 (*) Submitted by Larry Hall at 4-25-13 public hearing

Federal Aviation Administration

Aircraft Noise Levels

Noise Levels for U.S. Certificated and Foreign Aircraft

Noise Levels for U.S. Certificated and Foreign Aircraft (http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22942) , AC 36-1H

Appendix 1 – U.S. Certificated Turbojet Powered Airplanes (media/uscert_appendix_01_20120424.xls) (MS Excel) (April 24, 2012)

Appendix 2 – Foreign Certificated Turbojet Powered Airplanes (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/nonuscert_appendix_02.xls) (MS Excel)

Appendix 6 – U.S. Certificated Propeller Driven Airplanes in the Transport Category (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/uscert_appendix_06.xls) (MS Excel)

Appendix 7 – U.S. Certificated Propeller Driven Small Airplanes (14 CFR Part 36, Appendix F) (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/uscert_appendix_07.xls) (MS Excel)

Appendix 8 – U.S. Certificated Propeller Driven Small Airplanes (14 CFR Part 36, Appendix G) (media/uscert_appendix_08_20120424.xls) (MS Excel) (April 24, 2012)

Appendix 9 – Foreign Certificated Propeller Driven Small Airplanes (ICAO Annex 16, Chapter 6) (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/nonuscert_appendix_09.xls) (MS Excel)

Appendix 10 – U.S. Certificated Helicopters (14 CFR Part 36, Appendix H) (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/helicopter_appendix_10.xls) (MS Excel)

Appendix 11 – U.S. Certificated Helicopters (14 CFR Part 36, Appendix J) (http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/media/helicopter_appendix_11.xls) (MS Excel)

Estimated Airplane Noise Levels in A-Weighted Decibels

Estimated Airplane Noise Levels in A-Weighted Decibels (http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22945) , AC 36-3H

Noise Level Data (media/APPENDIX_02_20120405.xls) (MS Excel) AC 36-3H (April 5, 2012)

Page Last Modified: 07/06/12 14:13 EDT
This page can be viewed online at:
http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/

from Appendix 8:

#	MANUFACTU	MODEL	MTOW 1000#	MLW 1000#	ENGINE DATA MFR	MODEL	SHP	EXH	PROPI	DIAM (IN)	RPM	NOISE LEVEL (dBA)	NOTES
	ADAM AIRCR	A500	7.00	6.75	CONTINENTAL	TSIO-550-E			PHC-H3		2700	87.80	
	AGUSTA SpA	F260 E	2.60	2.60	LYCOMING	AEIO-540-D/E4A5	260			76	2700	79.30	
	AQUILA TECI	AT01	1.65	1.65	ROTAX	912 S3			MTV-21		2260	65.20	
	AVIAT	A-1B (WITH ENG. OPT.)	2.00	2.00	LYCOMING	0-320-D2A			74DM6S		2700	75.20	
	AVIAT AIRCR	A-1C-180	2.25	2.25	LYCOMING	O-360-A1P				76	2700	80.20	9
	AVIAT AIRCR	A-1C-180	2.25	2.25	LYCOMING	O-360-A1P (175 HP DERATED)				80.7	2600	80.20	9
	AVIAT AIRCR	A-1C-180	2.25	2.25	LYCOMING	O-360-A1P (175 HP DERATED)				80	2600	80.20	9
	AVIAT AIRCR	A-1C-200	2.25	2.25	LYCOMING	IO-360-A1D6				80	2700	80.10	9
	AVIAT AIRCR	A-1C-200	2.25	2.25	LYCOMING	IO-360-A1D6 (196 HP DERATED)				80.7	2650	82.80	9
1	CESSNA	172K,L,&M (THIELERT STC ST01303WI) w/standard muffler	2.30	2.30	THIELERT	TAE 125-01			MTV-6-.		2300	77.00	
2	CESSNA	172K,L,,M&P (THIELERT STC ST01303WI) w/Langer LA40 muffler	2.45	2.45	THIELERT	TAE 125-01			MTV-6-.		2300	70.90 (lowest)	
3	CESSNA	172N&P (THIELERT STC ST01303WI)	2.30	2.30	THIELERT	TAE 125-01			MTV-6-.		2300	75.70	
4	CESSNA	172R	2.45	2.45	LYCOMING	IO360-L2A	152.6	8		75	2210	73.30	
5	CESSNA	172R&S (THIELERT STC ST01303WI w/standard muffler	2.30	2.30	THIELERT	TAE 125-01			MTV-6-.		2300	77.40	
6	CESSNA	172R&S (THIELERT STC ST01303WI) w/Langer LA40 muffler	2.45	2.45	THIELERT	TAE 125-01			MTV-6-.		2300	71.30	
7	CESSNA	182Q (BONAIRE STC# SA01218AT)	2.95	2.95	CONTINENTAL TCM	IO-550D				80	2700	77.80	
8	CESSNA	182S	3.10	3.10	LYCOMING	IO-540-AB1A5	221.3	8		82	2400	79.70	
9	CESSNA	182S	3.10	3.10	LYCOMING	IO-540-AB1A5	229.3	8		79	2400	77.70	
10	CESSNA	206H	3.60	3.60	LYCOMING	IO-540-X144	300	8		79	2700	84.50	
11	CESSNA	206H	3.60	3.60	LYCOMING	IO-580-AIA				79	2500	79.60	
12	CESSNA	206H	3.60	3.60	LYCOMING	IO-580-X130	300	8		79	2500	79.80	
13	CESSNA	208	8.00	8.00	PRATT & WHITNEY	PT6A-114A	675	2		106	1900	79.00	
14	CESSNA	208/208A	8.00	8.00	PRATT & WHITNEY	PT6A-114	600			106	1900	81.60	
15	CESSNA	208B	8.75	8.75	PRATT & WHITNEY	PT6A-114	600			106	1900	84.20	
16	CESSNA	208B	8.75	8.75	PRATT & WHITNEY	PT6A-114A	675			100	1900	80.10	
17	CESSNA	208B	8.75	8.75	PRATT & WHITNEY	PT6A-114A	675			106	1900	82.70	
18	CESSNA	T206H	3.60	3.60	LYCOMING	TIO-540-AJIA				79	2500	75.80	
19	CESSNA	T206H	3.60	3.60	LYCOMING	TIO-540-X143	305.9	4		79	2500	75.80	
20	CESSNA	TU206G(WIPAIRE)	3.80		CONTINENTAL TCM	TSIO-520M				80	2700	82.00	
21	CESSNA	U206F(WIPAIRE)	3.80	3.80	CONTINENTAL TCM	IO-550-F				80	2700	84.30 (highest)	
22	CESSNA	U206G(WIPAIRE)	3.80	3.80	CONTINENTAL TCM	IO-550-F				80	2700	84.30	
	CIRRUS DESI	SR 20	2.90	2.90	CONTINENTAL	IO-360-ES				76	2700	82.50	

$\bar{x}$ = 78.84

= 3x as loud as lowest

AIRCRAFT NOISE DATA FOR U.S. CERTIFICATED HELICOPTERS
(14 CFR PART 36, APPENDIX H)
(FROM AC 36-1H APPENDIX 10; NOVEMBER 15, 2001)

				ENGINE DATA		MAIN ROTOR			TAIL ROTOR				NOISE LEVEL (EPNdB)			
MANUFACTURER	MODEL	MTOW	MLW	MFR.	MODEL	MFR.	MODEL	LAD	MFR.	MODEL	LAD	DIA(FT.)	FO	TO	AP	TAG
AGUSTA	A109E	6.28	6.28	PRATT&WHITNEY	206C	AGUSTA		4	AGUSTA		2	6.60	90.8	91.4	91.4	2
AGUSTA	A109E	6.28	6.28	TURBOMECA	ARRIUS 2K1	AGUSTA		4	AGUSTA		2	6.60	90.9	91.8	93.3	2
AGUSTA	A109K2	6.28	6.28	TURBOMECA	ARRIEL 1K1	AGUSTA		4	AGUSTA		2	6.60	89.1	91.7	91.1	2
BELL HELI TEXTRON	206L-4	4.45	4.45	ALLISON	250-C30P	BELL HELI TEXT	206-015-001-107	2	BELL HELI TEXT	206-016-201-127	2	5.40	85.2	88.4	90.7	2
BELL HELI TEXTRON	230 FXD SKD GR	8.40	8.40	ALLISON	250-C30G/2	BELL HELI TEXT	222-018-501-101	2	BELL HELI TEXT	222-016-001-107	2	6.83	90.5	89.1	94.2	2
BELL HELI TEXTRON	230 RTR WHL GR	8.40	8.40	ALLISON	250-C30G/2	BELL HELI TEXT	222-018-501-101	2	BELL HELI TEXT	222-016-001-107	2	6.83	90.8	89.1	94.2	2
Jone's 315 hp Bell would most likely go here----------																
BELL HELI TEXTRON	412 HP	11.90	11.90	PRATT&WHITNEY	PT6T-3E	BELL HELI TEXT	412-015-300-109	4	BELL HELI TEXT	212-010-750-105	2	8.60	93.4	92.8	95.6	2
BELL HELI TEXTRON	412 SP	11.90	11.90	PRATT&WHITNEY	PT6T-3B	BELL HELI TEXT	412-015-300-109	4	BELL HELI TEXT	212-010-750-105	2	8.60	93.4	93.2	95.6	2
BELL HELI TEXTRON	412EP	11.90	11.90	PRATT&WHITNEY	PT6T-3D	BELL HELI TEXT	412-015-300-109	4	BELL HELI TEXT	212-010-750-105	2	8.60	93.4	92.8	95.6	2
BELL HELI TEXTRON	427	6.00	6.00	PRATT&WHITNEY	PW207D	BELL HELI TEXT	427-015-001-125	4	BELL HELI TEXT	427-016-001-109	2	5.67	89.1	88.0	91.2	2
BELL HELI TEXTRON	427	6.35	6.35	PRATT&WHITNEY	PW207D	BELL HELI TEXT	427-015-001-125	4	BELL HELI TEXT	427-016-001-109	2	5.67	89.0	88.5	91.2	2
BELL HELI TEXTRON	430	9.00	9.00	ALLISON	250-C40B	BELL HELI TEXT	430-015-001-101	4	BELL HELI TEXT	222-016-001-111	2	6.90	91.6	92.4	93.8	2
BOEING	MD 520N	3.35	3.35	ALLISON	250-C20R/2	MCDONNELL DOUG	369D21102-503	5	MCDONNELL DOUG	NOTAR			80.2	85.4	87.9	2
EHI	EH 101/300/500	31.50	31.50	GE	CT7-6A			5			4	13.10	93.1	97.6	99.5	2
EUROCOPTER	AS 332L2	20.20	20.20	TURBOMECA	MAKILA 1A2			4			4	10.40	93.2	94.2	96.5	2
EUROCOPTER	AS 350 B2	4.96		TURBOMECA	ARRIEL 1D1	AEROSPATIALE	355A31.0001	3	AEROSPATIALE	355A12.0031 OR 0	2	6.10	87.1	89.8	91.4	2
EUROCOPTER	AS 350BA	4.63	4.63	TURBOMECA	ARRIEL 1B			3			2	6.10	86.8	91.1	91.3	2
EUROCOPTER	AS 355 N	5.60	5.40	TURBOMECA	ARRIUS 1A/4M	EUROCOPTER	STARFLEX 355A	3	EUROCOPTER	350A33-0008-03/0	2	6.20	86.2	88.8	92.9	2
EUROCOPTER	AS 355F2R	5.29	5.29	ALLISON	250-C20F			3			2	6.10	87.6	89.0	93.8	2
EUROCOPTER	AS 355N	5.60	5.60	TURBOMECA	ARRIUS 3191M			3			2	6.10	86.2	88.8	92.9	2
EUROCOPTER	AS 365N2	9.37	9.37	TURBOMECA	ARRIEL 1C2			4			11	3.60	91.0	93.3	96.1	2
EUROCOPTER	BK 117B2	7.39	7.39	LYCOMING	LTS-101-750B1			4			2	6.40	90.8	90.0	96.0	2
EUROCOPTER	BK 117C1	7.39	7.39	TURBOMECA	ARRIEL 1E2			4			2	6.40	89.7	90.6	96.0	2
SIKORSKY	S-76A STC:568NE	10.80	10.80	TURBOMECA	ARRIEL 1S	SIKORSKY	76150-9000/09100	4	SIKORSKY	76101-05101-041	4	8.00	92.8	92.5	95.6	2
SIKORSKY	S-76C	11.70	11.70	TURBOMECA	ARRIEL 1S1	SIKORSKY	76150-09199-41	4	SIKORSKY	76101-05501-041	4	8.00	93.2	96.0	97.7	2
SIKORSKY	S-76C+ (PLUS)	11.70	11.70	TURBOMECA	ARRIEL 2S1	SIKORSKY	76150-09100-41	4	SIKORSKY	76101-05501-041	4	8.00	91.6	93.9	96.1	2

FO x̄ 90.7
TO x̄ 90.47
AP x̄ 93.56

Sound Levels - page 1/2

When talking about sound as heard by our ears or by microphones, take care to speak in terms of **sound pressure** as sound field quantity. The sound energy measurements such as sound intensity and sound power have no use here and are misleading. Air pressure fluctuations considered desirable such as speech or music are pleasant to the ear, while undesirable ambient sound such as traffic noise is anoying.

20 dB gain change should give about the ratio of 4 (four times) for sensed volume and loudness,
20 dB gain change gives the ratio of 10 for measured voltage and sound pressure and
20 dB gain change gives the ratio of 100 for calculated sound power and acoustic intensity.

Twice, two fold, and a doubling . . .

Doubling of the volume (loudness) should be felt by a level difference of 10 dB – acousticians say. Doubling the sound pressure (voltage) corresponds to a measured level change of 6 dB.
Doubling of acoustic power (sound intensity) corresponds to a calculated level change of 3 dB.

+3 dB = twice the power (Power respectively intensity – mostly calculated)
+6 dB = twice the amplitude (Voltage respectively sound pressure – mostly measured)
10 dB = twice the perceived volume or twice as loud (Loudness nearly sensed – psychoacoustics)

The doubling of the factor (twice the factor) means:

for the sound pressure level: +6 dB SPL and for the electric voltage level: +6 dB
for the power level: +3 dB and for the sound intensity level: +3 dB
for the loudness level: +10 dB
... and 10 dB SPL more means, the amplifier needs 10 times more power.

Decibel (dB) can also mean dBSPL or dBA; but a level change is always in decibels dB.
The sensed volume or the loudness of a sound depends on several factors: the **amplitude**, the sound pressure level, the frequency, and the time behaviour of the sound.
A typical question on the internet: "Are 3 dBs or 6 dBs double the **loudness** (or twice as loud)?"
Answer: "It's neither 3 dB, nor 6 dB - it's closer to 10 dB!"

Sound Level Comparison Chart and the Ratio

Table of sound level dependence and the change of the respective ratios of subjective volume (loudness), objective sound pressure (voltage), and sound intensity (acoustic power).

How many decibels (dB) level change is double, half, or four times as loud?

SOUND LEVELS – page 2/2

How many dB appear twice as loud (two times)? Here are all the different ratios.
Ratio means "how many times" or "how much" ... Doubling of loudness.

Level change	Volume Loudness	Voltage Sound pressure	Acoustic Power Sound Intensity
+60 dB	64	1000	1000000
+50 dB	32	316	100000
+40 dB	16	100	10000
+30 dB	8	31.6	1000
+20 dB	4 ×	10	100
→ **+10 dB**	2.0 = double	3.16 = √10	**10**
→ +6 dB	1.52 times	2.0 = double	4.0
+3 dB	1.23 times	1.414 times = √2	2.0 = double
- - - - ±0 dB - - - -	- - - - 1.0 - - - - - - -	- - - - 1.0 - - - - - - -	- - - - 1.0 - - - - -
−3 dB	0.816 times	0.707 times	0.5 = half
−6 dB	0.660 times	0.5 = half	0.25
−10 dB	0.5 = half	0.316	0.1
−20 dB	0.25	0.100	0.01
−30 dB	0.125	0.0316	0.001
−40 dB	0.0625	0.0100	0.0001
−50 dB	0.0312	0.0032	0.00001
−60 dB	0.0156	0.001	0.000001
Log. size	**Psycho size**	**Field size**	**Energy size**
dB change	**Loudness multipl.**	**Amplitude multiplier**	**Power multiplier**

Ratio / Factor	Change in Sound Loudness Level	Change in Sound Pressure Level	Change in Sound Power Level
40	+53.22 dB	+32.04 dB	+16.02 dB
30	+49.07 dB	+29.54 dB	+14.77 dB
20	+43.22 dB	+26.02 dB	+13.01 dB
15	+39.07 dB	+23.52 dB	+11.76 dB
10	+33.22 dB	+20 dB	+10 dB
5	+23.22 dB	+13.98 dB	+6.99 dB
4	+20 dB	+12.04 dB	+6.02 dB
3	+15.58 dB	+9.54 dB	+4.77 dB
2	+10 dB	+6.02 dB	+3.01 dB
- - - - - 1 - - - - -	- - - - ±0 dB - - - -	- - - - ±0 dB - - - - -	- - - - ±0 dB - - - -
1/2 = 0.5	−10 dB	−6.02 dB	−3.01 dB
1/3 = 0.3333	−15.58 dB	−9.54 dB	−4.77 dB
1/4 = 0.25	−20 dB	−12.04 dB	−6.02 dB
1/5 = 0.2	−23.22 dB	−13.98 dB	−6.99 dB
1/10 = 0.1	−33.22 dB	−20 dB	−10 dB
1/15 = 0.0667	−39.07 dB	−23.52 dB	−11.76 dB
1/20 = 0.05	−43.22 dB	−26.02 dB	−13.01 dB
1/30 = 0,033	−49.07 dB	−29.54 dB	−14.77 dB
1/40 = 0,025	−53.22 dB	−32.04 dB	−16.02 dB

The loudness ratio 4 (four times the loudness) changes the sound loudness level by 20 dB.
The sound pressure ratio 4 (four times the pressure) changes the sound pressure level by 12.04 dB.
The sound power ratio 4 (four times the intensity) changes the sound power level by 6.02 dB.

The loudness ratio 3 (three times the loudness) changes the sound loudness level by 15.58 dB.

(*) Submitted by Larry Hall at 4-25-13 public hearing

P6SM SCT040 FM260000 VRB05KT P6SM SKC

KDEC 17nm SW 251137Z 2512/2612 24009KT P6SM SKC FM251500 29012G20KT P6SM SCT040 FM252200 29012KT P6SM SCT050 FM260000 VRB04KT P6SM SKC

NOTAMs

Click for the latest **NOTAMs**
NOTAMs are issued by the DoD/FAA and will open in a separate window not controlled by AirNav.

Airport Ownership and Management from official FAA records

Ownership: Privately-owned
Owner: SAGE AIR INC
PO BOX 44
MONTICELLO, IL 61856
Phone 217-762-9607
Manager: MIKE WILEAVER
1517 N 1000 E RD
MONTICELLO, IL 61856
Phone 217-762-9091

Airport Operational Statistics

Aircraft based on the field: 21
Single engine airplanes: 12
Gliders airplanes: 9

Aircraft operations: avg 115/week *
100% local general aviation
* for 12-month period ending 31 December 2008

Additional Remarks

- EXTSV GLIDER OPNS WKENDS.
- TAKEOFF TO THE SOUTH TO AVOID NOISE SENSITIVE AREA NORTH OF ARPT.
- MODEL AIRCRAFT OPN 3.25 NM NORTH-NORTHEAST OF ARPT.
- NO LINE OF SIGHT BETWEEN RUNWAY ENDS.

Instrument Procedures

NOTE: All procedures below are presented as PDF files. If you need a reader for these files, you should download the free Adobe Reader.

NOT FOR NAVIGATION. Please procure official charts for flight.
FAA instrument procedures published for use between 4 April 2013 at 0901Z and 2 May 2013 at 0900Z.

IAPs - Instrument Approach Procedures

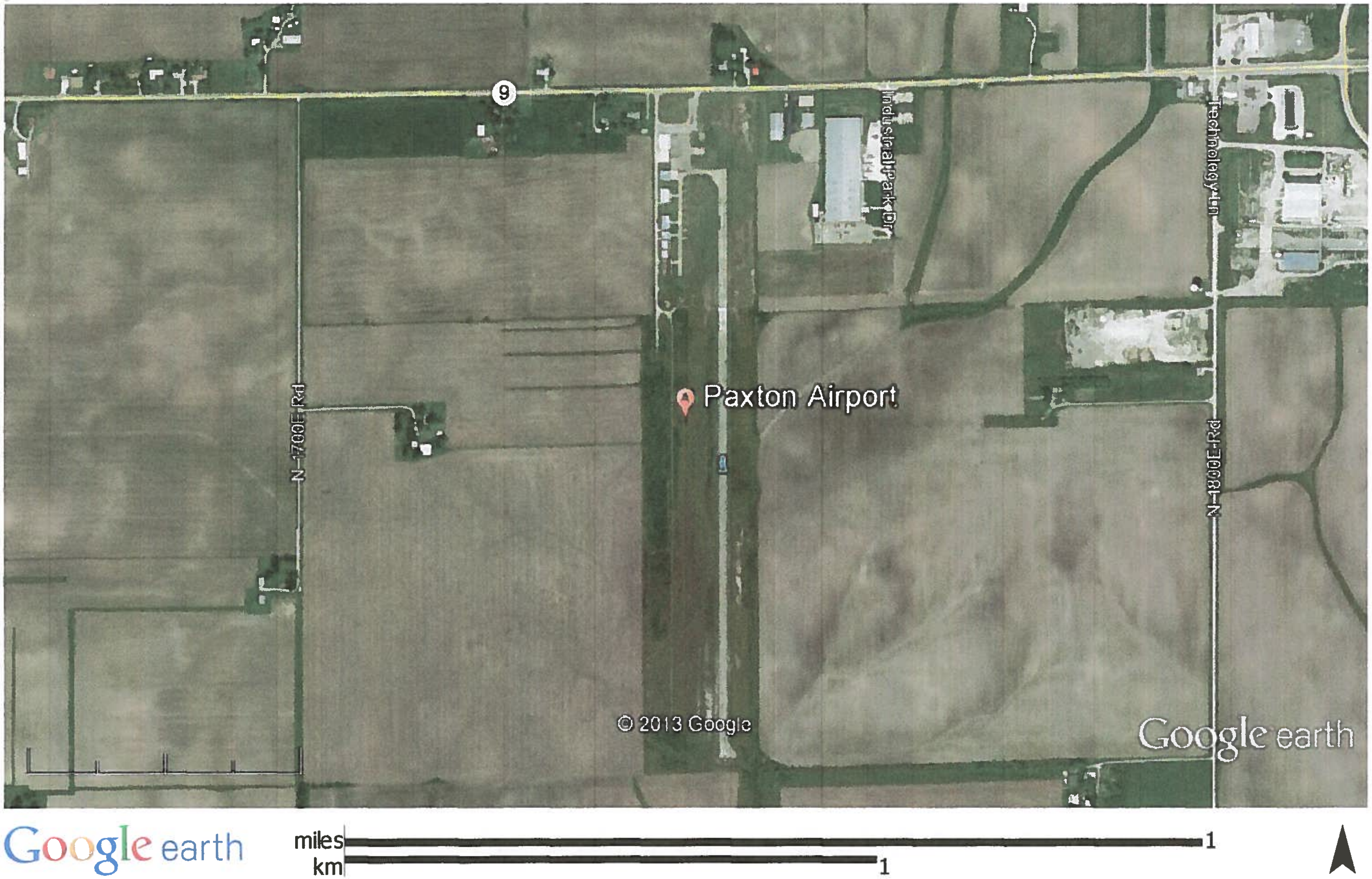
VOR OR GPS-A download (145KB)

Other nearby airports with instrument procedures:

KCMI - University of Illinois-Willard Airport (13 nm E)
KDEC - Decatur Airport (17 nm SW)
C16 - Frasca Field Airport (19 nm NE)
KTIP - Rantoul National Aviation Center Airport-Frank Elliott Field (26 nm NE)
KBMI - Central Illinois Regional Airport at Bloomington-Normal (33 nm NW)

FBO, Fuel Providers, and Aircraft Ground Support

Business Name	Contact	Services / Description	Fuel Prices	Comments
Monticello Aviation	217-762-9091	no information available If you are affiliated with Monticello Aviation and would like to show here your	100LL Mogas SS $5.85 $4.89 Updated 19-Apr-2013	not yet rated write



9
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Technology Ln
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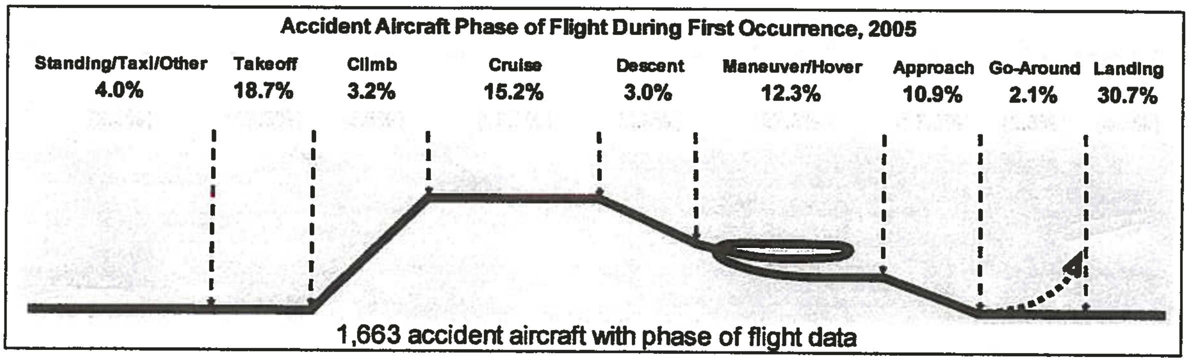

As shown here, about half of all general aviation accidents (49.4%) occurred during either takeoff or landing, despite the relatively short duration of these phases compared to the entire profile of a normal flight. This high number of accidents reflects the increased workload during takeoff and landing when the flight crew must control the aircraft, change altitude and speed, communicate with air traffic control (ATC) and/or other aircraft, and maintain separation from obstacles and other aircraft. Aircraft systems are also stressed during takeoff and landing with changes to engine power settings, the possible operation of retractable landing gear, flaps, slats, and spoilers, and changes in cabin pressurization. In addition, while the aircraft is at low altitude, it is also most susceptible to hazards caused by wind and weather conditions.

Notably, landing accounted for the largest percentage of total accident first occurrences (30.7%) of any single phase but only 4.2% of fatal accident first occurrences. The combination of cruise and maneuvering phases accounted for 47.2% of fatal accident first occurrences, but less than one-third (27.5%) of all accidents. These differences reflect the relative severity of accidents likely to occur during each phase. Accidents during cruise and maneuvering are more likely to result in higher levels of injury and aircraft damage due to higher speeds and altitudes.

The likelihood of an aircraft accident first occurrence during each phase of flight varies by aircraft type and type of operation due to the unique hazards associated with each. For example, flight instruction typically involves a lot of time practicing takeoffs and landings. As a result, about 48% of all first occurrences for 2005 involving instructional flights occurred during landing compared to 30% of personal/business flights and 9% of aerial application flights.