#### Community Noise Forum Monday, November 28, 2016 Agenda

I.	Call to	order: 6:00PM
II.	Minute	es of September 26, 2016.
III.	FlyQu	iet Award
IV.	Part 15	50 NCP
	A.	Update: Noise Insulation Program
	B.	Contraflow Exceptions
V.	Curren	at Noise Concerns
	A.	Noise Concerns/Complaints
	B.	Runway Utilization
	C.	Construction and Maintenance Activity
VI	HMM	H: Noise Exposure Map Update Presentation
VII.	Guest	Comments
VIII	Annou	cements
IX.	Next N	Meeting: Monday, January 23, 2017

Happy Holidays to All!

X.

Adjournment

#### COMMUNITY NOISE FORUM (CNF) Monday, September 26, 2016

#### **Members**

John Sistarenik, ANA Tom Foote, Airline Affairs Mary Rose Evans, LRAA Board Brian Sinnwell, LRAA Bob Slattery, LRAA Verna Goatley, Metro John Greathouse, Southwest (Alt) Denny Thompson, Southeast Mike Zanone, Northwest Pat Gould, Northeast

#### Guests

Nancy Bowman-Denton, BNA Tom Denton, BNA Lawrence Gettleman, So. 4<sup>th</sup> St. Karan Chavis, Citizen

The meeting was called to order at 6:00 p.m. by John Sistarenik. A motion to approve the meeting notes for the May meeting as written was made by Pat Gould and seconded by Mary Rose Evans.

Diana Wasiuk from HMMH, presented the group with an update on the Noise Exposure Maps. The presentation focused on progress to date, modeling assumptions and inputs, AEDT update, and next steps. A copy of the presentation is posted online with the September 2016 meeting handout. A meeting of the CNF committee was set for October 26<sup>th</sup> at 6 p.m. to review and discuss the draft noise exposure maps.

#### Part 150 NCP:

- **A.** <u>Update: University of Louisville:</u> Initial acoustical testing was conducted on thirteen (13) buildings on campus March 12-20, 2016 during the Spring semester break. Testing was completed on six (6) buildings April 29-May 4, 2016. The final round of testing for five (5) additional buildings was completed on August 13, 2016. A total of twenty-four (24) building have been tested. Initial testing results are expected in October.
- **B.** Contraflow Exceptions: Contraflow for May was 62% for arrivals from the south and 80% for departures to the south. In June, arrivals from south were 79% and departures to the south were 83%. In July, arrivals from the south were 59% and departures to the south were 91%. In August, arrivals from the south were 76% and departures to the south were 90%. A daily summary for May, June, July and August is contained in the handout. The 2 year average (September 2014- August 2016) for contraflow is 73% for arrivals and 78% for departures. A monthly summary going back 8 years is also included in the handout.

#### **Current Noise Concerns:**

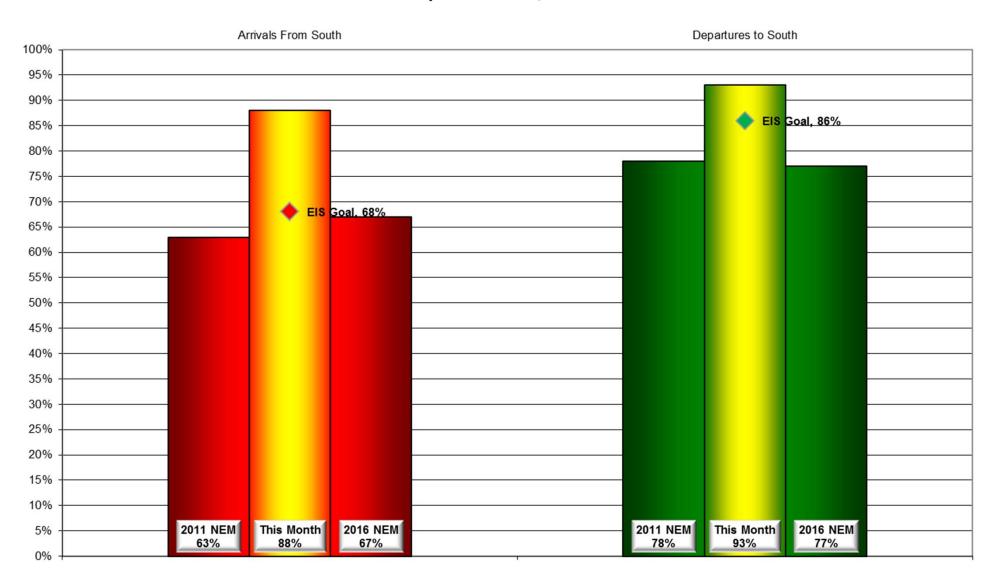
- A. Report on Noise Concerns/Complaints: We received a total of 24 comments in May. 2 comments were received at the QHP project office and 22 were received by the LRAA. In June, a total of 23 comments were received. 9 were received at the QHP project office and 14 were received by the LRAA. In July, a total of 25 comments were received. 2 from the QHP project office and 23 were received by the LRAA. In August, a total of 19 comments were received. 3 from the QHP project office and 14 received by the LRAA. Comments and location are contained in the handout.
- **B.** <u>Runway Utilization</u>: Runway utilization percentages for May, June, July and August are contained in the handout. Daily runway utilization and comments from the Air Traffic Control Tower are also included in the handout. Tower comments for May are not currently available.
- **C.** <u>Construction and Maintenance Activity</u>: Brian Sinnwell reported that currently there are no active construction projects.

<u>Guest Comments:</u> Nancy Bowman-Denton wanted to know when the maps will be available to the public. Bob responded that currently we expect the comment period to begin around the first of November. The maps and report will be posted on the website for 30 days. Karan Chavis wanted to know what type of comments are appropriate for the comment period. It was explained that any comments would be accepted. However, the process is set by the FAA and for a Noise Exposure Map Update the comments should primarily deal with inventory itself and not the process.

**Next Meeting:** Monday, November 28, 2016 at 6 p.m.

**Adjournment:** A motion was made to adjourn the meeting at 7:30 p.m.

#### Monthly Contraflow September 1-30, 2016



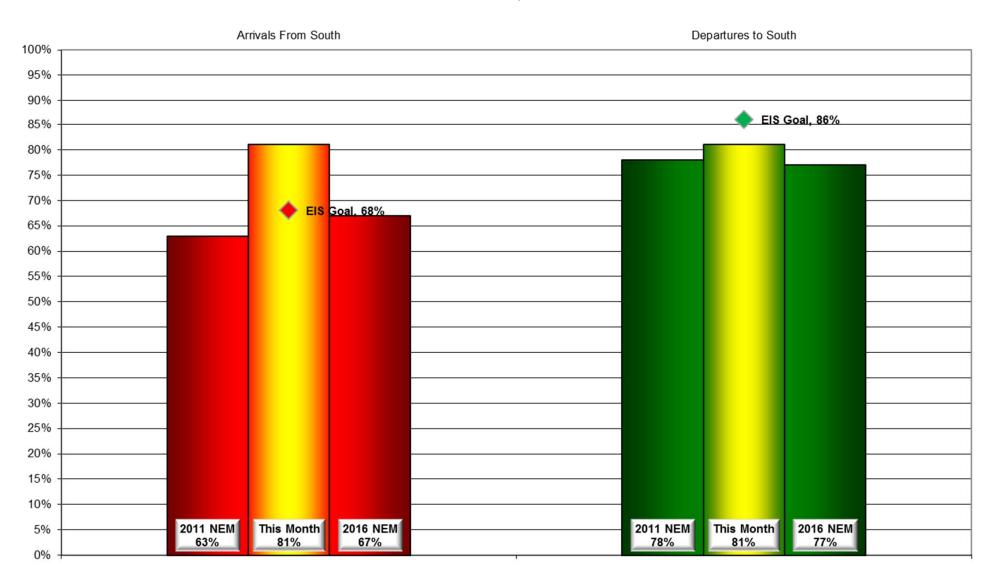
#### Daily Runway Use Summary – September 2016 (from 10:00 PM date list in first column to 7:00 AM the following morning

									south				•				s to th					8
											Unknown										Unknown	
		* in			Rı	unway #	‡				Runway	Notes /	** in		R	unway #	ŧ				Runway	Notes /
Date	Day	compliance	1 1	11	17L	17R		29	35L	35R	Use	Comments	compliance	11		17R		29	35L		Use	Comments
09/01/16		98%			1	1			64	34	0		94%		34	60			1	5	0	
09/02/16		97%			2	1			57	40	0		91%		32	59			2	7	0	
09/03/16																						
09/04/16																						
09/05/16	Mon	84%			14	2			65	19	0		94%		40	54			5	1	0	
09/06/16	Tue	95%			4	1			56	39	0		89%		30	59			9	2	0	
09/07/16	Wed	93%			5				58	35	0		96%		31	65			2	2	0	
09/08/16	Thu	86%			11	3			53	33	0		96%		35	61			2	2	0	
09/09/16	Fri	0%			42	58					0	180-220@6-9knts	100%		43	57					0	
09/10/16	Sat																					
09/11/16	Sun																					
09/12/16	Mon	94%			5	1			54	40	0		91%		33	58			6	3	0	
09/13/16	Tue	93%			6	1			60	33	0		87%		34	53			6	7	0	
09/14/16	Wed	95%			4	1			58	37	0		92%		39	53			2	6	0	
09/15/16	Thu	97%			2	1			59	38	0		94%		32	62			2	4	0	
09/16/16	Fri	61%			14	25			31	30	0	130-150@3-10knts	97%		38	59			1	2	0	
09/17/16	Sat																					
09/18/16	Sun																					
09/19/16	Mon	96%			4				60	36	0		96%		36	60			2	2	0	
09/20/16	Tue	96%			4				55	41	0		94%		34	60			3	3	0	
09/21/16	Wed	98%				2			59	39	0		94%		35	59			3	3	0	
09/22/16	Thu	96%			2	2			56	40	0		93%		32	61			3	4	0	
09/23/16	Fri	94%			2	4			62	32	0		90%		36	54			3	7	0	
09/24/16																						
09/25/16	Sun																					
09/26/16	Mon	96%			3	1			57	39	0		87%		35	52			6	7	0	
09/27/16	Tue	92%		1	4	3			59	33	0		92%		33	59			4	4	0	
09/28/16	Wed	95%			1	4			59	36	0		93%		34	59			4	3	0	
09/29/16	Thu	96%			2	2			59	37	0		93%		34	59			4	3	0	
09/30/16	Fri	89%			6	5			57	32	0		94%		42	52			1	5	0	

**Preferred Flow** 

DATIS Reported Conditions Indicate Support for Non-Preferred Flow DATIS Reported Conditions <u>Do Not</u> Indicate Support for Non-Preferred Flow

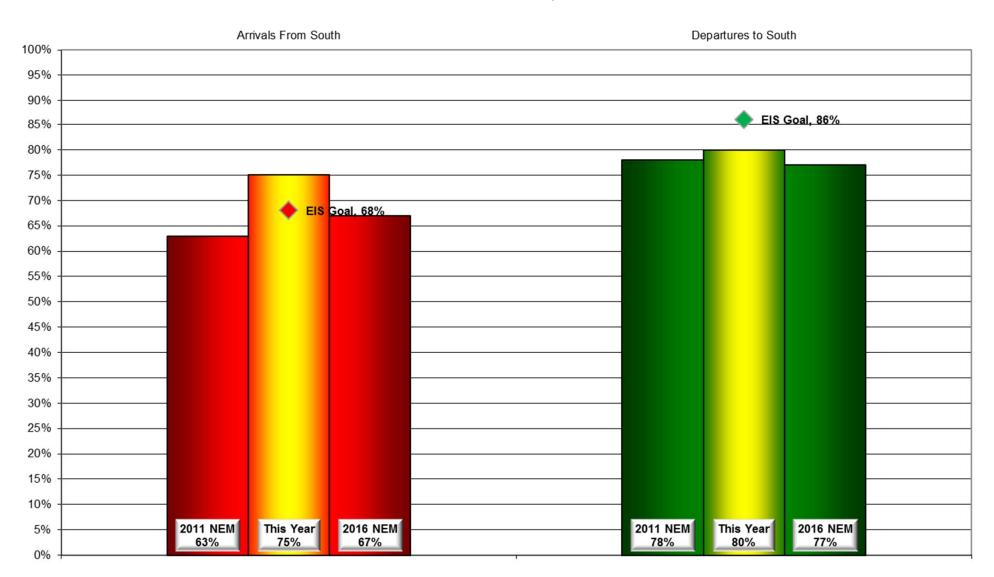
#### Monthly Contraflow October 3-31, 2016



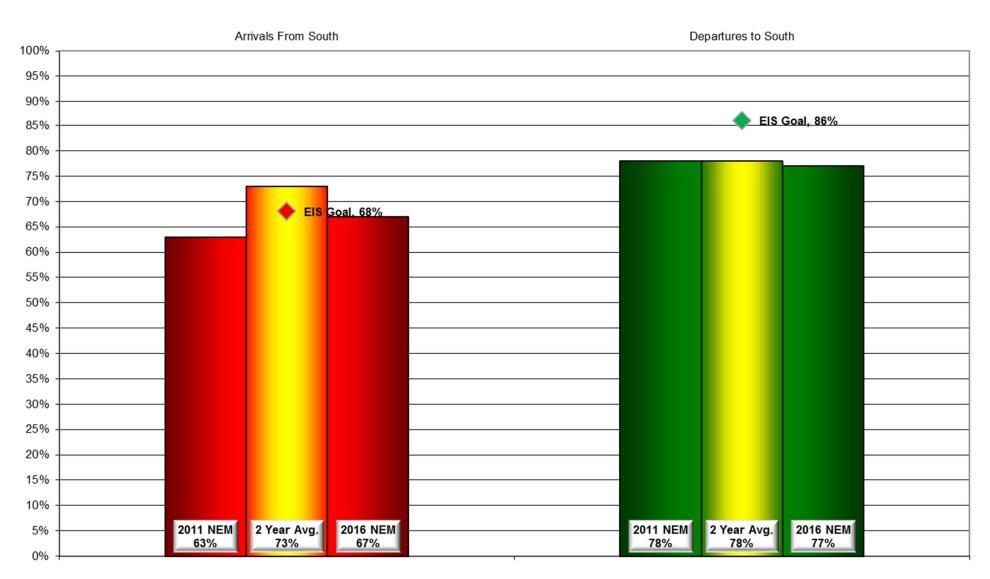
#### Daily Runway Use Summary – October 2016 (from 10:00 PM date list in first column to 7:00 AM the following morning

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									Unknown										Unknown	
	* in		Rı	unway	#				Runway	Notes /	** in		Rı	ınway i	#				Runway	Notes /
Date Day	compliance	11	17L			29	35L	35R	Use	Comments	compliance	11	17L	17R		29	35L		Use	Comments
10/03/16 Mon	96%		2				56				96%		37	59			3	1	0	
10/04/16 Tue	92%		7	1			53				92%		39	53			5	3	0	
10/05/16 Wed	95%		4	1			58				89%		37	52			6	5	0	
10/06/16 Thu	91%	1	8				56				95%		34	61			2	3	0	
10/07/16 Fri	100%						64	36	0		0%						59	41	0	350-360@12-14knts,G21
10/08/16 Sat																				
10/09/16 Sun																				
10/10/16 Mon	96%		2				57				97%		38	59			2	1	0	
10/11/16 Tue	96%		2	2			57	39			94%		39	55			2	4	0	
10/12/16 Wed	90%		9	1			57	33			75%		30	45			12	13	0	330-350@10
10/13/16 Thu	96%		3	1			56	40	0		95%		38	57			3	2	0	
10/14/16 Fri	96%		3	1			65	31	0		91%		34	57			2	7	0	
10/15/16 Sat																				
10/16/16 Sun																				
10/17/16 Mon	0%		40	60					0	180-190@7-10knts	100%		39	61					0	
10/18/16 Tue	0%		49	51					0	190-230@7-8knts	100%		42	58					0	
10/19/16 Wed	99%		1				60	39	0		35%		10	25			31	34	0	010-150@3-12knts
10/20/16 Thu	100%						63	37	0		0%						60	40	0	300-330@9-13knts,G21,RA
10/21/16 Fri	91%		4	5			54	37	0		90%		33	57			3	7	0	
10/22/16 Sat																				
10/23/16 Sun																				
10/24/16 Mon	96%		3				59				88%		33	55			8		0	
10/25/16 Tue	96%		3				60	36	0		94%		39	55			4	2	0	
10/26/16 Wed	0%		43	57						200-220@6-11knts	100%		38	62					0	
10/27/16 Thu	96%		2	2			57	39	0		89%		35	54			6	5	0	
10/28/16 Fri	87%		9	4			60	27	0		88%		36	52			4	8	0	
10/29/16 Sat																				
10/30/16 Sun																				
10/31/16 Mon	94%		5	1			60	34	0		88%		33	55			7	5	0	

#### Contraflow This Year As of November 4, 2016



#### Contraflow 2 Year Average November 2014 - October 2016



# Year-to-Year by Month Percent\* Contraflow

		Aı	rivals	From 1	the So	uth (G	oal 689	%)				Depa	rtures	to the	South	ı (Goal	86%)		
	2009	2010	2011	2012	2013	2014	2015	2016	Avg		2009	2010	2011	2012	2013	2014	2015	2016	Avg
Jan	63%	94%	91%	62%	72%	51%	76%	69%	72%	Jan	74%	54%	71%	80%	65%	81%	76%	69%	71%
Feb	49%	90%	73%	69%	77%	72%	66%	80%	72%	Feb	81%	71%	63%	74%	78%	71%	76%	67%	73%
Mar	46%	80%	52%	61%	87%	60%	71%	63%	65%	Mar	67%	82%	<b>72</b> %	96%	77%	77%	66%	77%	77%
Apr	53%	57%	47%	78%	60%	67%	53%	86%	63%	Apr	84%	84%	83%	76%	89%	83%	77%	73%	81%
May	66%	56%	69%	72%	46%	60%	75%	62%	63%	May	84%	87%	85%	81%	85%	92%	80%	80%	84%
Jun	72%	66%	61%	79%	76%	<b>75</b> %	57%	79%	71%	Jun	81%	96%	93%	87%	80%	91%	91%	83%	88%
Jul	72%	61%	91%	62%	74%	79%	74%	59%	72%	Jul	82%	90%	88%	92%	88%	85%	80%	91%	87%
Aug	61%	59%	82%	49%	84%	61%	86%	76%	70%	Aug	96%	92%	91%	91%	92%	92%	91%	90%	92%
Sep	89%	70%	85%	55%	86%	85%	95%	88%	81%	Sep	82%	73%	64%	92%	87%	86%	73%	93%	80%
Oct	42%	80%	88%	62%	87%	75%	86%	81%	75%	Oct	71%	78%	63%	78%	89%	79%	74%	81%	77%
Nov	74%	85%	55%	84%	73%	78%	59%		72%	Nov	73%	77%	72%	81%	83%	62%	88%		76%
Dec	71%	67%	70%	64%	58%	78%	55%		65%	Dec	65%	78%	65%	67%	71%	68%	79%		69%
Avg	63%	72%	72%	66%	73%	70%	71%	74%		Avg	78%	80%	76%	83%	82%	81%	79%	80%	

<sup>\*</sup>Number is percentage of all operations between 10:00 PM - 7:00 AM

#### NOISE COMMENT REPORT



September 2016

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Clarks Ln	40217	2016-09- 12 10:11:23	2016-09- 12 10:11:23	SDF	Other	NE	Investigated	LQHP	None	Homeowner called regarding her mom's home that they have since taken over. She had a friend that had the program and she was interested in having it for her home.
Wolfe AV	40217	2016-09- 28 01:12:10	2016-09- 28 01:12:10	SDF	Other	NE	Complaint	LQHP	None	I am writing to inquire if there has been any update to homes that previously qualified for the Quieter Home project that may be re-eligible now. This home was purchased as a foreclosure in May of 2013, under the assumption that it was eligible for upgrades through the Quieter Home project. Since then, we have contacted the Quieter Home office only to find out that the previous owner ignored notices sent to his home. We were told to continue to check back as we were not the only home that got overlooked when the project was in our location's phase. Has there been any update or is there anything at all that we can do to appeal? Any assistance would be greatly appreciated.
							Received	LQHP	2	
S 3rd St	40208	2016-09- 02 10:45:00	2016-09- 02 10:45:00	SDF	Other	NW	Investigated	Standard	None	I just met with a friend who is a higher-up at UPS. He said they just had a meeting about the expansion to the UPS facilities. He said they will be doubling the number of flights with this expansion. He said they were going from 200 up to 400 flights per day. He also said there was no talk of them redesigning and implementing new runways. Do you know anything about the expansion plans and any plans to alleviate the airplane noise?

Standard: Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment.
 Non Standard: Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment.
 QHP: QuieterHome Program

<sup>2.</sup> This column is used to indicate the conditions which most likely necessitated a deviation from the standard procedures.

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Denham RD	40205	2016-09- 07 15:17:00	2016-09- 06 18:30:00	LOU	Aircraft Too Low	NE	Investigated	Non- Standard	Operations	I cannot rest with the change in my neighborhood resulting from Bowman Field's change in flight take-off patterns. The noise and planes flying over my house causes me to leave my patio and go back in to the house. I can hear the noise from the planes flying over my house; the noise is so loud and the planes are so close that I hear it inside my house. Yesterday between 6:30 p.m. and 7:30 p.m. planes flew directly over my home not more than 100 feet high. I looked at the flight tracking data website for September 6, 2016 at 7:07 (radar data) and the plane was 94 feet high; two planes (1) white with green striping, single engine, wing on top of fuselage, fixed wheels, and (2) a yellow similar plane. During the take-off, the planes are turning towards my house and not reaching a safe altitude for this populated residential area. I am awakened by planes flying over my house in the early morning hours. I have never seen as many for sale signs on Drayton Drive as there have been over the past year. Bowman Field's change in take-off operating procedure has damaged the value of my neighborhood, and caused me personal anguish. I remain on edge since a pilot wrote the word crash over my property (see attached photo). Some pilots are sharply turning and banking, with engines screaming, flying over my house like they are in an air show and they are under 100 feet in the air. I have read about runway takeoff distance and accelerate-stop (A/S) distance. A/S is that distance needed to accelerate an aircraft to rotation speed(Truncated for space)

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Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Tupelo Dr	47129	2016-09- 09 17:18:00	2016-09- 09 17:18:00	SDF	Aircraft Too Low	SI	Investigated	Standard	None	I had placed a complaint 3 or 4 weeks ago with the FAA about airplanes flying over the houses in our neighborhood, the altitude at which they were flying and the noise they were making. I have already been told by Lori that I sound angry, I hope I don't sound angry to you, I am just used to talking loud. Like I said to the FAA when I talked to them last time, why can't these jets follow the path down I-65? I know what the Federal Law is, there has to be a straight stretch every 5 miles in case the plane has to make an emergency landing. So why can't they fly over the expressway instead of flying over my house? I do not understand that. If you can give me a good answer, and I mean a really good answer, then maybe I could come to some kind of understanding. But right now I just do not understand why they keep flying over our houses. They are so low that they are going to have to raise the altitude to get over the skyscrapers in Louisville.
Southcrest Dr	40215	2016-09- 13 14:20:00	2016-09- 13 02:30:00	SDF	Too Much Noise	SW	Investigated	Standard	None	There was lots noise over here this morning from about 2:30 to 5:30 AM.
S 4th St	40214	2016-09- 13 22:29:00	2016-09- 13 02:30:00	SDF	Too Much Noise	SW	Investigated	Standard	None	The jet engine noise on the morning of Tuesday starting around 2:30 A.M. was very disturbing the whining even affects my dog.

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Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Landor AV	40205	2016-09- 24 15:39:00	2016-09- 24 15:39:00	LOU	Constant Noise	NE	Investigated	Standard	None	I am calling again about what you can do about these airplanes and them flying no more 50 feet on top of our houses and the noise. They go around in circles constantly. No one ever goes anywhere. I thought you flew from an airport and you went somewhere. They don't go anywhere they just go in circles all day long. There is a few remedies that I know of; a. have them use the other runway that goes over the park and would not disrupt most people, or have them alternate which way they takeoff. This is crazy for real, it is absolutely absurd that this whole neighborhood cannot have any peace on the weekend, during the week or anytime. There is no rhyme or reason, they are just back to back right behind each other, they do not give each other 30 seconds before there is another one right behind it and they do not go anywhere. We could all live in peace if we knew these planes would go somewhere. They do not go anywhere. Are we barking up the wrong tree? Is there someone else we should be talking to and not you? We really need some help over here. This is absolutely insane. I can't talk on the phone, we can't watch TV, we can't barbeque in our yard we can't do anything. This is crazy.
S. Shelby ST	40217	2016-09- 26 19:07:00	2016-09- 26 19:07:00	SDF	Other	NE	Investigated	Standard	None	I was calling to see if they had redrawn the maps yet for airport noise rebate. Could you give me a call back?

<sup>1. &</sup>lt;u>Standard:</u> Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment. <u>Non Standard:</u> Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment. <u>QHP:</u> QuieterHome Program

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Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
St James Ct	40208	2016-09- 26 20:48:00	2016-09- 26 20:48:00	SDF	Too Much Noise	NW	Investigated	Standard	None	Below are points that came up during a recent neighborhood discussion of the topic of fly over noise in the St. James, Third and Fourth Street areasthe flight line that crosses the Conrad Caldwell Mansion on over St. James and 3rd and 4th streets toward the Belknap Campus of UofL. 1) Bill (They mean Bob) Slattery has a drawn plan dated 2003 in which there were runways proposed that would come into the area from the west-predominantly over the corridor of abandoned factory buildings and lower overall population density. That plan was submitted to FAA - 13 years ago -for approval and has yet to be addressed. 2) The sound levels are dangerously high and you and your family and pets are being subjected to noise levels over 100 decibels. You can measure them for yourselves; God knows you won't have to wait long. There are free apps for your smart phones you can download. 3) It isn't just noise. The planes are essentially crop-dusting the neighborhood with fuel. A neighbor was losing the koi in their fish pond. They had the water tested and there was jet fuel in it. This is a serious situation. Jet fuel exposure can affect your immune system, your bones, your blood and your lungs. It is toxic, google jet fuel risks. 4) Regarding the weather: Yes. If the weather is inclement and we have winds over 7 knots, they redirect the air traffic over us. There are days with no wind and perfectly clear skies and the planes still come in so the wind direction and speed obviously is NOT the primary cause for flights over Old Louisville (Truncated for space)

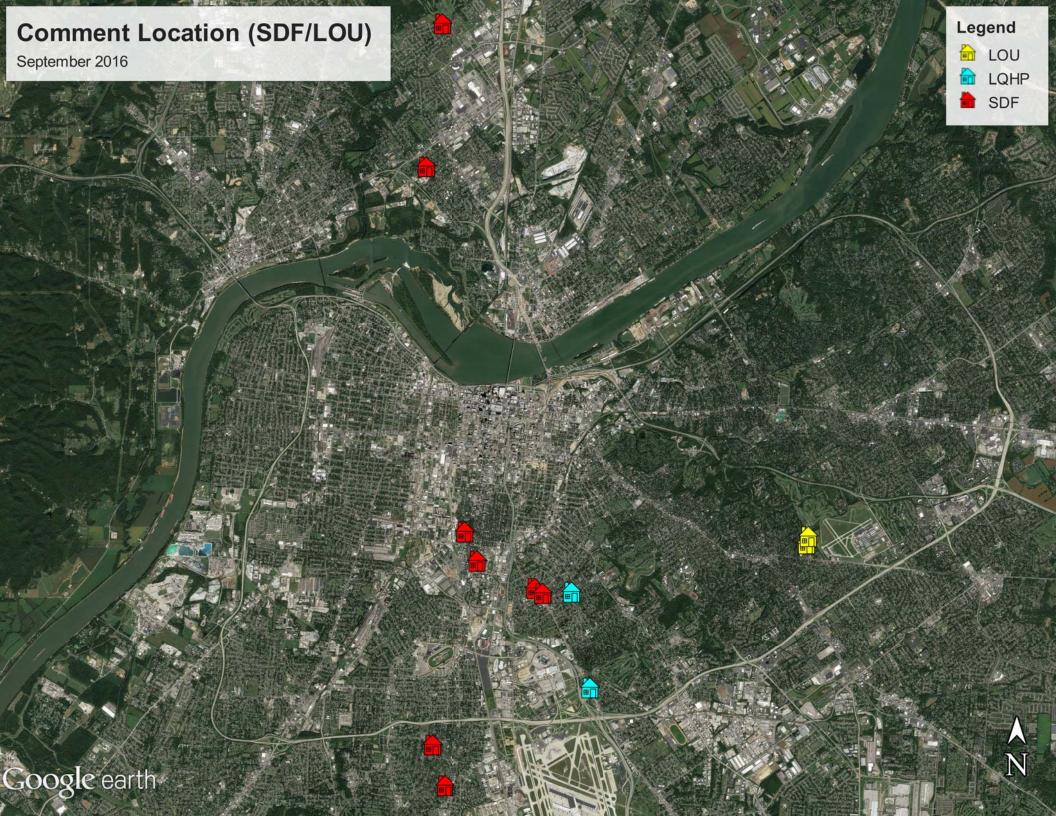
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Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
S Preston St	40217	2016-09- 27 15:23:00	2016-09- 27 15:23:00	SDF	Other	NE	Investigated	Standard	None	Can you explain what the program is? Several years ago many people around me received new soundproof windows, doors and other appliances due to airplane noise. At that time my home was not included which never made sense to me considering people 4 blocks away were included. Has this been updated to include more homes in the area?
Wolfe AV	40217	2016-09- 28 10:59:00	2016-09- 28 10:59:00	SDF	Other	NE	Investigated	Standard	None	I am writing to inquire if there has been any update to homes that previously qualified for the Quieter Home Project that may be re-eligible now. This home was purchased as a foreclosure in May of 2013, under the assumption that it was eligible for upgrades through the Quieter Home Project. Since then, we have contacted the Quieter Home Office only to find out that the previous owner ignored notices sent to his home. We were told to continue to check back as we were not the only home that got overlooked when the project was in our location's phase. Has there been any update or is there anything at all that we can do to appeal? Any assistance would be greatly appreciated.
Wildwood Drive	47129	2016-09- 30 14:42:00	2016-09- 30 14:42:00	SDF	Too Much Noise	SI	Investigated	Standard	None	The last two or three weeks have been horrible. The planes go right over our chimney. If they moved them 50 feet one way or the other it would make a huge difference. This has been going for years and not a damn thing has happened, nothing. I have laid low for a while but I am going to start calling again.
							Received	LRAA	11	

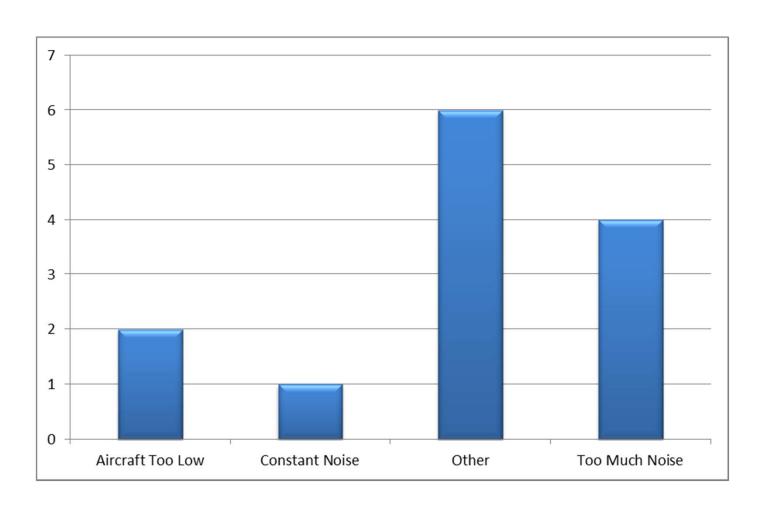
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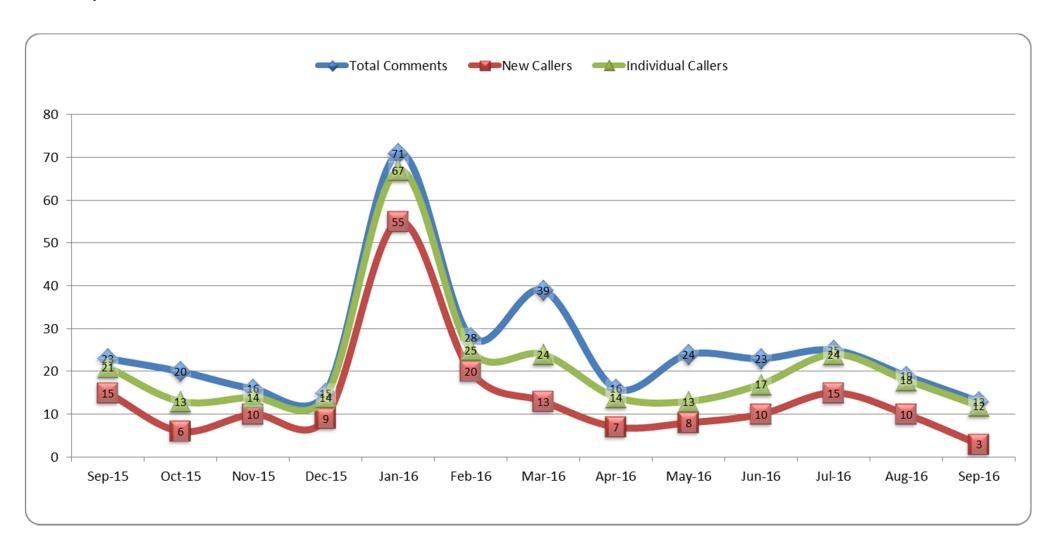
### Comment Type\* (SDF and LOU)

September 2016



#### New Address/Comments per Month (SDF and LOU)

#### September 2016



#### NOISE COMMENT REPORT



October 2016

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Delor Ave	40217	2016-10- 04 01:30:10	2016-10- 04 01:30:10	SDF	Other	NE	Investigated	LQHP	None	Homeowner called to inquire about the program.
French Ave	40217	2016-10- 04 10:50:32	2016-10- 04 10:50:32	SDF	Other	NE	Investigated	LQHP	None	Homeowner got information from a friend. The noise level at her home is unbearable and she needs to get new windows.
Springdale DR	40213	2016-10- 24 02:30:15	2016-10- 24 02:30:15	SDF	Other	NE	Investigated	LQHP	None	Daughter called on behalf of mom to see if home is eligible. She said homes were done in her vicinity. She wanted to know how they were identified as outside of the boundary.
							Received	LQHP	3	
Landor Ave	40205	2016-10- 04 00:05:00	2016-10- 03 23:55:00	LOU	Too Much Noise	NE	Investigated	Standard	None	I wanted to reach out to document a complaint of excessive noise from a landing plane about five to ten minutes ago followed by a stretch of loud engine noise from Bowman that just subsided. It woke me from sleep and is quite upsetting.
Meridale AV	40214	2016-10- 04 21:57:00	2016-10- 04 21:45:00	SDF	Over Use of Runway	SW	Investigated	Non Standard	Ops	Large aircraft very low over house on Meridale landing from the west. Two so far in the last 15 minutes.  Kentucky Guard? Why so low?

Standard: Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment.
 Non Standard: Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment.
 QHP: QuieterHome Program

<sup>2.</sup> This column is used to indicate the conditions which most likely necessitated a deviation from the standard procedures.

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Taylorsville Rd	40205	2016-10- 06 17:30:00	2016-10- 06 17:15:00	LOU	Too Much Noise	NE	Investigated	Standard	None	It is 5:30 P.M. and for the last 10 or 15 minutes there is a plane doing touch-and-go's. I went to that meeting last night and I commented about how some of the planes are loud. You can hear that plane on its entire circle doing touch-and-go's, it never got quiet. I am inside my house with the air conditioner on and I live on Taylorsville Road. So it basically circles my house and I can hear it flying over Bardstown Road. That is one of the loud planes that I commented on last night.
Ottawa Ave	40209	2016-10- 06 23:31:00	2016-10- 06 23:31:00	SDF	Too Much Noise	SW	Investigated	Standard	None	I called and they said to call you. Here it is about 11:30 P.M. and we are hearing these planes going over our house and I was told to call and report it to you. It usually begins about 11:30 P.M. and goes until about 2:00 A.M.
Melford Ave	40217	2016-10- 11 09:39:00	2016-10- 11 09:39:00	SDF	Other	NE	Investigated	Standard	None	I am trying to get information about the noise reduction area. I was talking to Senator Morgan McGarvey. He was saying they are trying to get that area expanded. I just want to know what, if anything, you all are doing to assist people that are actually in that flight pattern area.
Emil Ave	40217	2016-10- 17 20:59:00	2016-10- 17 20:59:00	SDF	Other	NE	Investigated	Standard	None	I have a question about the property mentioned above and whether or not it qualifies for any noise reduction measures, specifically windows.

Standard: Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment.
 Non Standard: Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment.
 QHP: QuieterHome Program

<sup>2.</sup> This column is used to indicate the conditions which most likely necessitated a deviation from the standard procedures.

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
Wildwood Drive	47129	2016-10- 19 14:36:00	2016-10- 19 14:36:00	SDF	Constant Noise	SI	Investigated	Standard	None	I called a couple of weeks ago and asked if there had been some change in traffic over our neighborhood and it appears to have increased 5 fold right over the center of our house. Although I pointed that out, you could not account for it. You indicated there really had not been any changes. The noise is unbelievable; it is rare when there is not plane noise right over our house. So something has happened. I am not sure what it is, a narrowing of the corridor or something because even though we have been plagued by air noise it was mostly tolerable. But now it is day and night going into Standiford Field. I wish you would look into that and if I had an answer to that or knew that it was a temporary thing I would feel better about it. If it was a permanent thing I have no choice but to move, it is that bad. So, if you could look into that before you call me back I would appreciate it. If there is no news then I guess there is no news but there is certainly a difference on the ground. Also, I have contacted Washington DC to try and get something done about it since the local level seems so ineffective.
Landor Ave	40205	2016-10- 20 21:52:00	2016-10- 20 21:50:00	LOU	Vibrations	NE	Investigated	Standard	None	A very loud airplane went over my home at 9:50 P.M. on October 20, 2016. It shook the doors.
Ottawa Ave	40209	2016-10- 20 23:28:00	2016-10- 20 23:28:00	SDF	Too Much Noise	SW	Investigated	Standard	Weather	Here it is 11:30 P.M. and we have these loud planes going over. If you would like to discuss it with me give me a call. This is a nightly ordeal, these planes going over loud and it wakes my grandson up.

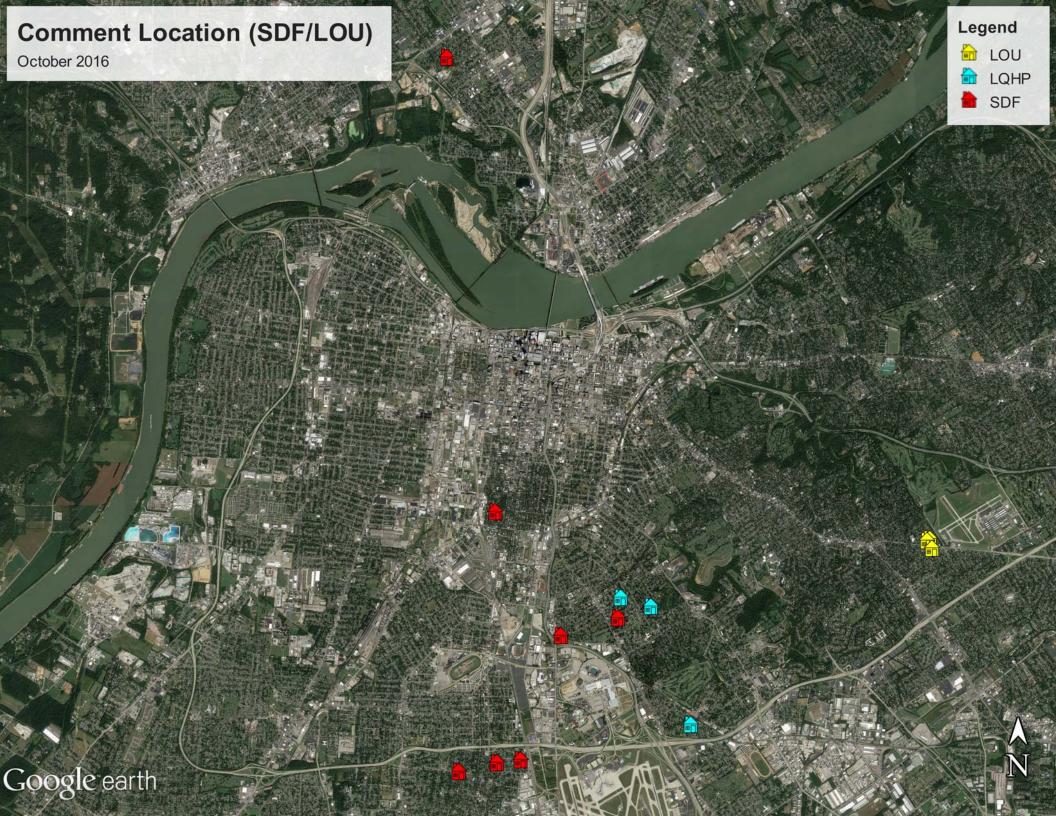
Standard: Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment.
 Non Standard: Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment.
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<sup>2.</sup> This column is used to indicate the conditions which most likely necessitated a deviation from the standard procedures.

Street	Zip Code	Time Received	Time	Airport	Disturbance Type	CNF Quad	Status	Operation or Comment Type <sup>1</sup>	Deviation Type <sup>2</sup>	Comments
W Ashland Ave	40215	2016-10- 21 04:13:00	2016-10- 21 04:13:00	SDF	Noise At Wrong Time	SW	Investigated	Non- Standard	Weather	I am calling to report that it is 2:00 A.M. and the jets or planes are rolling out one right after the other. I am not sure if anyone has reported it but I wanted to report it and let you know that we just do not appreciate this.
W Ashland Ave	40215	2016-10- 25 03:52:00	2016-10- 25 03:52:00	SDF	Noise At Wrong Time	SW	Investigated	Standard	Weather	I live over here in Beechmont and wanted to let you know that we are hearing some loud airport noises this morning at 3:50 A.M.
St James Ct	2016-10- 27 27 21:30:00 21:30:00		SDF	Other	NW	Investigated	Non- Standard	Weather	When will the draft for the revised Noise Exposure Map document be available for review and comment? At the September meeting the indication was the first part of November. I want to be certain we do not miss the review period.	
							Received	LRAA	12	

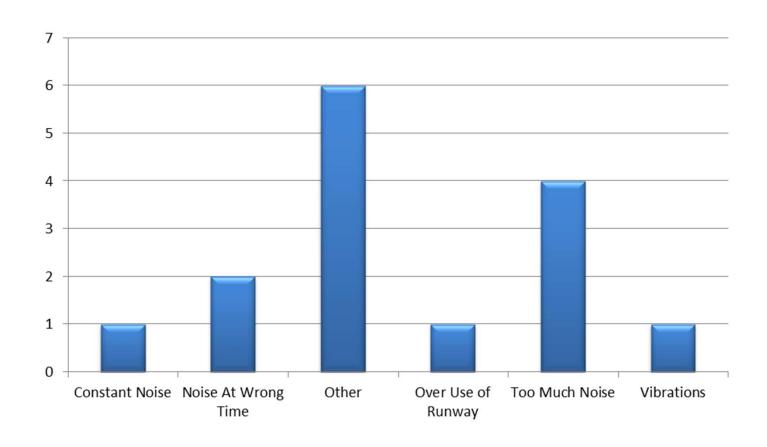
Standard: Indicates the "Most Preferred" runway configuration was being utilized at the time of the comment.
 Non Standard: Indicates that a "Lesser Preferred" runway configuration was being utilized at the time of the comment.
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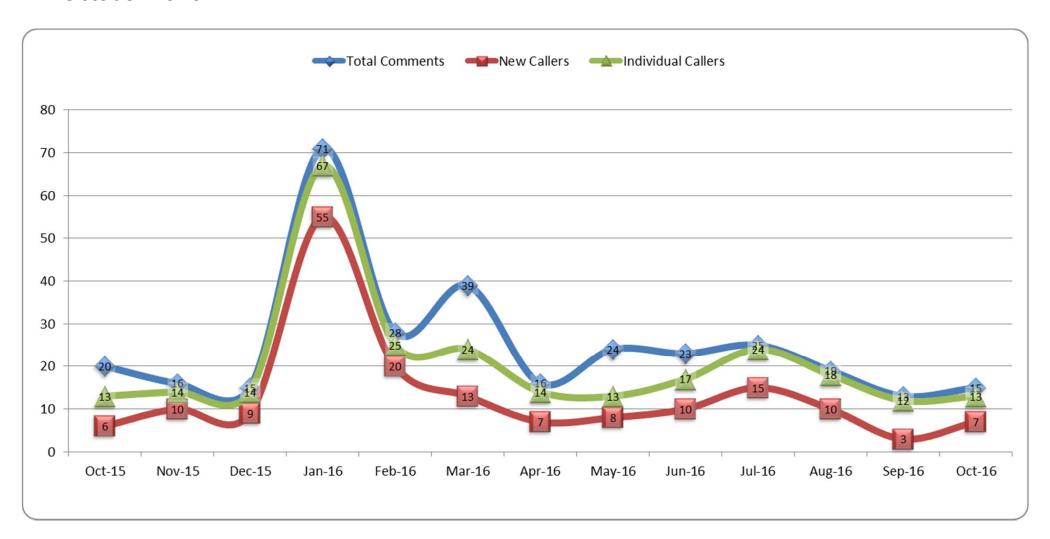
### $Comment\ Type^*\ {}_{\text{(SDF and LOU)}}$

October 2016

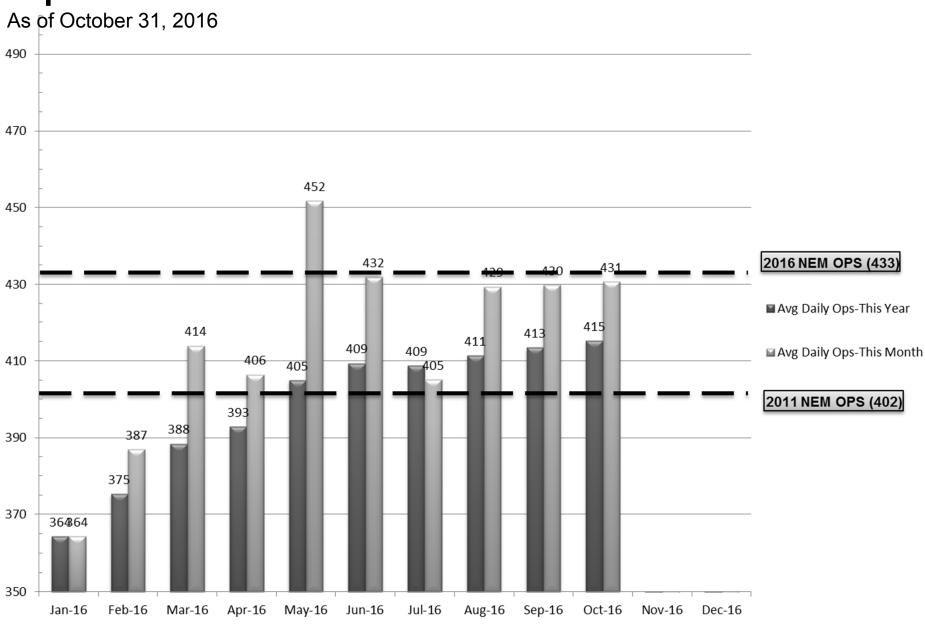


#### New Address/Comments per Month (SDF and LOU)

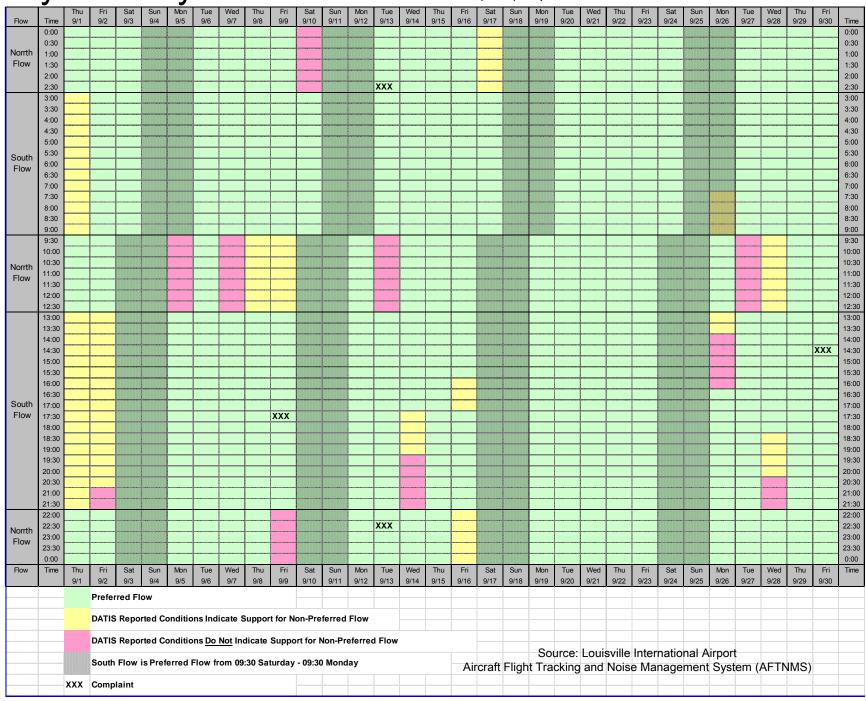
October 2016



### Operations (SDF)



#### Daily Runway Use Uncorrected (SDF) September 2016



# Daily Runway Use (SDF) Tower Comments September 2016

Day	Date	Time	Comment
thu	1-Sep-16	111110	- Commont
fri	2-Sep-16	2100-2130	Wind 0410
sat	3-Sep-16		
sun	4-Sep-16		
mon	5-Sep-16	0930-1230	Reason not documented.
tue	6-Sep-16		
wed	7-Sep-16	0930-1230	Wind 1908, forecast southerly at 10-12 kt.
thu	8-Sep-16		
fri	9-Sep-16	2200-0000	Wind 1809
sat	10-Sep-16	0000-0230	Wind 2009
sun	11-Sep-16		
mon	12-Sep-16		
tue	13-Sep-16	0930-1230	Airport config: 17L/35R, 11/29, and TWY G closed
wed	14-Sep-16	1930-2130	Wind 3410
thu	15-Sep-16		
fri	16-Sep-16		
sat	17-Sep-16		
sun	18-Sep-16		
mon	19-Sep-16		
tue	20-Sep-16		
wed	21-Sep-16		
thu	22-Sep-16		
fri	23-Sep-16		
sat	24-Sep-16		
sun	25-Sep-16		
mon	26-Sep-16	1400-1600	Wind 3108, wet runways
tue	27-Sep-16	0930-1230	PIREP, MD11 10kt tail wind @500 feet.
wed	28-Sep-16	2030-2130	Wind 3510
thu	29-Sep-16		
fri	30-Sep-16		

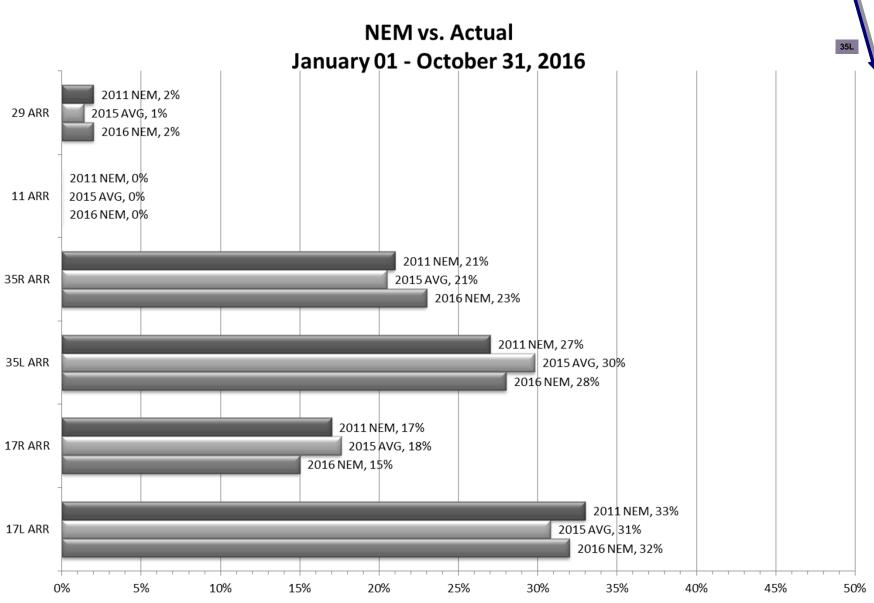
Daily Runway Use Uncorrected (SDF) October 2016

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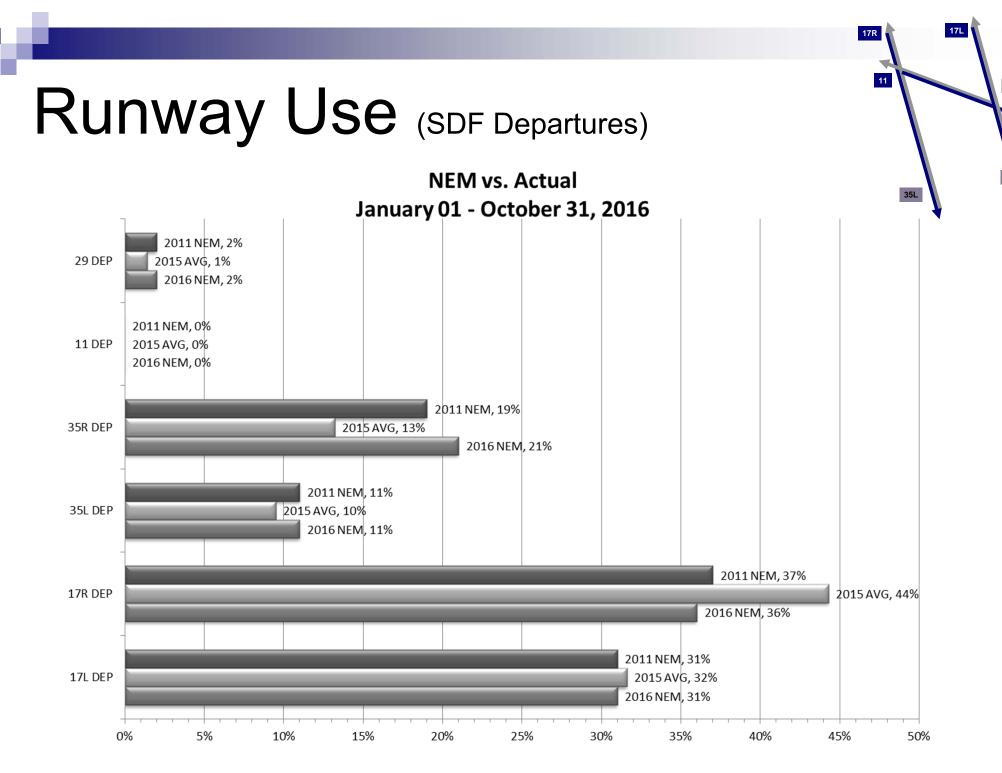
# Daily Runway Use (SDF) Tower Comments October 2016

Day	Date	Time	Comment
1-Oct-16	Sat		
2-Oct-16	Sun	1500-1600	Wind 3310
3-Oct-16	Mon		
4-Oct-16	Tue	0930-1230	Wind short final 1914
5-Oct-16	Wed		
6-Oct-16	Thu		
7-Oct-16	Fri	1800-2030	Wind 3310
8-Oct-16	Sat		
9-Oct-16	Sun		
10-Oct-16	Mon		
11-Oct-16	Tue	0930-1230	Wind 2414 short final
12-Oct-16	Wed		
13-Oct-16	Thu	1300-1330	Wind 0109
14-Oct-16	Fri		
15-Oct-16	Sat		
16-Oct-16	Sun		
17-Oct-16	Mon		
18-Oct-16	Tue		
19-Oct-16	Wed	0930-1230	Tower cab window replacement
20-Oct-16	Thu		
21-Oct-16	Fri		
22-Oct-16	Sat		
23-Oct-16	Sun		
24-Oct-16	Mon	1930-2130	Wind 3613
25-Oct-16	Tue	0930-1230	Airport construction - TWY closures
26-Oct-16	Wed		
27-Oct-16	Thu	2100-2130	Reason not recorded.
28-Oct-16	Fri		
29-Oct-16	Sat		
30-Oct-16	Sun		
31-Oct-16	Mon	0930-1000	Log shows north operation at 0935.





11





# Runway Use 0930L-1230L(SDF)

As of October 31, 2016

	Arrival Percentage by Runway					Departure Percentage by Runway										
	11	17L	17R	29	35L	35R	% From South	<b>Arrival Count</b>	11	17L	17R	29	35L	35R	% To North	<b>Departure Count</b>
Nov-14	0	11	15	8	44	22	66	610	0	16	14	11	10	49	59	335
Dec-14	0	22	13	0	38	27	65	959	0	24	16	1	8	51	59	373
Jan-15	0	17	6	0	45	32	77	619	0	15	8	3	22	52	74	313
Feb-15	0	14	18	0	37	31	68	619	0	12	15	2	10	61	71	317
Mar-15	0	9	17	0	47	27	74	662	0	10	15	0	28	47	75	396
Apr-15	0	20	15	14	37	14	51	667	0	24	21	16	23	16	39	371
May-15	0	28	23	0	38	11	49	656	0	33	27	0	19	21	40	358
Jun-15	0	21	22	0	42	15	57	683	0	30	22	0	17	31	48	349
Jul-15	0	12	25	0	42	21	63	827	0	17	21	0	15	47	62	403
Aug-15	0	15	25	0	38	22	60	712	0	20	19	0	15	46	61	365
Sep-15	0	7	24	0	36	33	69	796	0	11	20	0	13	56	69	407
Oct-15	0	19	31	0	26	24	50	784	0	20	25	0	2	53	55	411
Nov-15	0	20	25	11	22	22	44	676	0	15	26	12	5	42	47	380
Dec-15	0	26	19	0	37	18	55	1082	0	24	25	0	5	46	51	449
Jan-16	0	26	22	2	30	20	50	650	0	26	22	3	11	38	49	312
Feb-16	0	17	12	0	49	22	71	738	1	13	14	2	19	51	70	314
Mar-16	0	33	37	0	21	9	30	796	0	31	29	4	9	27	36	396
Apr-16	0	27	17	8	31	17	48	712	1	30	17	6	15	31	46	356
May-16	0	17	25	0	37	21	58	821	0	21	19	4	25	31	56	394
Jun-16	0	9	12	0	49	30	79	816	0	14	9	4	24	49	73	392
Jul-16	0	17	30	1	32	20	52	723	0	17	27	2	14	40	54	394
Aug-16	0	14	46	0	21	19	40	845	0	18	35	1	13	33	46	404
Sep-16	0	14	27	0	37	22	59	856	0	14	22	0	9	55	64	399
Oct-16	0	16	35	0	24	25	49	803	0	19	25	1	0	55	55	393
Monthly Avg.	0	18	23	2	36	22	58		0	20	21	3	14	43	57	



# Gate Compliance by Runway

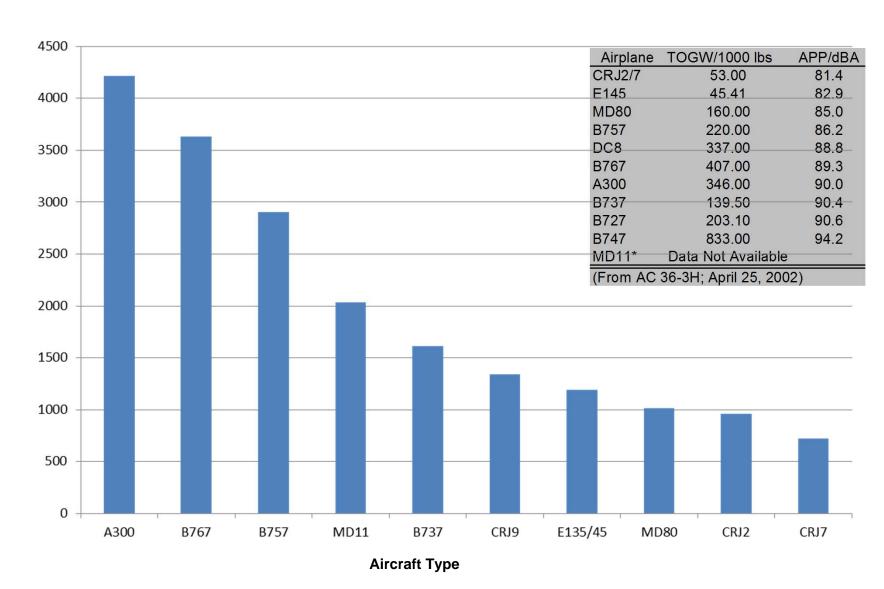
As of October 31, 2016

ARRIVALS Percent Compliant										
Month	17L	17R	35L	35R	ARR AVG	17L	17R	35L	35R	DEP AVG
Nov-14	80%	91%	91%	91%	88%	79%	92%	83%	87%	85%
Dec-14	91%	96%	93%	95%	94%	85%	89%	81%	88%	86%
Jan-15	80%	93%	90%	87%	88%	83%	93%	78%	88%	86%
Feb-15	80%	91%	87%	87%	86%	84%	93%	81%	92%	88%
Mar-15	78%	90%	88%	84%	85%	83%	88%	65%	86%	81%
Apr-15	83%	93%	80%	77%	83%	79%	86%	63%	82%	78%
May-15	79%	86%	84%	82%	83%	82%	87%	71%	90%	83%
Jun-15	80%	91%	87%	85%	86%	84%	89%	78%	91%	86%
Jul-15	86%	96%	88%	85%	89%	73%	86%	71%	87%	79%
Aug-15	81%	90%	82%	82%	84%	77%	88%	78%	88%	83%
Sep-15	79%	86%	84%	83%	83%	78%	88%	77%	91%	84%
Oct-15	82%	90%	88%	85%	86%	71%	88%	66%	86%	78%
Nov-16	82%	93%	87%	86%	87%	80%	88%	75%	87%	83%
Dec-16	89%	97%	93%	94%	93%	75%	90%	83%	90%	85%
Jan-16	83%	94%	89%	88%	89%	74%	90%	63%	83%	78%
Feb-16	80%	94%	91%	91%	89%	85%	89%	75%	83%	83%
Mar-16	85%	95%	89%	88%	89%	70%	87%	73%	85%	79%
Apr-16	80%	90%	86%	87%	86%	83%	83%	69%	82%	79%
May-16	82%	93%	86%	87%	87%	82%	87%	65%	88%	81%
Jun-16	77%	91%	85%	85%	85%	87%	88%	75%	85%	84%
Jul-16	84%	92%	88%	91%	89%	82%	88%	61%	88%	80%
Aug-16	85%	94%	87%	88%	89%	85%	88%	72%	89%	84%
Sep-16	80%	91%	89%	89%	87%	84%	90%	61%	88%	81%
Oct-16	82%	92%	86%	86%	87%	82%	90%	74%	90%	84%
24 Month Avg.					87%					82%

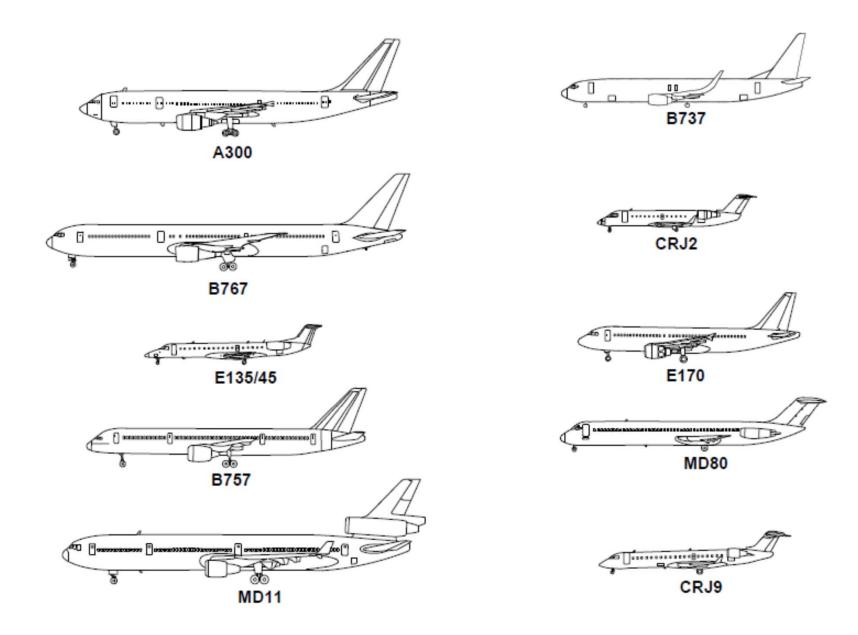
# Operations by Aircraft Type (SDF) Only Top 10 Aircraft Types Shown

September / October 2016

**Operations** 



# Sample Aircraft Types (SDF)



# Louisville International Airport 2016 Noise Exposure Map Update

Community Noise Forum November 28, 2016





### 2016 NEM Update – Consultant Project Team

- HMMH
  - Project management
  - Noise lead
  - Land use inventory and assessment



- C&S Engineers, Inc.
  - Aviation forecast
  - Land use review





- Guthrie/Mayes Public Relations
  - Community outreach support





#### 2016 NEM Update – Stakeholder: Community Noise Forum

- Airport Neighbor's Alliance (ANA) Representative
- Community representatives
  - Northeast, southeast, northwest, southwest quadrants –
     one representative from each quadrant
- Airline Affairs Representative
  - Representing all airline partners
- Kentucky Air National Guard (123<sup>rd</sup>)
- FAA local Air Traffic Control representative
- University of Louisville
- Southern Indiana
- Fixed Base Operator (FBO)
- Louisville Regional Airport Authority





#### Airport Noise Compatibility Planning – 14 CFR Part 150: "Part 150"

- 14 CFR Part 150 A Part 150 study is a voluntary process, which airports undertake to:
  - Assess aircraft noise and land use compatibility
     Noise Exposure Map or NEM
  - Determine noise abatement, noise mitigation and program implementation measures to improve land use compatibility Noise Compatibility Program or NCP
  - Obtain federal funding to implement the NCP measures
- It is an opportunity to work collaboratively with our partners (Airlines, FAA and the Community) to assess and reduce noise incompatibility with aircraft operations
- Part 150 is intended to be a continual process until there remain no incompatible land uses due to aircraft noise





#### Airport Noise Compatibility Planning – 14 CFR Part 150: "Part 150"

- The most recent Part 150 study for Louisville International Airport (SDF) was completed in 2003 and included both elements:
  - Noise Exposure Map to assess aircraft noise and land use compatibility
  - Noise Compatibility Program to improve the noise and land use compatibility, which included
    - Relocation Program
    - Sound Insulation Program
    - Other Noise Mitigation Measures
- The SDF Noise Exposure Map has been updated periodically to conform to Part 150 regulations that require the maps to reflect current or reasonably projected conditions
  - According to FAA current guidance an NEM update is required if:
    - There is a DNL 1.5 dB or greater change in the DNL contours over incompatible land uses
    - The most recent FAA-accepted NEM is more than five years old
      - If the NEM is over 5 years old, the airport may confirm in writing that the current NEM continues to represent current or reasonably projected conditions
- The focus of the current project is to update the Noise Exposure Maps
  - Determine the current noise (2016) and forecast (2021) noise inventory and assess the land use compatibility situation at the airport





#### What is an NEM Update? – Noise Exposure Map

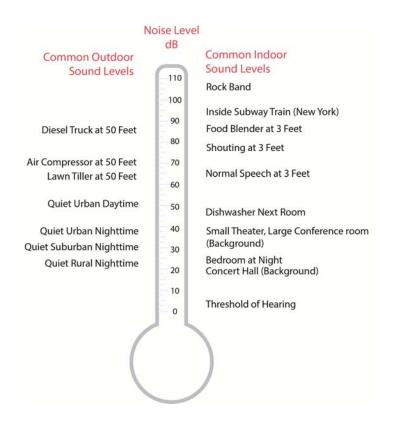
- The NEM update takes into account:
  - Airport layout
  - Aircraft operations: existing and five-year forecast
    - Runway use
    - Flight tracks
  - Meteorological conditions and terrain features
  - Land use
- The NEM provides results for two timeframes:
  - Year of submission (2016): Existing Conditions
  - Five-year forecast (2021): Forecast Conditions
- Annual noise exposure is depicted using Day-Night Average Sound Level (DNL) "contours"





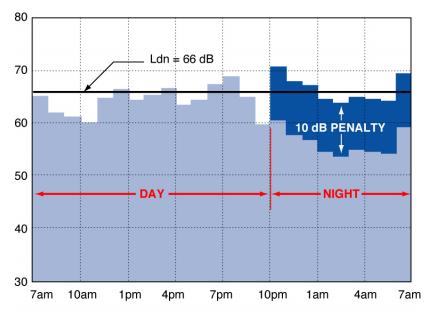
# **Aircraft Noise Terminology**

#### **Common Sound Levels**



#### Day-Night Average Sound Level (DNL)

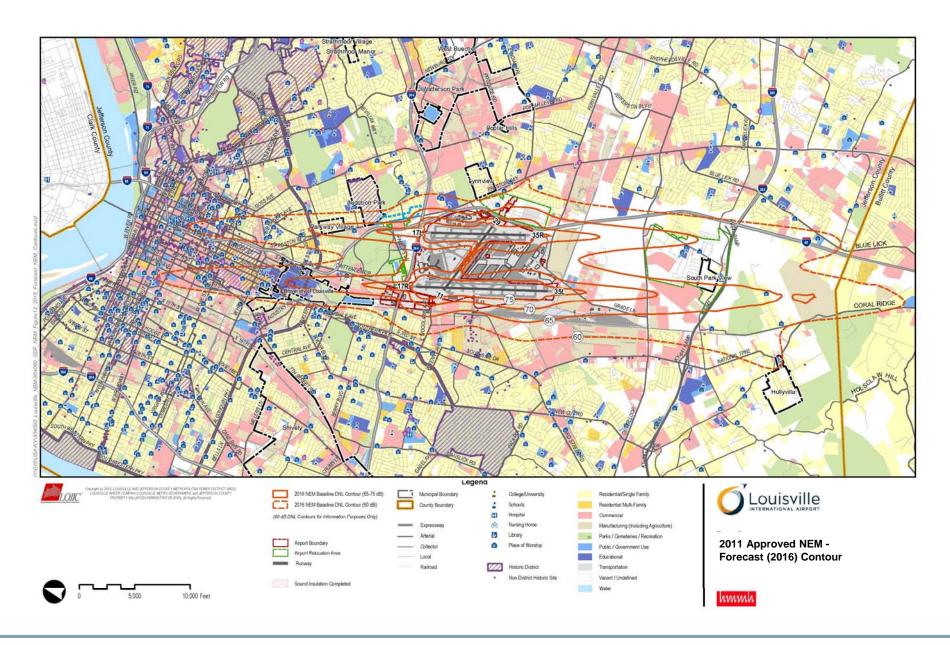
- DNL is the only metric Part 150 requires us to consider
- Computed in the FAA's Aviation Environmental Design Tool (AEDT)
- DNL is an average 24-hour exposure over the course of a year
- Noise from 10 pm to 7 am is factored up by 10 dB
- "Penalty" is equal to counting each night operation 10 times







#### **2011 Approved NEM** – Forecast Conditions (2016) Contour







# **NEM Project Progression**

- November 2015 project kickoff
  - Introduction of the 2016 NEM update project to the Community Noise Forum (CNF)
- Progressed through 2016 reviewing and evaluating:
  - Flight tracks
  - Existing and forecast aircraft operations
  - Extent of noise exposure DNL contours
  - Runway use and aircraft fleet mix
  - Land uses (Residential, Commercial, etc.)
  - Departure and arrival procedures
- October 2016 preliminary results
  - Draft 2016 NEM document delivered to CNF
- November 2016 public review of draft documentation





#### **NEM Ingredients**

- Apply approved Part 150 program initiatives
- Incorporate items into the Aviation Environmental Design Tool (AEDT):

*Note: AEDT replaced the Integrated noise Model (INM)* 

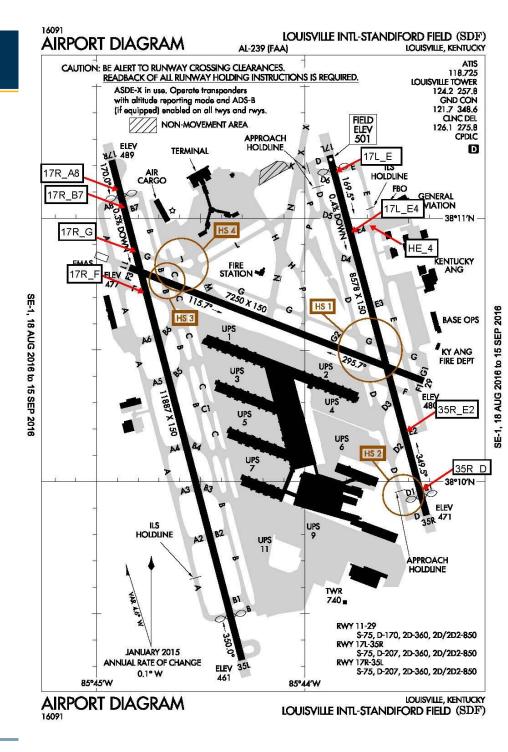
- Airport layout
- Meteorological conditions and local terrain features
- Aircraft Operations Existing and Forecast
- Aircraft noise and performance
- Runway use
- Flight tracks
- Combine with land use base map
  - Map developed from LOJIC data, windshield survey and input from LRAA staff and the University of Louisville Note: LOJIC is The Louisville/Jefferson County Information Consortium





# **Airport Layout**

 Runway information based on FAA standard form 5010







# Meteorological and Terrain Features

- Meteorological conditions in AEDT based on atmospheric absorption type "SAE-ARP-5534"; include:
  - Temperature
  - Pressure
  - Relative humidity
- Terrain features were used with the AEDT to adjust the elevation of the terrain under the aircraft flight path
  - Terrain data was obtained from United States Geological Survey (USGS)





### Aircraft Operations – Existing

- Utilized multiple sources:
  - Louisville Regional Airport Authority (LRAA) flight tracking system (www.airscene.com)
  - U.S. DOT airline on-time performance data
  - FAA aircraft registration database
  - FAA Air Traffic Activity Data System (ATADS)
  - Kentucky Air National Guard (KyANG) for military operations
  - Operator interviews





# Aircraft Operations – Forecast

- Five-year forecast based on:
  - 2004 Master Plan Forecast
  - FAA Terminal Area Forecast (TAF)
  - FAA Air Traffic Activity Data System (ATADS)
  - FAA Enhanced Traffic Management System Counts
  - Kentucky Air National Guard (KyANG) for Military Operations
  - Operator Interviews





#### **Aircraft Noise and Performance**

- Utilized standard database of aircraft contained in the FAA Aviation Environmental Design Tool (AEDT)
- Incorporated the specific type of aircraft operating at SDF by correctly accounting for the fleet mix
- Integrated aircraft performance profiles representing how the aircraft specifically operate at SDF





### Runway Use

- Existing runway use
  - Incorporated actual 2015 calendar year data
  - Included over 67,000 individual flight tracks
- Forecast Runway Use
  - Adjustments were based on long-term historical trend data
    - 8 full calendar years of contra-flow operations (2007-2014)





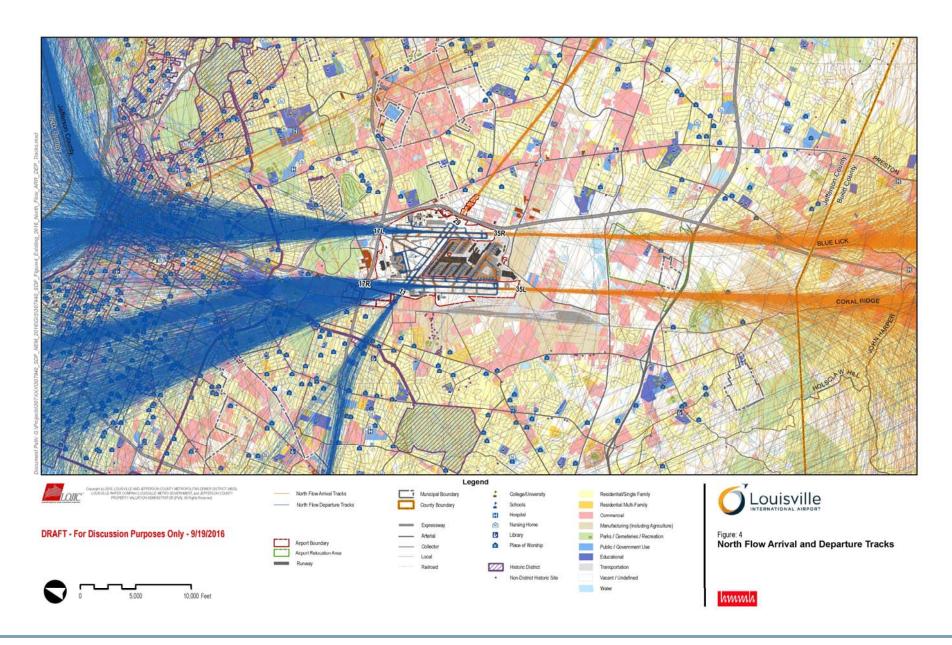
# Flight Tracks – Existing and Forecast

- Use of individual tracks taken directly from LRAA Flight Tracking System data for noise modeling of:
  - Aircraft flight track
  - Actual runway used for each operation
  - Time of day for the actual operation





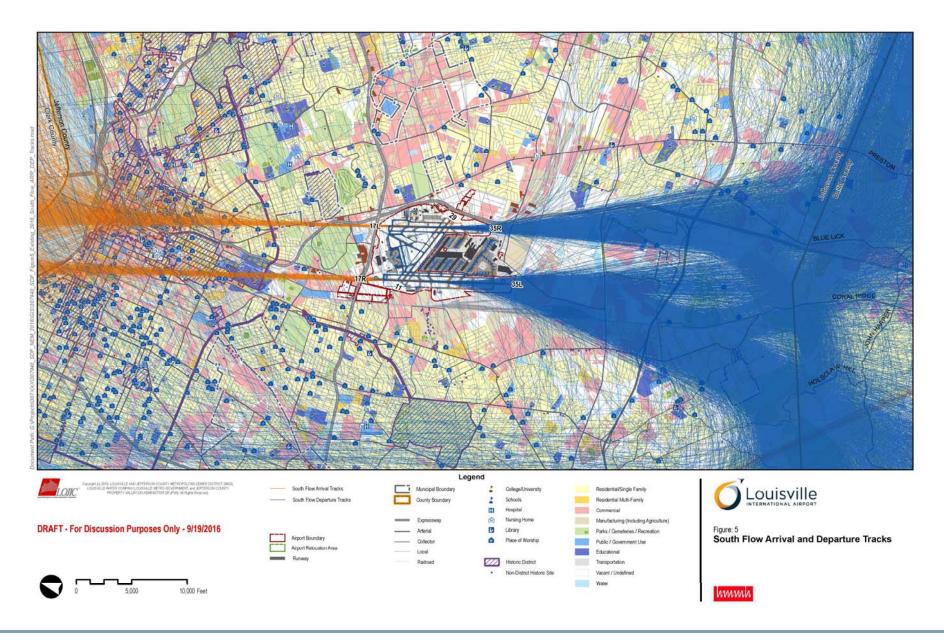
# Flight Tracks – Existing and Forecast: North Flow







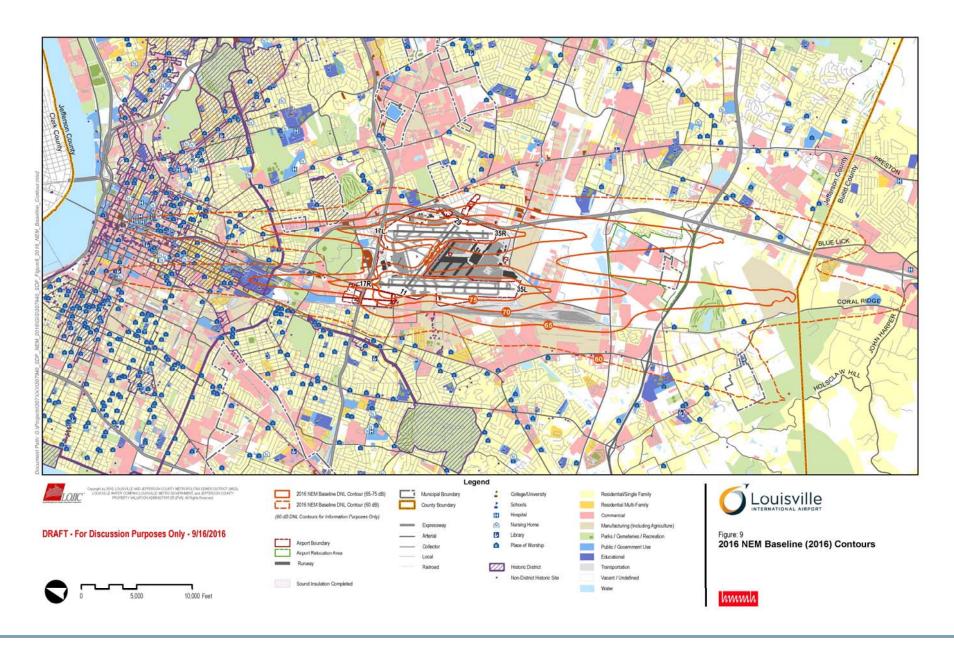
# Flight Tracks – Existing and Forecast: South Flow







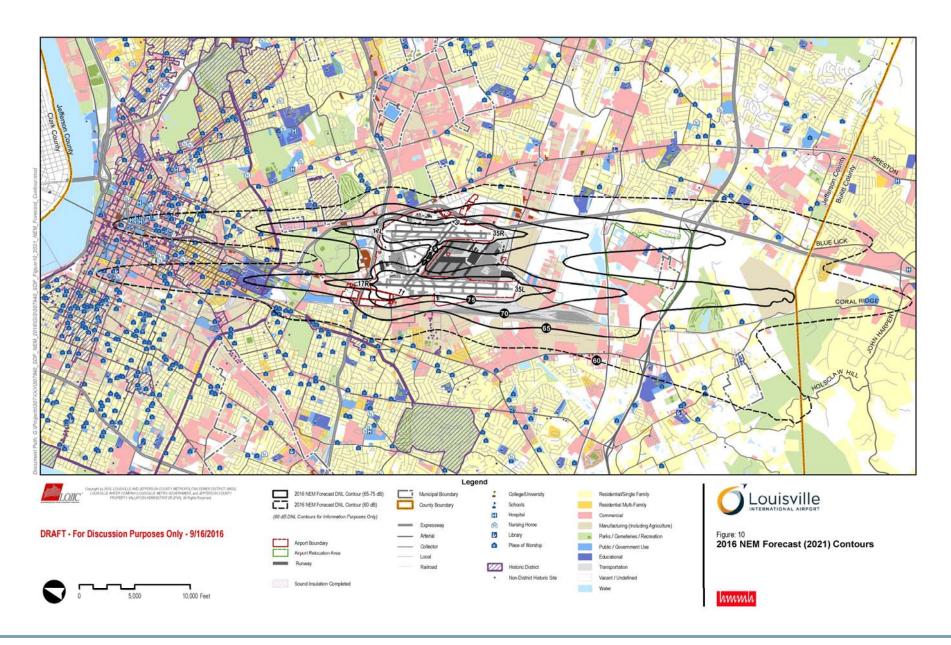
### **Existing Condition** – **2016** – *Noise Exposure Contours*







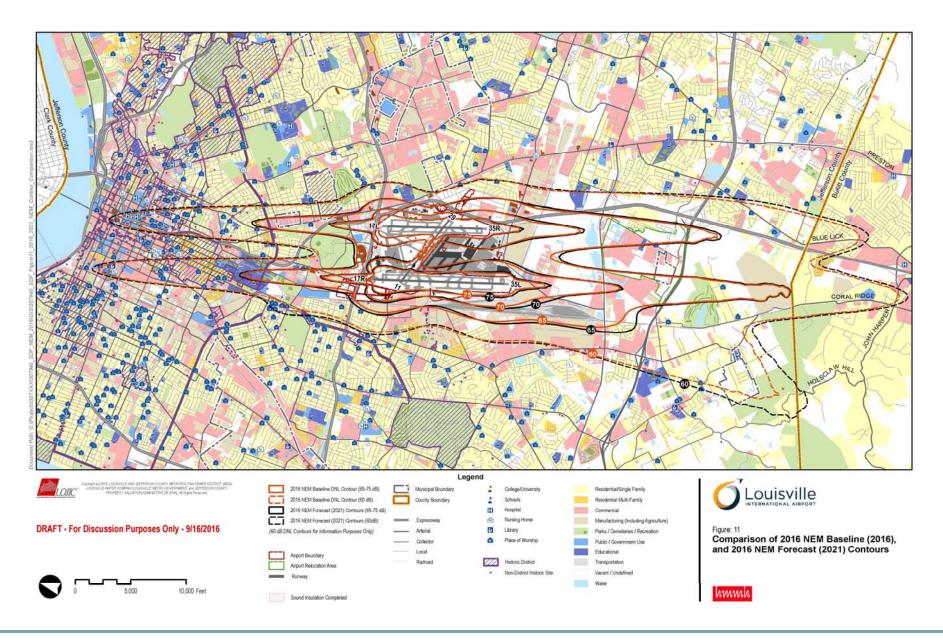
### **Forecast Condition – 2021 – Noise Exposure Contours**







#### Existing and Forecast Conditions (2016 and 2021) – Noise Exposure Contours







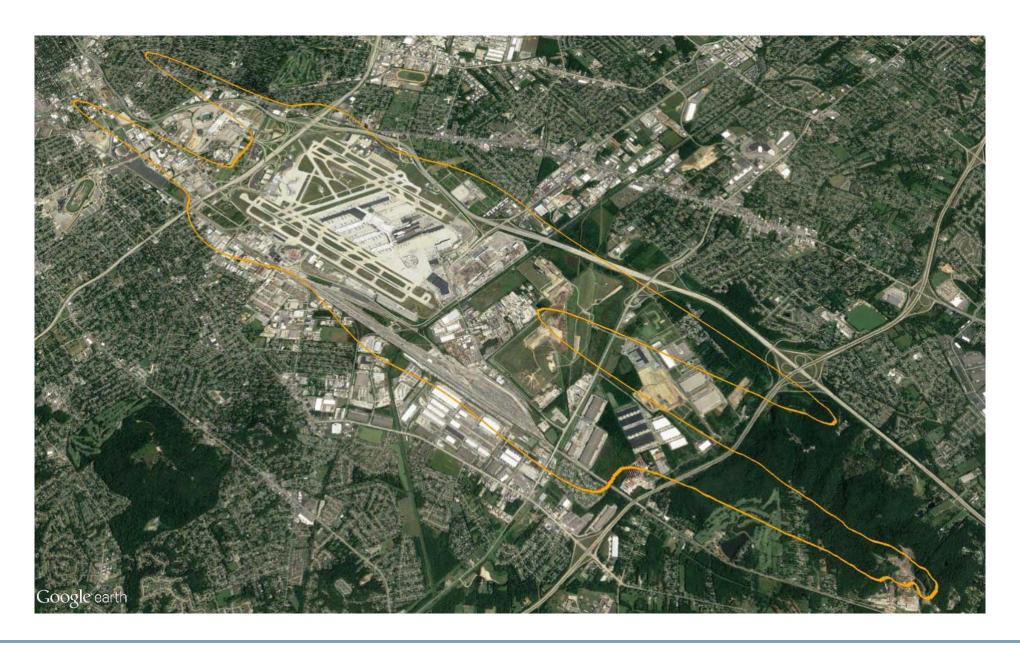
# 65 DNL Contour – Existing Condition: 2016







#### **65 DNL Contour – Forecast Conditions: 2021**







#### **65 DNL Contour –** *Existing and Forecast Conditions: 2016 and 2021*







#### **NEM Update Results** – *Estimated Population and Housing units*

Noise Level,	Exist	ng Contours –	2016	Forecast Contours – 2021					
DNL	Estimated Population	Estimated Single Family Houses	Estimated Multi- Family Housing Units	Estimated Population	Estimated Single Family Houses	Estimated Multi- Family Housing Units			
65-70	3,895	1,518	289	4,345	1,731	285			
70-75	220	2	100	246	2	112			
75+	0	0	0	0	0	0			
Total	4,114	1,520	389	4,591	1,733	397			
Notes: These counts include noise insulated homes.									





### **Next Steps**

- November 4, 2016: 30-day public comment period begins
- November 29, 2016: Public Workshop
  - 5-7pm; short presentation and work stations with graphic displays
  - 4<sup>th</sup> Presbyterian Church 3016 Preston Highway
- December 5, 2016: 30-day public comment period ends
- December 2016 LRAA submits NEM update to FAA for review and acceptance





#### **Please Provide Your Comments!**

- At the workshop:
  - Four stations
    - Learn more about the project
    - Ask Study Team members questions
  - Comment sheets
  - Court reporter
- Please provide comments in writing to:

Bob Slattery P.O. Box 9129 Louisville, KY 40209-0129

Comment period closes December 5, 2016



