG Total
А	1,672	I	3906
В	5,726	Ш	3848
С	348		16
D	28	IV	4
Total	7,774		

Table 3-13: 2019 TFMSC Count

Source: FAA JBR TFMSC C.Y. 2019

AAC	AAC Total
A-I	1,596
A-II	76
B-I	2,039
B-II	3,683
B-III	2
C-I	255
C-II	85
C-III	4
C-IV	4
D-I	16
D-II	4
D-III	8
Total	7,774

Table 3-14: TFMSC 2019 Count Breakdown

Source: FAA JBR TFMSC C.Y. 2019

Table 3-15: Critical Aircraft Determination

Existing	Runway 05-23	Runway 13-31
Runway Design Group	B-II	B-II
Critical Aircraft	Beech Super King Air – 1,647 Cessna 208 Caravan – 3,789	King Air 90
APRC	5: D/IV/5000 and D/V/4000 23: D/IV/4000 and D/V/4000	13: B/III/VIS and D/II/VIS 31: B/III/5000 and D.II/5000
DPRC	D/IV and D/V1	B/III and D/II
TDG	2	1A
Ultimate	Runway 05-23	Runway 13-31
Runway Design Group	C-III	B-II
Critical Aircraft	Airbus A-320	King Air 90
	5: D/IV/4000 and D/V/4000	13: B/III/5000 and D/II/5000
AFRC	23: D/IV/4000 and D/V/4000	31: B/III/5000 and D.II/5000
DPRC	D/IV and D/V	B/III and D/II
TDG	3	1A

Source: Michael Baker International

3.11 Peak Operations

There is no operations data available indicating monthly operations. Historical monthly fuel flowage data was used as a surrogate for peak monthly operations activity. In 2015 and 2014, the monthly peak of fuel



flowage was approximately 10.5 percent of the total year. While the peak month does not occur consistently in the same month during the year, the peak level is approximately 10.5 percent of total of annual operations.

Conversations with local Airport users and the Flightwise data by date and time were the sources for analysis of hourly peaking. This indicated that the peak hour of activity represents approximately 8 percent of the day's activity. Operations in the peak month, on the average day of the peak month, and in the peak hour are presented in Table 3-16.

Year	Annual Operations	Peak Month 10.5%	Average Day 31 Days	Peak Hour 8.0 %		
2019	20,156	2,116	68	5		
	Forecast					
2024	22,357	2,347	76	6		
2029	24,079	2,528	82	7		
2039	25,414	2,668	86	7		

Table 2 16: Operations Deaking

Source: Mary A. Lynch, Michael Baker International

3.12 Comparison to FAA TAF Forecasts

The forecasts are summarized in Table 3-17. The forecasts of JBR based aircraft and aircraft operations in this report are compared with the January 2019 FAA TAF forecasts in Table 3-18. From that point, this forecast grows steadily and the FAA TAF remains flat throughout the forecast period. According to the FBO and others at the Airport, many current tenants have specific plans to expand what they currently have based at JBR but there is no room. The forecast in this study takes into account that waitlist and assumes that it will be accommodated. It further allows the number of based aircraft to grow in the future in accordance with local socioeconomic growth and the growth in Arkansas and US based aircraft numbers. By 2039 the difference between the two projections is 31 based aircraft, 28.2 percent above the FAA TAF.

Table 3-17: S	ummary o	of Airport P	lanning F	orecasts	(Base Yea	ar 2019)	
	2019	2024	2029	2039	'19 - '24	'19-29	'19-39
Passenger Enplanements					+5 Yr.	+10 Yr.	+20 Yr.
Air Carrier	-	-	-	-			
Commuter	5,663	5,663	5,663	5,663	0.0%	0.0%	0.0%
TOTAL	5,663	5,663	5,663	5,663	0.0%	0.0%	0.0%
Operations							
Itinerant							
Air Carrier	-	-	-	-			
Commuter/Air Taxi	2,606	2,790	2,790	2,790	7.1%	1.4%	0.7%
Total Commercial Ops	2,606	2,790	2,790	2,790	7.1%	1.4%	0.7%
General Aviation	5,500	6,910	7,161	7,624	25.6%	5.4%	3.3%
Military	50	200	200	200	300.0%	32.0%	14.9%
Local							
General Aviation	12,000	13,007	13,478	14,350	8.4%	2.4%	1.8%
Military	0	450	450	450			
Total Operations	20,156	23,357	24,079	25,414	16.9%	3.6%	2.3%
Instrument Operations	7,655	8,466	9,130	9,637	10.6%	3.6%	2.3%
Peak Hour Operations	5	6	7	7	1.3%	1.9%	0.9%
Cargo/Mail (EP+DP tons)	-	-	-	-			
Based Aircraft (see note 1)							
Single Engine (Nonjet)	na	71	71	71	na	na	na
Multi Engine (Nonjet)	na	34	36	40	na	na	na
Jet Engine	na	18	21	27	na	na	na
Helicopter	na	3	4	5	na	na	na
Other	-	-	-	-	-	-	-
TOTAL	102	127	131	141	23.5%	4.8%	8.3%
		B. Operation	nal Factors	5	-		
	2019	2024	2029	2039			
Average Aircraft Size (seats)							
Air Carrier Commuter							
Average Enplanement Load	8	8	8	8			
Factor							
Air Carrier Commuter							
GA ops per based aircraft	159	157	157	157			

Table 3-17: Summary of	Airport	Planning	Forecasts	(Base	Year	2019
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Consultant: Michael Baker International

1. Due to recent based aircraft census completed following the preparation of the forecast, based aircraft growth percentages depicted in the 5, 10 and 20 timeframes are based upon the 2021 existing based aircraft count. In addition, no records are available for based aircraft by type for 2019 and therefore marked "na".

			<u> </u>		
	Year	Airport Forecast	FAA TAF 2019	Airport - TAF (Absolute Difference)	Airport/TAF (% Difference)
		Total O	perations		
Base Year	2019	20,156	20,156	-	0.0%
Base Year + 5 yrs.	2024	23,357	20,156	3,201	14.7%
Base Year + 10 yrs.	2029	24,079	20,156	3,923	17.7%
Base Year + 20 yrs.	2039	25,414	20,156	5,258	23.1%
		Based	Aircraft		
Base Year	2019	102	102	-	0%
Base Year + 5 yrs.	2024	127	110	17	15.5%
Base Year + 10 yrs.	2029	131	110	21	19.1%
Base Year + 20 yrs.	2039	141	110	31	28.2%
		Commuter E	Inplanements		
Base Year	2019	5,663	5,208	455	8.4%
Base Year + 5 yrs.	2024	5,663	5,208	455	8.4%
Base Year + 10 yrs.	2029	5,663	5,208	455	8.4%
Base Year + 20 yrs.	2039	5,663	5,208	455	8.4%
Source: EAA TAE May 2021					

Table 3-18: Comparing Airport Master Plan Update and FAA TAF Forecasts

Source: FAA TAF May 2021

Consultant: Michael Baker International

Aircraft operations in the two forecasts differ by 23.1 percent by 2039. There is no mechanism for accurately observing and reporting operations at JBR. Fuel flowage records that fuel sales are up significantly since 2014, and some of this growth could indicate growth in operations at the Airport. The FAA TAF forecast of operations is predicated on the assumption that there will be no increase in the number of based aircraft at JBR, and this forecast does not agree with that premise. Although the base year is 2019 in this forecast, as of 2021, based aircraft have already increase to 124 aircraft. Another specific factor in the difference between the two operations forecasts is that the forecast in this study introduces operations on 737/A320 and C-130 operations under the assumption that the runway will be strengthened to support these aircraft. There are specific letters from potential operation supporting this expansion in operations.

Cost Estimates



The preliminary cost estimate for the construction of the recommended heavy route pavement strengthening project is \$14.000.000.00.

This estimate includes the following items:

- 1. Construction of asphalt overlays of the various pavement areas in the proposed "heavy route" at the recommended thicknesses
- 2. Removal and reconstruction of the existing concrete apron
- 3. Construction of the recommended terminal apron
- 4. Construction of re-aligned Taxiways "H" and "G" at terminal apron.

"FUTURE" RUNWAY EXTENSION

The preliminary cost estimate for the 800' Runway Extension construction is \$5,000,000.00. This would extend Runway 5-23 from 6,200' to 7,000'.

This estimate includes the following items:

- 1. Construction of 800' extension to Runway 23 at strength matching the recommended strengthened runway.
- 2. Extension of existing parallel taxiway
- 3. Relocation of all existing runway lighting and approach equipment

COMPLETE RUNWAY 2-23 EXTENSION AND STRENGTHING PROJECT

The preliminary cost estimate for the combined heavy route strengthening and 800' Runway 23 extension project is **\$19,000,000.00**.

PAVEMENT STRENGTH STUDY SUMMARY





In recent years, the Jonesboro Municipal Airport (JBR) has experienced a significant increase in both the number and the size of aircraft utilizing the airport, and has also received increasing interest from local businesses to bring even larger aircraft to the airport, but has been limited by the existing airport facilities, most notably the existing pavement strength.

To that end, a study of the existing pavement strength for the key pavement facilities at JBR has been completed in accordance with FAA Advisory Circular 150/5335-5C. This study evaluates the existing pavement strength, and makes recommendations for strengthening of the pavement to accommodate the existing fleet of aircraft, as well as the larger aircraft anticipated to utilize the airport.

Pavement strengthening improvements for the heaviest anticipated aircraft will be limited to the proposed "heavy route," to include Runway 5/23, its associated parallel taxiway, and connecting taxiway to and including the commercial terminal apron.



JONESBORO MUNICIPAL AIRPORT COMMISSION P.O. BOX 1293 - JONESBORO, AR 72403 - 870-935-8669

Prepared by:

Proposed Pavement Strengthening of Heavy Route

The primary purpose of this study is the determination of the recommended additional pavement structure required to increase the strength of the critical pavement areas (Runway 5/23, Taxiway A, Terminal Apron, and connecting taxiways in order to provide a "heavy route" to the terminal area for use by anticipated heavy aircraft.



*Note that the "future" 800' runway extension is not a part of this strengthening study, but a cost estimate is provided herein. Inclusion of the runway extension in this project would increase the types of aircraft that could be utilized, and allow the proposed largest aircraft to avoid load restrictions due to runway length.

The pavement design for each area utilizes the existing pavement section for each pavement area and recommends the additional depth of asphalt overlay of these pavement areas in order to accommodate the anticipated future aircraft fleet mix. Recommended overlay thicknesses are indicated below.

Pavement Area	*Recommended Asphalt Overlay (inches)
Runway 5-23 (center)	6"
Runway 5-23 (edge)	9"
Runway 5-23 Extension	8"
Taxiway 'A'	7"
Taxiway 'B' (north of 5/23)	8"
Taxiway 'F'	10"
Terminal Apron	Reconstruction with concrete pavement

*Based on FAARFIELD pavement design, and utilizing geotechnical study of existing pavement and subgrade.

Recommended Geometry Improvements

An Airbus A-320, which is one of the largest aircraft included in the future fleet mix, was used to model the existing taxiway geometry to determine the adequacy of the various existing radii to provide large aircraft accessibility from the runway to the terminal apron. The model indicates that existing geometry is generally adequate to safely taxi around curves on taxiways serving Runway 5-23 and the terminal apron.

As depicted in the following model, an apron expansion will be necessary for the A320 to successfully negotiate the turning operations to enter and exit the terminal without assistance from the FBO.



Recommended Strengthening Overlays

JONESBORO MUNICIPAL AIRPORT Jonesboro, Arkansas AIRPORT LAYOUT PLAN



	INDEX OF SHEETS
PAGE NO.	DRAWING
1 OF 10	Airport Layout Drawing 米
2 OF 10	Airport Layout Drawing — Conical Surface Plan View
3 OF 10	Airport Layout Drawing — Extended Approach Plan View
4 OF 10	Airport Layout Drawing — Profile Views
5 OF 10	Inner Portion of Approach Surface Drawing — Plan & Profile — Runway 5
6 OF 10	Inner Portion of Approach Surface Drawing — Plan Runway 23
7 OF 10	Inner Portion of Approach Surface Drawing — Profile — Runway 23
8 OF 10	Inner Portion of Approach Surface Drawing — Plan & Profile — Runway 13/31
9 OF 10	Terminal Area Drawing 米
10 OF 10	Property Map

* UPDATED IN OCTOBER 2015



JONESBORO MUNICIPAL AIRPORT COMMISSION P.O. BOX 1293 - JONESBORO, AR 72403 - 870-935-8669

	NEW SHEET	10/2015
		<u> </u>
SPO	ONSOR APPROVAL	DATE
	JONESBORO MUNICIPAL AIRPORT	FIGURE NUMBER
	JONESBORO, ARKANSAS	METRIC SCALE
		NONE
	COVER SHEET	SCALE NONE
		DATE
(OCTOBER 2015

REVISIONS



AIRPORT DATA	ALL WEATHER WINDR	OSE IFR WIN
ITEM EXISTING FUTURE RPORT ELEVATION (AMSL) 262.0' 262.0' RPORT REFERENCE POINT (ARP) NAD 83 LAT. 35:49:53.90". LAT. 35:49:49" AN MAX. TEMP. HOTTEST MONTH 93'F 93'F 93'F AN MAX. TEMP. HOTTEST MONTH 93'F 93'F 93'F REPORT PROPERTY (ACRES) 855 875 KIWAY LIGHTING MITL MITL MITL MAS CATEGORY COMMERCIAL SERVICE COMMERCIAL SERVICE MBINED WIND COVERAGE (16-KNOT) 99.98% 99.98% PPORT REFERENCE CODE C-II C-II REPORT NAVIGATION AIDS ILS/VOR/GPS ILS/VOR/GPS KIWAY MARKING CENTERLINE CENTERLINE THRESHOLD SITING SURFACE REQUIREMENTS RUNWAY 5 TABLE 32, LINE 6 RUNWAY 13 TABLE 32, LINE 3 SAME RUNWAY 31 TABLE 32, LINE 3 SAME		N N N
	10.5-KNOT 13-KNOT R/W 5/23 93.28% 96.77% R/W 14/32 88.54% 93.66% COMBINED 99.10% 99.89%	16-KNOT R/W 5 76.91% 99.40% R/W 23 60.20% 98.76% R/W 14 70.41% 99.98% COMBINED 99.03%
FUTURE HANGAR DEVELOPMENT	SOURCE: NATIONAL ACEANIC AND ATMOSPHERIC ADMINISTRATION, N DATA CENTER STATION 723407 JONESBORO MUNICIPAL A	TIONAL CLIMATIC RPORT, ARKANSAS
23 23 23 23 23 23 23 23 23 23	ST. LOUIS & SOUTHWESTERN R.R. 35' BRL EXISTING R/W 23 TOUCHDOWN ZONE EL.259.9'	
	рул Ф 107 A Ф	
HIGH POINT ELEV. 261.1' RSA BAD BAD BAD BAD BAD BAD BAD BAD BAD BA		EX STING INNER APPROACH OFZ
		RUNWAY END
IRE INDUSTRIAL AVIATION DEVELOPMENT		EL. 258.1 LAT 35'50'22.68" N LON 90'38'06.20 W RAILROAD EL.251.8
		EXISTING RPZ VISIBILITY MINIMU
FUTURE AIRPORT		LOWER THAN 574 1000' x 1700' x
MPATIBLE INDUSTRIAL DEVELOPMENT		0 200 400 800
	TRUE NORTH	GRAPHIC SCALE IN FEET
	0° 58.5' E MAG. DEC.	LAYOUT PLAN LEGEN
	-0° 6.5 ANNUAL CHANGE JULY 1999	ITEM EXISTIN BUILDING RESTRICTION LINE BRL - AIRPORT PROPERTY LINE
BUILDING LEG	END	RUNWAY SAFETY AREA (RSA) — —RSA(E) RUNWAY OBJECT FREE AREA (ROFA) — ROFA(E) AVIGATION EASEMENT ANNION
NO.BUILDINGELEVATIONNO.BUILDING1.BUILDING273.6'1519	UILDING ELEVATION CRANE	RUNWAY PROTECTION ZONE
2. ASU BUILDING 278.2' 20. F 3. AIRPORT LIGHTING CONTROL BLD. 265.3' 21. T 4. FBO GENERAL AVIATION HANGAR 291.9' 22. F	UTURE HANGARS UNKNOWN ERMINAL BUILDING UNKNOWN UTURE AIR CARGO UNKNOWN	BEACON * LIGHTED WIND CONE & SEGMENTED CIRCLE
5. HANGAR 288.9' 23. F 6. STORAGE HANGAR NO. 3 284.1' 24. F TURE 7. STORAGE HANGAR NO. 4 5 5 5 5 5 5 5 5 6 5	UTURE STORAGE HANGARS UNKNOWN UTURE T-HANGARS UNKNOWN	LIGHTED WIND CONE 7 WIND CONE 7 RUNWAY END IDENTIFIER LIGHTS(REILS) •
	HARP AVIATION HANGAR 291'	DRAINAGE FEATURE
N 257.4' 10. LANDRY HANGAR 282.0' 28. HA 11. ARKANSAS AVIATION HANGAR 283.1' 29. T-	NGAR 302' A	ASOS ASUCE FUEL
262.0' 12. AUTOMATED FLIGHT SERV. STATION 274.3' 30. AAI 251.0' 13. FLINTROL 277.4'		VISUAL APPROACH SLOPE INDICATOR (VASI)
251.0 14. FLINTROL 285.4'		THRESHOLD LIGHTS ●●●● QMNI DIRECTIONAL APPROACH LIGHTS (ODALS) ●





BUILDING LEGEND

				1000
NO.	BUILDING	ELEVATION	NO. BUILDING ELEVATION	
1.	BUILDING	273.6'	14. FLINTROL 285.4'	
2.	ASU BUILDING	278.2'	1519 CRANE	
3.	AIRPORT LIGHTING CONTROL BLD.	265.3'	20. FUTURE HANGARS UNKNOWN	
4.	FBO GENERAL AVIATION HANGAR	291.9'	21. TERMINAL BUILDING UNKNOWN	
5.	HANGAR	288.9'	22. FUTURE AIR CARGO UNKNOWN	
6.	STORAGE HANGAR NO. 3	284.1'	23. FUTURE STORAGE HANGARS UNKNOWN	
7.	STORAGE HANGAR NO. 4	280.8'	24. FUTURE T-HANGARS UNKNOWN	
8.	STORAGE HANGAR NO. 5	279.8'	25. HYTROL UNKNOWN	
9.	FOWLER HANGAR	289.3'	26. SHARP AVIATION HANGAR 291'	Λ
10.	LANDRY HANGAR	282.0'	27. HANGAR 302'	$\overline{\mathbb{A}}$
11.	ARKANSAS AVIATION HANGAR	283.1'	28. HANGAR 302'	$\overline{\mathbb{A}}$
12.	AUTOMATED FLIGHT SERV. STATION	274.3'	29. T–HANGAR 284'	$\overline{\mathbb{A}}$
13.	FLINTROL	277.4'	30. AARF STATION UNKNOWN	$\overline{\mathbb{A}}$
\square		•	· · · · ·	

AIRPORT DATA

ITEM		EXISTING	FUTURE	
IRPORT ELEVATION (AMSL)		262.0'	262.0'	
AIRPORT REFERENCE POINT (ARP) 🕤 NAD 83		LAT. 35°49'53.90" LON. 90°38'46.71"	LAT. 35°49'49" LON. 90'38'49"	
MEAN MAX. TEMP. HOTTEST MONTH		93°F	93 ° F	
AIRPORT PROPERTY (ACRES)		855	875	
TAXIWAY LIGHTING		MITL	MITL	
NPIAS CATEGORY		COMMERCIAL SERVICE	COMMERCIAL SERVICE	
COMBINED WIND COVERAGE (16-KNOT)		99.98%	99.98%	
PORT REFERENCE CODE (ARC)		C-II	C—//	
AIRPORT NAVIGATION AIDS			ILS/VOR/GPS	
TAXIWAY MARKING	MARKING		CENTERLINE	
	RUNWAY 5	CENTERLINE	CENTERLINE	
THRESHOLD SITING SURFACE	RUNWAY 23	CENTERLINE	CENTERLINE	
REQUIRMENTS	RUNWAY 13	CENTERLINE	CENTERLINE	
	RUNWAY 31	CENTERLINE	CENTERLINE	



	REVISIONS				
No.	UPDATE BUILDING LEGEND TABLE UPDATE EXISTING AND FUTURE HANGARS	Date 10/2015 10/2015			

LAYOUT PLAN LEGEND FUTURE ITEM EXISTING BRL _____<u>BRL</u>_____ BUILDING RESTRICTION LINE AIRPORT PROPERTY LINE RUNWAY SAFETY AREA (RSA) RUNWAY OBJECT FREE AREA (ROFA) ------ ROFA(E)------------ROFA(F)-----AVIGATION EASEMENT RUNWAY PROTECTION ZONE BUILDINGS AIRFIELD PAVEMENT ____ BEACON * ₹ LIGHTED WIND CONE & SEGMENTED CIRCLE LIGHTED WIND CONE WIND CONE RUNWAY END IDENTIFIER LIGHTS(REILS) • • 0 0 DRAINAGE FEATURE _____ TREES <u>unn</u> ASOS (F) (F)FUEL VISUAL APPROACH SLOPE INDICATOR (VASI) PRECISION APPROACH PATH INDICATOR (PAPI) 0000 0000 THRESHOLD LIGHTS 0000 0000

