



Appendix D



Public Involvement



Appendix D Public Involvement

This appendix provides information related to the public involvement process undertaken during the Chicago Rockford International Airport (RFD or Airport) Part 150 Noise Compatibility Study (Part 150 Study) Update. The materials listed below are contained in this appendix. Over the course of the study a website was maintained to facilitate public announcement of meetings, registration for online virtual public workshops, posting of recordings and presentations for Advisory Committee (AC) and Public Workshops and to allow the public to comment and ask questions regarding the RFD Part 150 Study Update.

Website Address

<https://www.airportprojects.net/rfd-part150/home/>

AC Meetings (AC Members on next page)

- Committee Invitation Letter
- Meeting Agenda
- Presentation

Public Workshops

- Announcement Letters
- Workshop Presentation

Public Workshop & Public Hearing

- Public Workshop/Hearing Announcement
- Public Hearing Meeting Legal Notices
- Public Workshop/Hearing Presentation
- Public Hearing Transcript
- Public Hearing Comments



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Advisory Committee Members

Apriel Prunty, City of Rockford, 5th Ward Aldermen

Karl Franzen, City of Rockford, Director of Community & Economic Development

Barb Chidley, City of Rockford, Neighborhood Specialist

Scott Capovilla, City of Rockford, Planning & Zoning Manager

Dan Ross, Rockford Chamber of Commerce, Board of Directors Chairman

Timothy Owens, Village of New Milford, Village President

Michael Dunn, Rockford Metropolitan Agency for Planning, Executive Director

Jeff Matz, UPS, Airport Properties Manager

Mary Barnicle, Amazon, Public Policy

Jonathon German, Atlas Air, Station Manager

Adam Wold, Emery Air, Director of Operations

Josh Bachman, Emery Air, FBO Assistant Manager

Troy Primus, AAR, VP of Operations

Amy Hanson, FAA, Environmental Protection Specialist

Bob Beauchamp, FAA, Environmental Program Manager

Shawn Lowry, FAA, Air Traffic Control Tower Manager

Richard Borus, IDOT, Airport Program Engineer

Zach Oakley, GRAA, Deputy Director of Operations and Planning

Seth Nygren, GRAA, Operations Manager

Terrence Schaddel, CMT, Senior Project Manager

Jesse Baker, L&B, Project Manager

Sarah Farsalas, L&B, Deputy Project Manager

Alan Hass, L&B, Associate VP

Kirsten Hammons, L&B, Analyst



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Advisory Committee Meeting #1 December 8, 2021

- Committee Invitation Letter
- Presentation

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/advisory-committee/>



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

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14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

AC INVITATION LETTER



November 15, 2021

RE: Chicago Rockford International Airport (RFD)
Part 150 Noise Compatibility Study Update

Dear

The Greater Rockford Airport Authority (GRAA) is initiating a study to document the noise effects from aircraft operations at Chicago Rockford International Airport (RFD). The study is commonly referred to as a Part 150 Noise Compatibility Study (Part 150 Study) Update. The purpose for conducting a Part 150 Study is to develop a balanced and cost-effective plan to reduce current noise impacts, where practical, and to limit the potential for future noise impacts. The GRAA has contracted with Landrum & Brown, a consulting firm specializing in airport noise and noise compatibility planning, to manage this study.

We are writing to ask for your participation on the **Advisory Committee (AC)** that is being formed as part of the Part 150 Study. The AC will consist of representatives from the communities in the vicinity of the airport which are most affected by aircraft operations, airport users, local planning organizations, elected officials or staff members, local citizen groups, Federal Aviation Administration (FAA) representatives, and airport staff. The AC will review study findings, comment on study recommendations before they are presented to the public at-large, and will participate in discussions related to aircraft noise issues.

The AC will meet three (3) times during **online virtual meetings** over the course of the Part 150 Study. The first meeting of the AC is anticipated to be held in December. If you or your organization elects to participate in the AC, a invitation link to the meeting will be sent via email. Each meeting will last approximately two hours. AC members will receive meeting announcements, directions, and an agenda in advance of the meetings. Meeting materials will also be posted on the study website: <https://www.airportprojects.net/rfd-part150/>

60 AIRPORT DR. ROCKFORD, IL 61109-2902 PHONE 815 969-4000 FLYRFD.com FOREIGN-TRADE ZONE (FTZ) #176



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

CHICAGO ROCKFORD



INTERNATIONAL AIRPORT

We value and look forward to your input and participation in this process. If your organization would like to participate, please RSVP by November 26th, 2021. Please include the name and contact information for the individual from your organization who will be serving on the committee. Email your RSVP to Jesse Baker at jesse.baker@landrumbrown.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Zach Oakley', is written above the printed name.

Zach Oakley

C: Ms. Amy Hanson, Environmental Protection Specialist, Chicago Airports District Office
Mr. Richard Borus, P.E., Airport Programming, Planning & Environment Section, IDOT Div.
of Aeronautics



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

MEETING PRESENTATION

14 CFR Part 150 Noise Compatibility Study Update

Advisory Committee Meeting | December 2021



Agenda



- Introduction
- Role of the Advisory Committee
- Part 150 Study Overview, Process & Elements
- Public Involvement
- History of Noise Abatement Planning
- Noise Modeling Input Data Collection
- Baseline Noise Exposure Contours
- Next Steps



Agenda | 2



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Advisory Committee (AC)

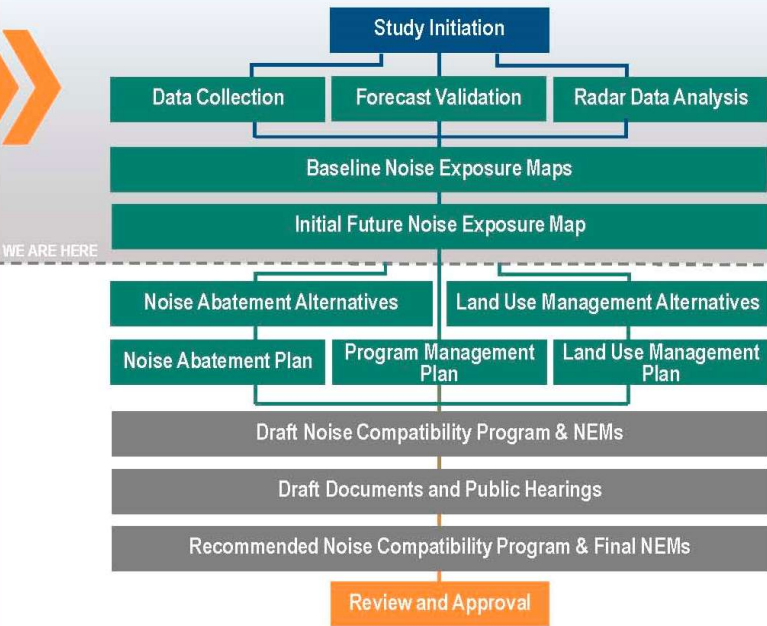
Role of the Advisory Committee (AC)



AC Meeting Schedule



Part 150 Study Overview

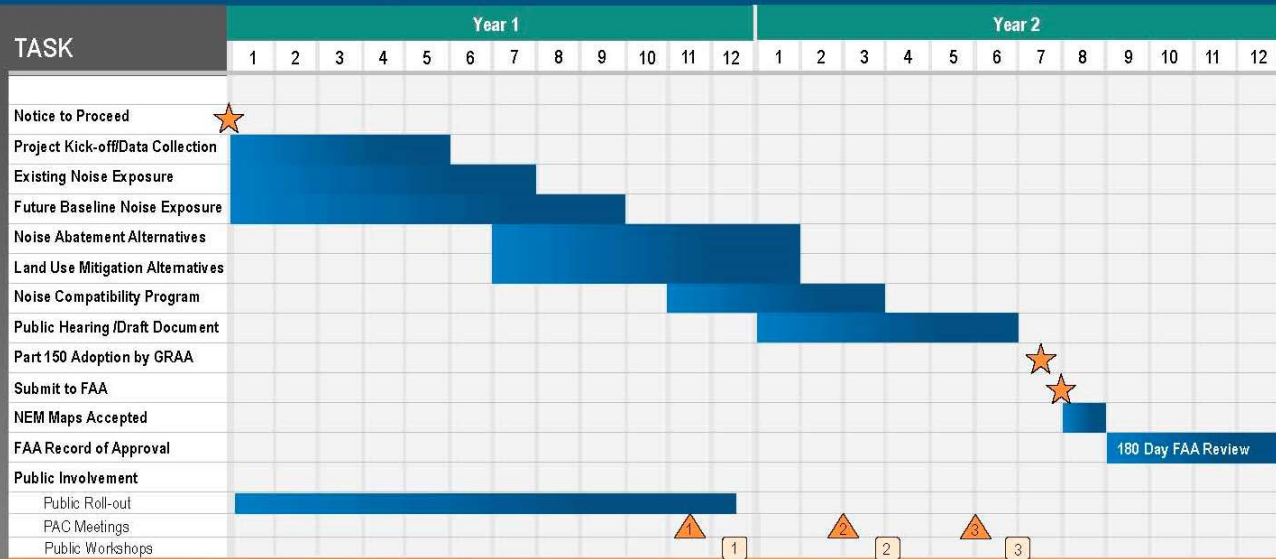




14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Part 150 Study Overview



Part 150 Study Overview | 5

Part 150 Noise Compatibility Study Process

Overview

- **Code of Federal Regulations (14 CFR) Part 150**
 - Established requirements for airport owners who choose to submit noise exposure maps and develop noise compatibility planning programs for FAA review and approval
 - Part 150 Studies undertake an in depth and public oriented approach to noise and compatible land use
- **Part 150 Studies Are Planning Studies**
 - Identify noise and land use impacts that exist today and in the future
 - Work to develop solutions within the FAA's framework
- **Part 150 Studies can open funding sources**
 - Following 14 CFR Part 150 guidelines makes airport eligible to apply for grants for implementing recommendations of the study
 - Funding is subject to availability and not guaranteed
- **Part 150 Studies Do Not:**
 - Recommend closing an airport or implementing mandatory restrictions on aircraft
 - Give environmental approval for implementing noise abatement or land use programs



Part 150 Noise Compatibility Study Process | 6



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Maps

- Description of the noise levels for existing and future (+5 years) conditions
- Future condition should take into account any changes (physical or operational) that may have an effect on the noise levels around the airport
 - Examples of physical changes may include: runway threshold relocation, changes in terminal/gate layout, new aircraft parking facilities
 - Examples of operational changes may include: changes in aircraft operating levels, and fleet mix, new flight tracks, new destinations

Essential Elements of a Part 150 Study



Noise Compatibility Program

- Recommendations for reducing, minimizing, and/or mitigating aircraft noise and land use conflicts
 - Noise Abatement
 - Land Use Mitigation
 - Program Management



Essential Elements of a Part 150 Study | 7

Public Involvement



Public Involvement Opportunities

- **Advisory Committee** – Group of stakeholders affected by, or having oversight responsibilities for, issues covered by the Part 150 Study Update
 - Airport Authority Officials
 - Aircraft Operators
 - Government Officials / Land Use Planners
 - Community Groups
 - Air Traffic Controllers
- **Public Workshops** - Open house, informational meetings to discuss and gather comments on potential aviation noise, land use, and other mitigation measures
- **Public Hearings** - to receive comments (either oral or written) from the public on the Draft Part 150 Study Update document
- **Project Website / Social Media**
 - Project website and social media will be updated with study information, including images and documents pertinent to the study - <https://www.airportprojects.net/rfd-part150/>
 - Posting of all meeting notices
 - Posting of study process and draft findings



Public Involvement | 8



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

History of Noise Compatibility Planning



Federal Regulations and Guidelines

- Jet Age + Rapid Expansion of Airports + Continued Suburban Development/Sprawl = Adverse Noise Impacts
- Aviation Noise Abatement Policy of 1976
- Aviation Safety and Noise Abatement Act of 1979
 - 14 CFR Part 150 (1981) established requirements for airport owners who choose to submit noise exposure maps and develop noise compatibility planning programs to the FAA for review and approval.
 - Typically voluntary on the part of the sponsor and is not an automatic requirement of the Federal government.
- Airport Noise and Capacity Act of 1990
 - Established phase-out timeline of Stage 2 aircraft (Commercial aircraft >75,000 lbs.)
 - Restricted airports from imposing locally based, non-voluntary restrictions without first completing a Part 161 Study. (To date no Part 161 restrictions request has been submitted and fully approved by the FAA)
- FAA Final Policy on Part 150 Noise Mitigation Measures (Oct 1, 1998)
 - New homes constructed within an FAA-approved and published noise exposure contour are NOT eligible for remedial noise mitigation.



History of Noise Compatibility Planning | 9

Previous Studies

Established existing noise abatement measures in place at RFD

- 1990 Part 150 Study
- 1995 Part 150 Study
- 2003 Part 150 Study
- 2012 NEM Update

History of Noise Compatibility Planning at RFD



This Part 150 Update will...

- Update Noise Exposure Maps for Existing (2020) and Future (2027) Baseline conditions
- Review existing NCP
- Modify existing NCP measures where necessary
- Recommend new noise abatement and/or land use mitigation measures based on land use incompatibilities within the 65+ DNL noise contour



History of Noise Compatibility Planning at RFD | 10



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

AEDT Input Data

Data Sources

- Airport Layout Plan
- Radar Data
- ATCT Counts
- Forecasted Operations

Input Data

- Runway Layout
- Operating Levels
- Fleet Mix
- Runway Use
- Flight Tracks
- Flight Profiles

Aviation Environmental Design Tool (AEDT)

- Aircraft Database (over 5000 aircraft)
- Aircraft Performance Data
- Aircraft Noise Data

Noise
Contours

Tabular
Reports

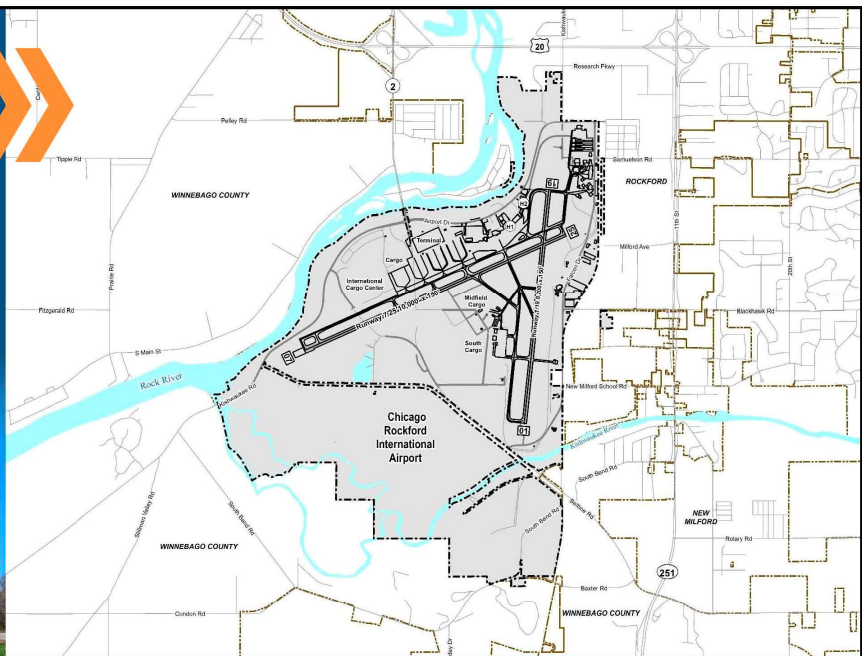
Grid Point
Analysis



AEDT Input Data | 11

Airport Layout

- Jurisdictional Boundary
- Airport Property Boundary



Airport Layout | 12



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Overview

- **Existing (2020) Baseline condition input data based on most recent 12 months of data from:**
 - FAA's Traffic Flow Management System (TFMS) data
 - FAA's Operational Network (OPSNET)
 - Radar track data received from the FAA's National Offload Program (NOP)
- **Existing (2020) Baseline condition cargo operations primarily consist of:**
 - Boeing 767-200 Series Freighter (767CF6) 34%
 - Boeing 757-200 Series Freighter (757PW / 757RR) 33%
 - Airbus A300B4-600 Series (A300-622R) 24%
- **Future (2027) Baseline condition input data based on data from:**
 - Existing (2020) Baseline condition
 - AEDT Flight Tracks
 - Time of Day
 - Runway Utilization
 - Stage length
 - Forecast Working Paper Sensitivity Analysis, 2021
 - Annual Operations
 - Fleet Mix
- **Future (2027) Baseline condition cargo operations primarily consist of:**
 - Boeing 767-300 ER Freighter (7673ER) 43%
 - Boeing 757-200 Series Freighter (757PW / 757RR) 23%
 - Airbus A300B4-600 Series (A300-622R) 25%

Data Collection | 13

Data Collection

Existing (2020) Baseline Condition Aircraft Operations

Aircraft Type	2020 Annual Operations	2020 Average Annual Day			Percent of Total
		Day	Night	Total	
Cargo Aircraft	17,494.8	18.4	29.5	47.9	40.9%
Commercial Aircraft	4,885.2	10.1	3.3	13.4	11.4%
General Aviation Jets	2,006.0	5.2	0.3	5.5	4.7%
General Aviation Props	17,286.9	46.2	1.2	47.4	40.4%
General Aviation Helicopter	57.1	0.1	0.1	0.2	0.1%
Military Aircraft	1,031.0	2.8	--	2.8	2.4%
Grand Total	42,761	82.7	34.4	117.2	100.0%

Data Collection | 14



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Future (2027) Baseline Condition Forecasted Aircraft Operations

Aircraft Type	2027 Annual Operations	2027 Average Annual Day			Percent of Total
		Day	Night	Total	
Cargo Aircraft	29,936.0	34.6	47.4	82.0	48.0%
Commercial Aircraft	4,394.0	11.4	0.7	12.0	7.0%
General Aviation Jets	10,096.1	25.7	2.0	27.7	16.2%
General Aviation Props	16,189.3	42.6	1.7	44.4	26.0%
General Aviation Helicopter	57.0	0.1	0.1	0.2	0.1%
Military Aircraft	1,670.0	4.6	--	4.6	2.7%
Grand Total	62,342.4	119.0	51.8	170.8	100.0%

Data Collection | 15

Data Collection

Existing (2020) & Future (2027) Baseline Condition Arrival Runway Utilization

Aircraft Category	Runway End						Total
	01	07	19	25	H1	H2	
Daytime Arrivals							
Cargo Jets	21.6%	25.9%	14.8%	37.7%	--	--	100.0%
Commercial Jets	21.4%	23.6%	16.6%	38.4%	--	--	100.0%
General Aviation Jets	24.3%	26.5%	10.1%	39.2%	--	--	100.0%
General Aviation Props	27.2%	17.2%	19.4%	36.2%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	54.8% (50.0%)	5.5% (10.4%)	39.7% (39.6%)	--	--	100.0%
Military Helicopter	--	--	--	--	100.0%	--	100.0%
Nighttime Arrivals							
Cargo Jets	26.1%	40.1%	7.2%	26.6%	--	--	100.0%
Commercial Jets	22.8%	29.0%	4.3%	43.8%	--	--	100.0%
General Aviation Jets	28.6%	21.4%	14.3%	35.7%	--	--	100.0%
General Aviation Props	11.5%	26.9%	15.4%	46.2%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	--	--	--	--	--	--
Military Helicopter	--	--	--	--	--	--	--

Data Collection | 16



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Existing (2020) & Future (2027) Baseline Condition Departure Runway Utilization

Aircraft Category	Runway End						Total
	01	07	19	25	H1	H2	
Daytime Departures							
Cargo Jets	6.7%	21.8%	16.9%	54.7%	--	--	100.0%
Commercial Jets	12.9%	23.6%	23.0%	40.5%	--	--	100.0%
General Aviation Jets	14.5%	17.9%	24.9%	42.8%	--	--	100.0%
General Aviation Props	18.2%	16.1%	27.8%	37.9%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	11.8%	11.8%	31.7%	44.6%	--	--	100.0%
Military Helicopter	(6.7%)	(6.7%)	(38.6%)	(47.9%)	--	--	100.0%
Nighttime Departures							
Cargo Jets	2.3%	13.6%	24.4%	59.7%	--	--	100.0%
Commercial Jets	3.0%	43.8%	14.2%	39.1%	--	--	100.0%
General Aviation Jets	--	10.0%	30.0%	60.0%	--	--	100.0%
General Aviation Props	--	15.2%	40.6%	40.6%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	--	--	--	--	--	--
Military Helicopter	--	--	--	--	--	--	--

Data Collection | 17

Data Collection

Flight Tracks

- Flight tracks are lines that represent the path of an aircraft as it arrives or departs the airport
- AEDT applies a 3-dimensional profile to each track that includes altitude, speed, thrust, and flap settings to calculate aircraft noise along each flight route
- Radar data was collected from the FAA for the year 2020
 - Sixteen (16) weeks of radar data, two (2) weeks from 8 different months in 2020
 - May through September excluded due to Runway 07/25 closure
- Representative tracks were created in the AEDT to model operations

Flight Tracks | 18



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Greater Rockford Airport Authority

Data Collection

Flight Profiles

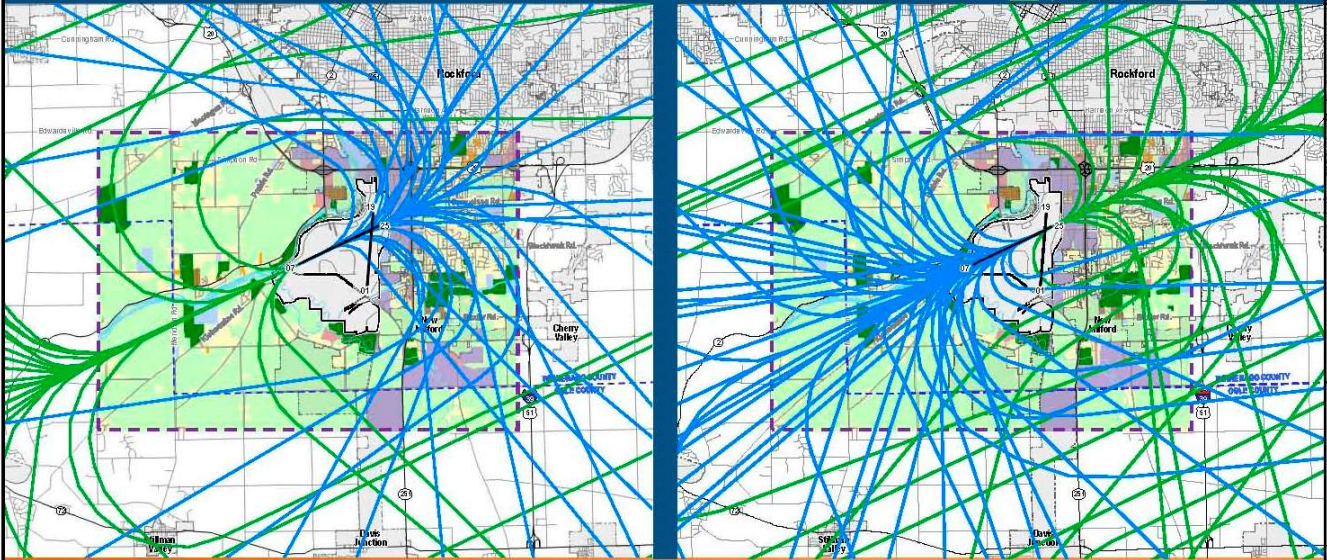
- All arrivals are categorized Stage Length 1
- All general aviation prop/helicopter and military departures are categorized Stage Length 1
- Cargo, commercial and general aviation jets are categorized by distance to destination from RFD

Stage Length	Distance (nautical miles)	Typical Destinations
1	0 – 500	SDF, MSP, MCI
2	501 – 1,000	DFW, BWI, DEN
3	1,001 – 1,500	ONT, MIA, SEA
4	1,501 – 2,500	OAK, ANC
5	2,501 – 3,500	International
6	3,501 – 4,500	International
7	4,501 – 5,500	International

Aircraft Category	Stage Length							Total
	1	2	3	4	5	6	7	
Daytime Departures								
Cargo Jets	26.5%	15.9%	56.3%	0.7%	--	0.6%	0.0%	100.0%
Commercial Jets	2.9%	76.6%	19.1%	1.4%	--	0.1%	--	100.0%
General Aviation Jets	99.2%	0.8%	--	--	--	--	--	100.0%
Nighttime Departures								
Cargo Jets	33.8%	29.0%	25.8%	11.0%	0.0%	0.4%	--	100.0%
Commercial Jets	43.6%	28.6%	27.7%	0.2%	--	--	--	100.0%
General Aviation Jets	100.0%	--	--	--	--	--	--	100.0%

Flight Tracks | 19

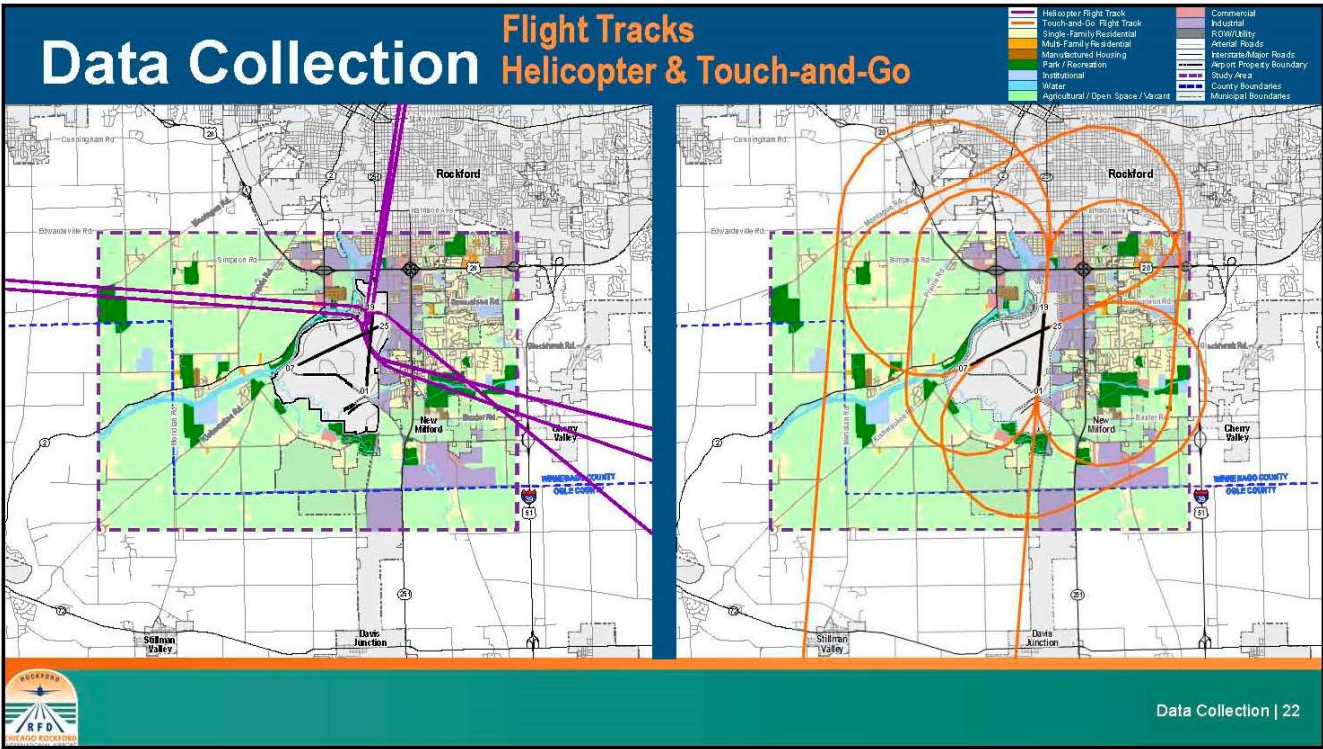
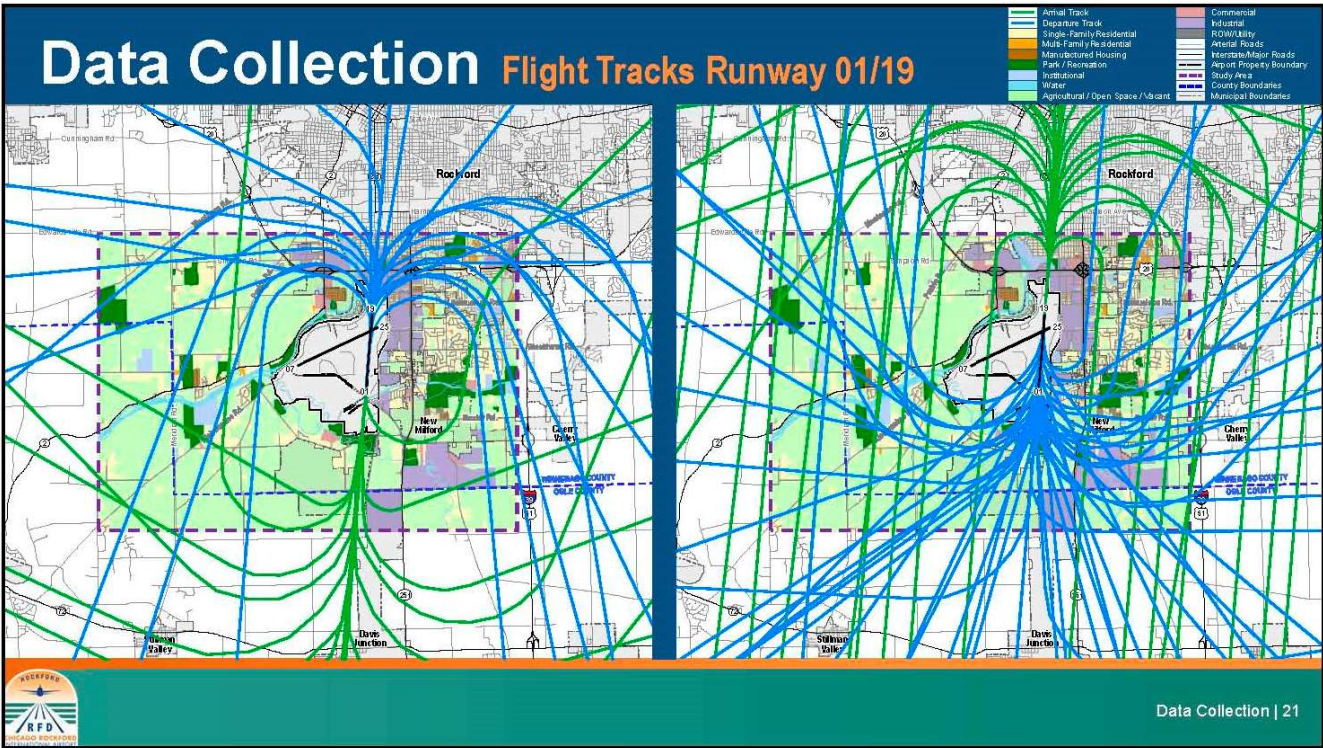
Data Collection Flight Tracks Runway 07/25



Data Collection | 20



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Greater Rockford Airport Authority





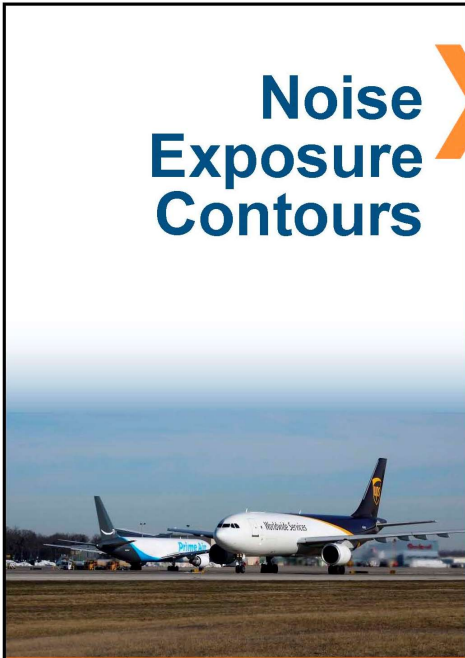
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Greater Rockford Airport Authority

Noise Exposure Contours

Technical Requirements

- Represents an annual-average day (1 year of operations/365 days)
- Described with a set of continuous lines that represent equal levels of noise
- Prepared using the FAA's Airport Environmental Design Tool (AEDT) Ver 3d
- Must use specific noise metric: Day-Night Average Sound Level (DNL)
 - DNL represents 24-hour average noise level
 - Penalty for nighttime (10:00 p.m. - 6:59 a.m.) flights (x 10)
 - National standard for all Federal agencies
 - 65 DNL identified as threshold for impact to noise sensitive land uses



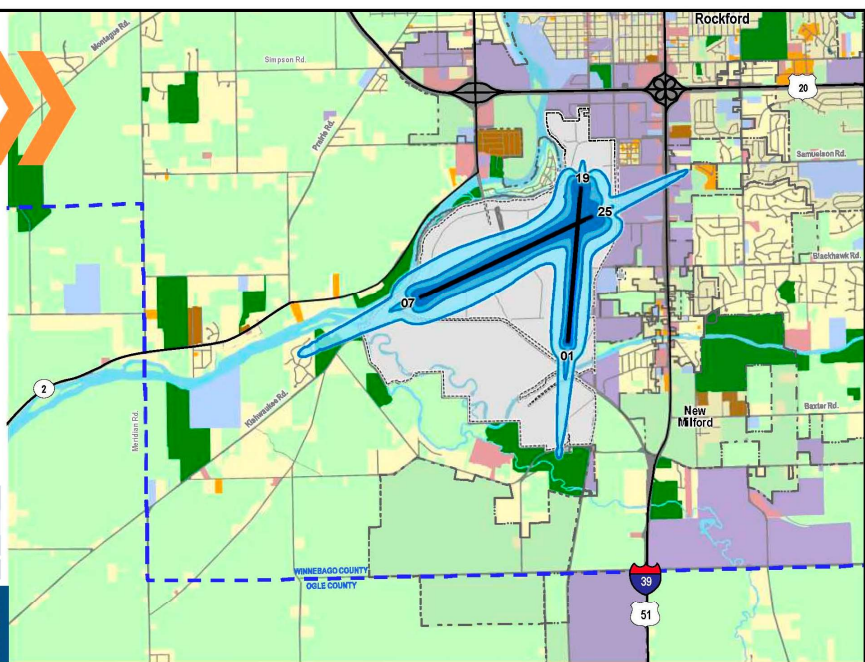
Noise Exposure Contours | 23

Noise Exposure Contours

Existing (2020) Condition Land Use Incompatibilities

65 - 70 DNL	752.9 Acres
70 - 75 DNL	297.8 Acres
75+ DNL	251.3 Acres
65+ DNL	1,302.0 Acres

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



Noise Exposure Contours | 24



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Contours

Existing (2020)
Condition Land Use
Incompatibilities

RESIDENTIAL IMPACTS

	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	7	7
Multi-Family Units	0	0	0	0
Total Housing Units	0	0	7	7
Estimated Population	0	0	18	18

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries

RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour

Noise Exposure Contours | 25

Noise Exposure Contours

Existing (2027)
Condition Land Use
Incompatibilities

65 - 70 DNL	1,148.2 Acres
70 - 75 DNL	450.3 Acres
75+ DNL	368.1 Acres
65+ DNL	1,966.6 Acres

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries

Noise Exposure Contours | 26



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Contours

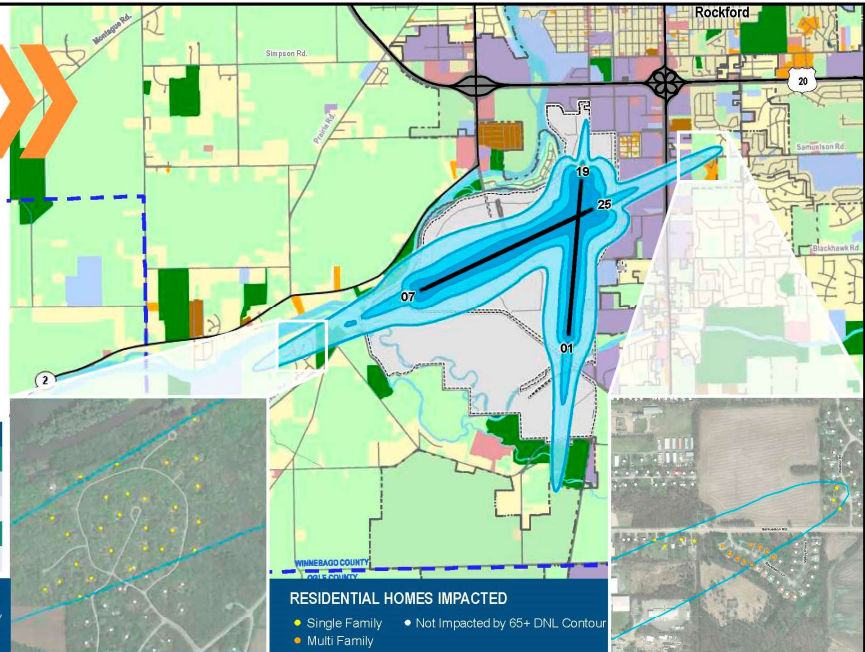
Existing (2027)
Condition Land Use
Incompatibilities

RESIDENTIAL IMPACTS				
	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	34	34
Multi-Family Units	0	0	18	18
Total Housing Units	0	0	52	52
Estimated Population	0	0	138	138

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries

RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour



Noise Exposure Contours | 27

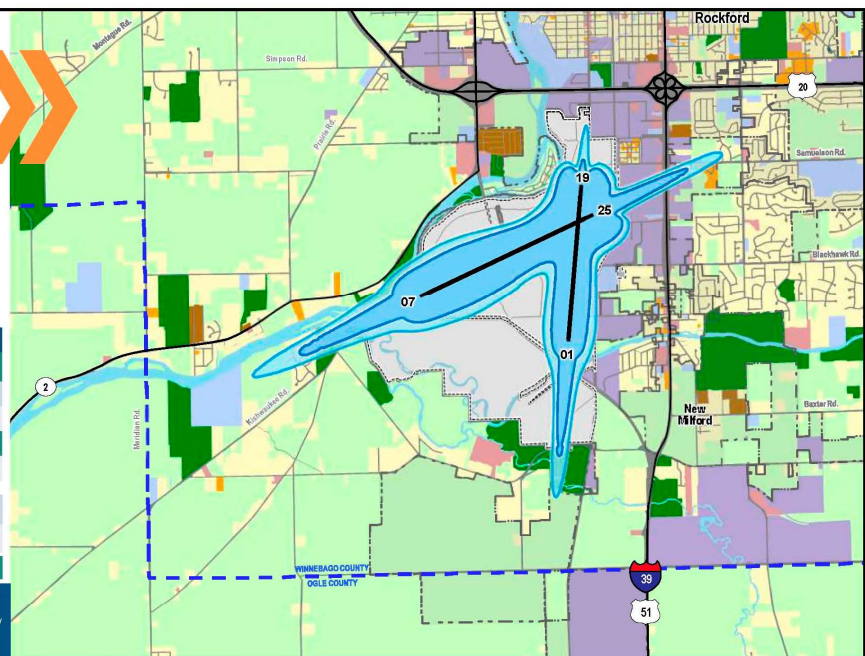
Noise Exposure Contours

Existing 2020 / 2027
65 DNL Comparison

RESIDENTIAL IMPACTS			
	2020 65+ DNL	2027 65+ DNL	DIFFERENCE
Single Family Units	7	34	+27
Multi-Family Units	0	18	+18
Total Housing Units	7	52	+45
Estimated Population	18	138	+120

2020 65+ DNL	1,302.0 Acres
2027 65+ DNL	1,966.6 Acres
Change in Acreage	+694.6 Acres

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



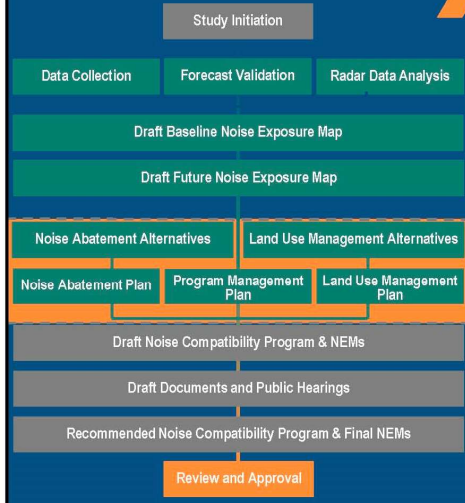
Noise Exposure Contours | 28



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Next Steps



■ Noise Compatibility Program (NCP) Alternatives Analysis

• Noise Abatement Alternatives

*Purpose: To **ABATE** noise levels in surrounding communities*

• Land Use Mitigation Alternatives

*Purpose: To **MITIGATE** noise levels in surrounding communities*

• Program Management Alternatives

*Purpose: To **PROVIDE** administrative and management actions to allow the airport to maintain land use compatibility in surrounding communities*

■ Develop Recommended NCP Measures & Program Map



Next Steps | 29

Contacts



Jesse Baker

1-816-225-8346

jbaker@landrum-brown.com

Jesse Baker, will be the Project Manager for this Part 150 Study. Jesse has over 18 years of experience in environmental analysis and modeling. Jesse began his career with L&B and provided noise and air quality data analysis for numerous large-scale projects, including the EIS for the New York / New Jersey / Philadelphia Airspace Re-design and the EIS for the relocation of St. George Municipal Airport. Jesse also participated in Part 150 Studies at Kansas City International and Albany International Airports.

Jesse's technical background, while focused on environmental analysis, and modeling of airport design, airspace design, and air traffic control procedures also includes serving on the Aviation Environmental Design Tool (AEDT) and Aviation Environmental Screening Tool (AEST) development team as a Quality Assurance Lead and Subject Matter Expert, and providing technical support and guidance to the FAA Environmental Policy Team Office (ATO-AJV-114) and the FAA Office of Environmental and Energy Research and Development (FAA-AEE).

Through his work on the development of AEDT, Jesse has become one of the foremost experts on the use of the program for aviation noise and air quality analysis. His expertise will be of great benefit to the Part 150 Study at RFD.



Contacts | 30



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Advisory Committee Meeting #2 November 17, 2022

- AC Meeting Announcement
- Presentation

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/advisory-committee/>



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

AC MEETING ANNOUNCEMENT



ADVISORY COMMITTEE MEETING ANNOUNCEMENT

Where: Online (Microsoft Teams)

When: November 17, 2022, from 2:00 p.m. – 4:00 p.m.

The Greater Rockford Airport Authority (GRAA) is requesting your participation as a member of the Advisory Committee for the Part 150 Noise Compatibility Study it is conducting. This will be the second of three Advisory Committee and the materials presented will focus on the Noise Compatibility Program (NCP) at RFD. The recommended measures included in the NCP are designed to minimize the impacts of aviation noise to the surrounding community and enhance the administration of the overall noise compatibility program for RFD.

AGENDA

- **Introduction**
- **Review Future 2027 Noise Contour**
- **NCP Background Information**
- **Existing RFD NCP Measures and Recommendations**
- **Noise Abatement and Land Use Mitigation Screening and Recommendations**
- **Land Use Mitigation Recommendations**
 - **Residential Sound Insulation Program**
 - **Aviation Easements**
 - **Improved Building Codes**
 - **Voluntary Fair Disclosure**

The meeting will be held on Microsoft Teams, a recording of the meeting will be made available on the study website provided below. If you can not attend but would like another representative from your organization to attend, please forward this invitation to them.

<https://www.airportprojects.net/rfd-part150/>

Please email RSVP to:

jesse.baker@landrumbrown.com

We value and look forward to your input and participation in this process.

Sincerely,

Zach Oakley
Deputy Director of Operations and Planning

60 AIRPORT DR. ROCKFORD, IL 61109-2902 PHONE 815 969-4000 **FLYRFD.com** FOREIGN-TRADE ZONE (FTZ) #176

14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

MEETING PRESENTATION

14 CFR Part 150 Noise Compatibility Study Update

Greater Rockford
Airport Authority
(GRAA)

Advisory Committee Meeting | November 2022



Agenda

- Future 2027 Noise Compatibility Program (NCP) Noise Contour
- Elements of a Noise Compatibility Program
- Previously Approved Noise Abatement Measures
- Noise Abatement Screening & Recommendations
- Previously Approved Land Use Mitigation Measures
 - Remedial / Corrective
 - Preventative
- Land Use Mitigation Screening, Recommendations & Cost
- Previously Approved Program Management Measures
- Program Management Screening, Recommendations & Cost
- Next Steps



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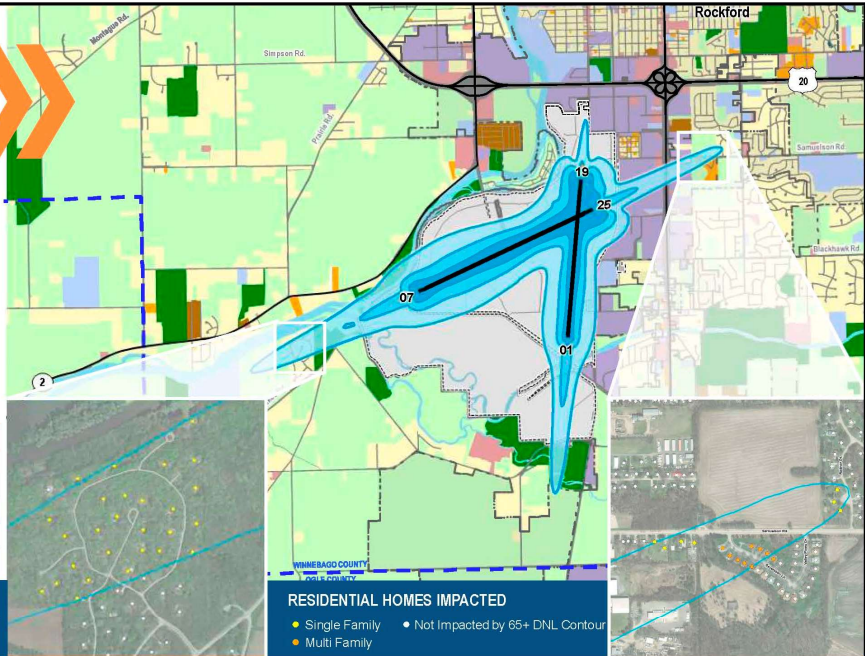
Future 2027 NCP Noise Contour

NEMs Subject to FAA Review & Approval

Land Use Incompatibilities

RESIDENTIAL IMPACTS				
	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	34	34
Multi-Family Units	0	0	18	18
Total Housing Units	0	0	52	52
Estimated Population	0	0	138	138

Single-Family Residential	Water	Airport Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour



Preliminary Future 2027 NCP Noise Contour | 3

Elements of a Noise Compatibility Program

1. Noise Abatement Measures

Purpose: To abate noise levels in surrounding communities

2. Land Use Mitigation Measures

Purpose: To mitigate noise levels in surrounding communities

3. Program Management Measures

Purpose: To provide administrative and management actions to allow the airport to maintain land use compatibility in surrounding communities



Elements of a Noise Compatibility Program | 4



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Elements of a Noise Compatibility Program

Types Of NCP Measures:

- **Noise Abatement**
 - Flight Track Location
 - Runway Use
 - Flight Management
 - Ground Activity Restrictions
 - Facility Modification
- **Land Use Mitigation**
 - Preventive
 - Remedial / Corrective
- **Program Management**
 - Noise Complaint Protocols
 - Management of Noise Program
 - Updates to NEM/NCP



Elements of a Noise Compatibility Program | 5

Previously Approved Noise Abatement Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Noise Abatement Measures					
NA-1	Maintain existing noise abatement procedures per Tower Order of June 15, 1984.	Air Traffic Control Tower (ATCT), Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be withdrawn
NA-2	Aircraft in excess of 12,500 pounds departing Runway 25 should be directed to turn 20 degrees to the right of left as soon as practicable after takeoff.	Previously withdrawn in the 1994 NCP			
NA-3	All aircraft departing on Runway 7 should be fanned along three departure tracks: Left, Right, and Center.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-4	Direct pilots of C-130s to turn as tightly as practicable when training on Runway 19.	ATCT, Airlines, GRAA	Approved as Voluntary	Not Applicable	Recommended to be withdrawn
NA-5	Direct pilots of air carrier jets, when training on Runway 01, to begin turning to downwind leg after four Distance Measuring Equipment (DME) from localizer and establishing the downwind leg at five DME.	Previously withdrawn in the 1994 NCP			
NA-6	Establishment of an informal preferential runway use plan, weather and operating requirements permitting, as follows for aircraft weighing more than 12,500 pounds, using a five-knot tailwind and 15-knot crosswind component for runway assignment.	Previously withdrawn in the 2003 NCP (Replaced by NA-10)			



Previously Approved Noise Abatement Measures | 6



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Previously Approved Noise Abatement Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Noise Abatement Measures					
NA-7	During nighttime hours (10:00 p.m. to 7:00 a.m.) all aircraft over 12,500 pounds departing Runway 25 having departure courses of 250 degrees clockwise through 069 degrees inclusive turn right on course to the Dubuque (DBQ) or the Nodine (ODI) navigational fix as soon as practicable.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-8	During daytime hours (7:00 a.m. to 10:00 p.m.) all aircraft over 12,500 pounds departing Runway 25 having departure courses 070 degrees clockwise through 249 degrees inclusive retain 20-degree left turn and maintain heading until reaching 3,000 feet mean sea level (MSL).	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-9	During nighttime hours (10:00 p.m. to 7:00 a.m.) all aircraft over 12,500 pounds departing Runway 19 having departure courses of 0 degrees clockwise through 190 degrees maintain runway heading until reaching 3,000 feet MSL before turning on course.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-10	Establish an informal preferential runway use plan for all daytime and nighttime operations after Runway 7/25 is extended.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-11	For all aircraft requiring more than 8,000 feet certified takeoff length, Runway 25 preferred.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued



Previously Approved Noise Abatement Measures | 7

Previously Approved Noise Abatement Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Noise Abatement Measures					
NA-12	During daytime hours (7:00 a.m. to 10:00 p.m.) all aircraft over 12,500 pounds departing Runway 25 having departure courses of 250 degrees clockwise through 069 degrees inclusive turn right on course to the Dubuque (DBQ) or the Nodine (ODI) navigational fix as soon as practicable.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-13	During nighttime hours (10:00 p.m. to 7:00 a.m.) all aircraft over 12,500 pounds departing Runway 25 having departure courses 070 degrees clockwise through 249 degrees inclusive turn to a heading of 20 degrees as soon as practicable and maintain heading until reaching 3,000 feet MSL.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-14	Aircraft weighing more than 12,500 pounds conduct touch and go and low approach training activity on the south side of the airport when using Runways 7 or 25.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-15	During nighttime hours (10:00 p.m. to 7:00 a.m.) all aircraft over 12,500 pounds departing Runway 1, maintain runway heading until reaching 3,000 feet MSL before turning on course.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-16	Encourage the use of noise attenuating construction standards for all new on-airport structures/facilities and use those structures as noise barriers/buffers to adjacent off-airport land uses.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued



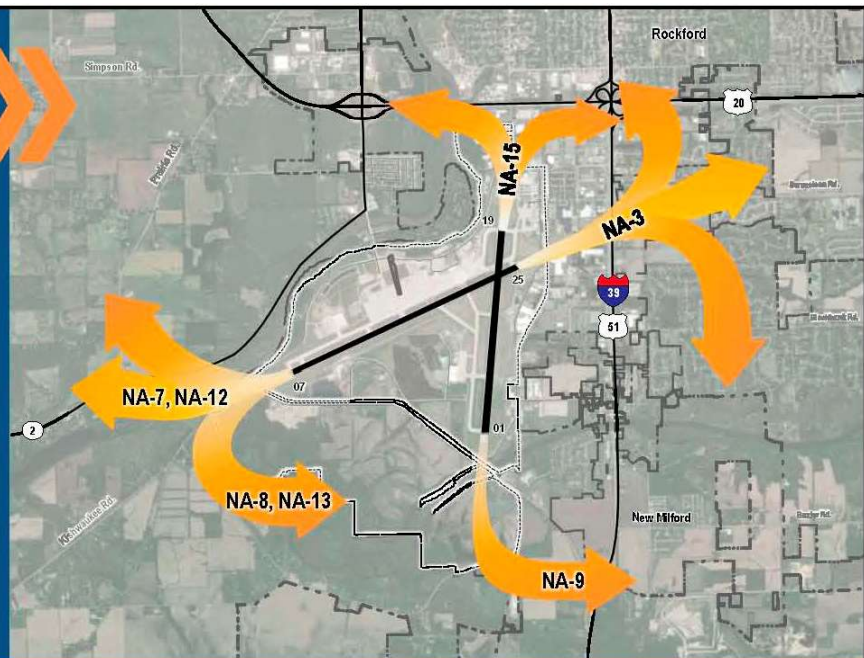
Previously Approved Noise Abatement Measures | 8



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Current Noise Abatement Measures



Previously Approved Noise Abatement Measures | 9

Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Flight Track Modifications			
Modify arrival and departure flight tracks to reduce noise within the 65 DNL noise contour	In some circumstances may reduce noise within the 65+ DNL contour	<p>Impacted areas northeast of Runway End 25 are primarily impacted by arrival operations on final approach. These flight track locations can not be adjusted. ATC currently disperses departure operations with left and right turns based on destination.</p> <p>Areas to the southwest of Runway End 7, are impacted by both arrival and departure operations. The arrival tracks could not be modified as the aircraft are on final approach near the impacted homes. Departures are currently dispersed with left and right turns as soon as practical.</p>	<p>Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.</p> <p>Several currently approved voluntary measures address departure flight track dispersion and turn locations and are recommended to be continued. (NA-1, NA-3, NA-4, NA-7, NA-8, NA-9, NA-12, NA-13, NA-14 and NA-15)</p>
Runway Use Modifications			
Increase usage of Runway 01/19	Could reduce noise levels for the areas within the 65+ DNL noise contour to the northeast and southwest of Runway 07/25.	<p>Based on the RFD fleet, the majority of operations will require the use of Runway 7/25 due to the length of the runway. The amount of traffic required to provide substantial noise reduction benefits in impacted areas would not be achievable based on current wind, weather and operational necessities to operate aircraft safely.</p> <p>Increasing the arrivals to Runway End 1 and Departures from Runway End 19 could potentially impact areas in dense urban areas, offsetting any benefits in the reduction of homes in the 65+ DNL to the northeast and southwest of the airport.</p>	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.



Noise Abatement Screening Analysis | 10



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Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Aircraft Operational Procedure Modifications			
Optimized Profile Descent Approach procedure	Optimized Profile Descent (OPD) procedures (previously known as continuous descent approach (CDA)) have been used at some airports to reduce approach noise at a distance from the airport. Generally, their most notable effect relates to reduced fuel burn and corresponding air emissions.	Potential noise reduction benefits would be limited to areas outside DNL 65+ noise contour. Due to the impacted homes location, implementing OPD's would have no significant noise benefit for impacted homes.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Implement Distant Noise Abatement Departure Profiles (NADP)	Implementing Distant NADPs can potentially reduce noise for areas further away from the runway end (greater than three miles).	Distant NADPs can potentially increase noise for areas closer to the runway end. Due to the impacted homes location, implementing NADP's would have no significant noise benefit for impacted homes.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Implement Close-in Noise Abatement Departure Profiles (NADP)	Implementing Close-in NADPs can potentially reduce noise for areas in close proximity to the runway end (less than three miles).	Close-in NADPs can potentially increase noise for areas farther away from the runway end. Due to the fleet mix at RFD many of the aircraft would not have the capabilities to execute Close-in NADP's.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Moderate Reverse Thrust on Landing	Reduces the amount of noise from the application of reverse thrust after landing.	Reverse thrust can not be eliminated altogether and would be up to the discretion of the pilot. Due to the location of the homes and the anticipated participation, significant reductions to the number of impacted homes in the 65+ DNL are unlikely.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.



Noise Abatement Screening Analysis | 11

Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Airport Facility Modifications			
Extend Runway 1/19	Additional aircraft in the RFD fleet mix would be able utilize Runway 1/19, potentially reducing the utilization of Runway 7/25.	New residential areas to the north and south of the airport could be impacted by increasing utilization of Runway 1/19. Existing buildings and roadways to the north and the Kishwaukee River and existing railroad to the south limit the potential length of Runway 1/19. The cost benefit of such a project is not practical.	Due to the cost of this measure and limitations to the final runway length this alternative is NOT RECOMMENDED to be continued for further analysis.
Ground Run-up Enclosures (GRE)	Can reduce jet run-up noise levels by up to 20 dB.	Currently there are no significant jet aircraft maintenance activities that would justify the cost-benefit of constructing GRE's.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Airport Facility Restrictions			
Implement Airport Operational Restrictions (Part 161 Restrictions) such as: noise-time-based landing fees, airport capacity restrictions based on relative "noisiness", aircraft type restrictions based on "noisiness"	Can resolve noise annoyance issues with certain loud aircraft events or aircraft types operating at RFD.	Such restrictions would be subject to the costly and time-consuming analytical requirements under Federal Aviation Regulations Part 161. The FAA has never officially approved such measures. Would have severe financial ramifications both to the Airport and the region.	Restrictions on access to an airport are measures of last resort for use in the most extreme cases of noise impact. This alternative is NOT RECOMMENDED for further analysis.



Noise Abatement Screening Analysis | 12



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Noise Abatement Recommendations

Existing Noise Abatement Measures

Five (5) measures recommended to continue

Six (6) measures recommended to continue with modifications

Two (2) measures recommended to be withdrawn

The currently implemented noise abatement measures reduce noise impacts within the 65+ DNL noise contour to the fullest extent possible



Noise Abatement Recommendations | 13

Previously Approved Land Use Mitigation Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Land Use Measures					
LU-1	Rezoning of land south of US Route 20 Bypass and west of 20 th Street from agricultural to medium density			Previously withdrawn in the 1994 NCP	
LU-2	Adopt noise overlay zoning prohibiting development of selected noise-sensitive land uses within the 60-65 DNL noise contour (AC-2), high occupancy uses in the "double-clear zone" area (AC-3), and residential uses in the 65+ DNL noise contour (AC-1) of the 2008 Noise Exposure Map (NEM)/Noise Compatibility Program (NCP) within the "double-clear zone" area	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	To date only Ogle County zoning ordinances have incorporated the RFD NCP, these ordinances were updated in 2021 but continue to reference the 1994 NCP.	Recommended to be continued with modification to include the new 2022/2027 NEMs
LU-3	Amend local comprehensive plans to show planned industrial and commercial uses at interchanges of US 20 Bypass and South Main Street			Previously withdrawn in the 1994 NCP	
LU-4	Amend local comprehensive plans by adopting the updated Part 150 NCP as their noise compatibility elements for the City of Rockford and Ogle and Winnebago Counties.	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	To date only Ogle County Comprehensive Plans have incorporated the RFD NCP, however this language is no longer included in the 2012 Comprehensive Plan. Language related to continuing an active presence in RFD activities is included.	Recommended to be continued with modification to include the new 2022/2027 NEMs.



Previously Approved Land Use Measures | 14



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Previously Approved Land Use Mitigation Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Land Use Measures					
LU-5	Adopt guidelines for discretionary review of development projects for the City of Rockford, Winnebago County, Ogle County, and the GRAA	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	Implemented as Needed	Recommended to be continued with modification to include the new 2022/2027 NEMs.
LU-6	Acquire homes off the approach end of Runway 19	Previously withdrawn in the 1994 NCP			
LU-7	Encourage Forest Preserve District to consider acquisition of land adjacent to the existing Forest Preserves south of the airport	Previously withdrawn in the 1994 NCP			
LU-8	Voluntary acquisition of single-family residences on Blackhawk Island in the 2008 NEM/NCP 65 DNL noise contour	GRAA	Approved	Fully Implemented	Recommended to be withdrawn from NCP
LU-9	Redevelop airport-owned land parcels located along Kishwaukee Street south of Research Parkway	GRAA	Approved	The implementation of this measure pending, dependent upon the interest of a potential developer and the availability of funding.	Recommended to be continued
LU-10	Consideration of transfer of GRAA land of high natural value along Kishwaukee River to Forest Preserve or park district to be maintained as natural area and airport noise buffer	Previously withdrawn in the 2003 NCP			



Previously Approved Land Use Measures | 15

Previously Approved Land Use Mitigation Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Land Use Measures					
LU-11	Acquire development and overflight rights via purchase of land use and aviation easement over undeveloped parcel in Runway 07L approach area on south side of Kishwaukee River.	GRAA	Approved	Fully Implemented	Recommended to be withdrawn from NCP
LU-12	Offer options of voluntary sale to GRAA or sound insulation to owner of one (1) single-family residence south of the airport in the 65 DNL contour of the 1993 NCP.	GRAA	Approved	This measure was implemented with the voluntary sale of one (1) single-family home.	Recommended to be withdrawn as acquisition of the single-family home was completed.
LU-13	Encourage the City of Rockford and Winnebago County to require plat notes on new subdivision plats and to record the notes on deeds for new subdivisions within the Airport Noise Overlay Zones AC-1 and AC-2.	GRAA, City of Rockford, Winnebago County	Approved	To date, the airport noise contours are not referenced in any local subdivision ordinance.	Recommended to be continued with modification to include the new 2022/2027 NEMs.
LU-14	Encourage Winnebago County, the City of Rockford, the Village of New Milford, and the Village of Davis Junction not to allow an increase in the residential density in the Agricultural Priority (AG) or Rural Residential (RR) zoning districts (Winnebago County) in the 2008 NEM/NCP 60+ DNL noise contour.	GRAA, City of Rockford, Winnebago County, Ogle County and Villages of New Milford and Davis Junction	Approved	To date based on zoning ordinances the allowable residential densities allowed in these zones has been increased.	Recommended to be continued with modification to include the new 2022/2027 NEMs.



Previously Approved Land Use Measures | 16



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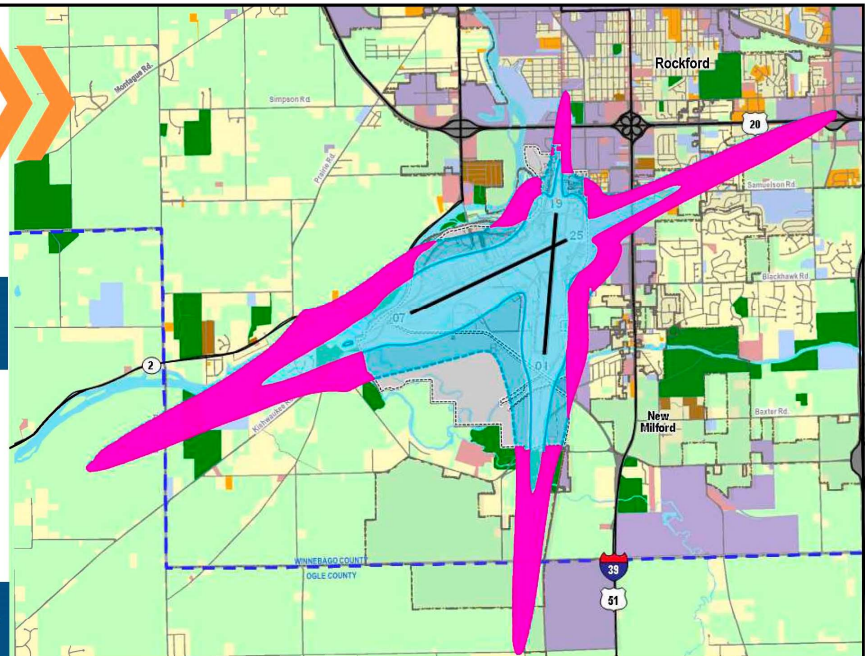
Greater Rockford Airport Authority

Land Use Mitigation Recommendations

Zone AC-1 Prohibited Land Uses

Recommended Land Use Restrictions

Mobile Homes
Hospitals and Nursing Homes
Outdoor Music Shells and Amphitheaters
Resorts and Group Camps



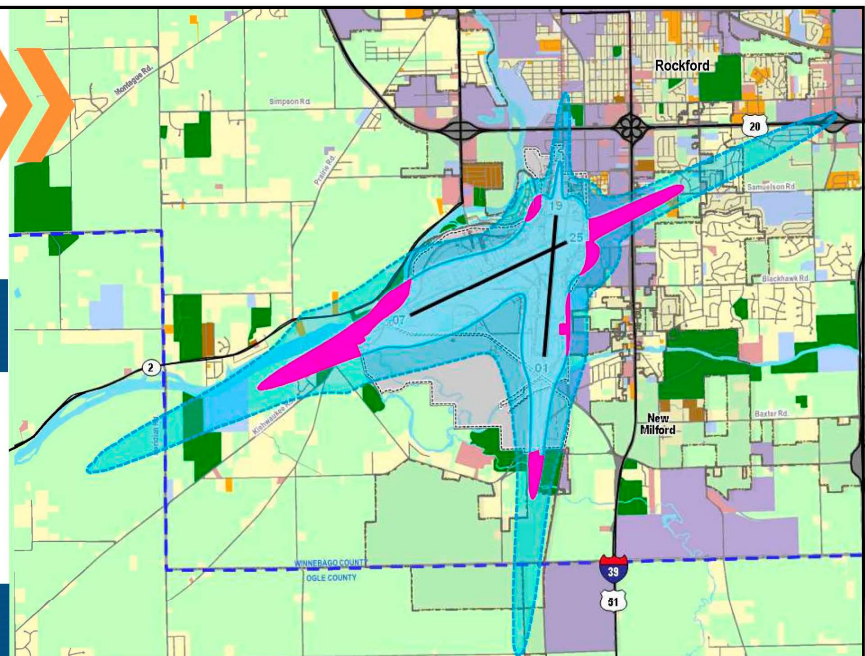
Land Use Mitigation Recommendations | 17

Land Use Mitigation Recommendations

Zone AC-2 Prohibited Land Uses

Recommended Land Use Restrictions

Residential (SF & MF) units if also in Zone AC-3
Education Services
Medical Facilities (other than hospitals & nursing homes)
Cultural Activities including Churches
Auditoriums, Concert Halls



Land Use Mitigation Recommendations | 18



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Land Use Mitigation Recommendations

Zone AC-3 Prohibited Land Uses

Recommended Land Use Restrictions

Residential (SF & MF) Units

Education Institutions

Hotels & Motels

Libraries, Museums, Art Galleries or Similar Use

Sports & Amusement Arenas | Parks

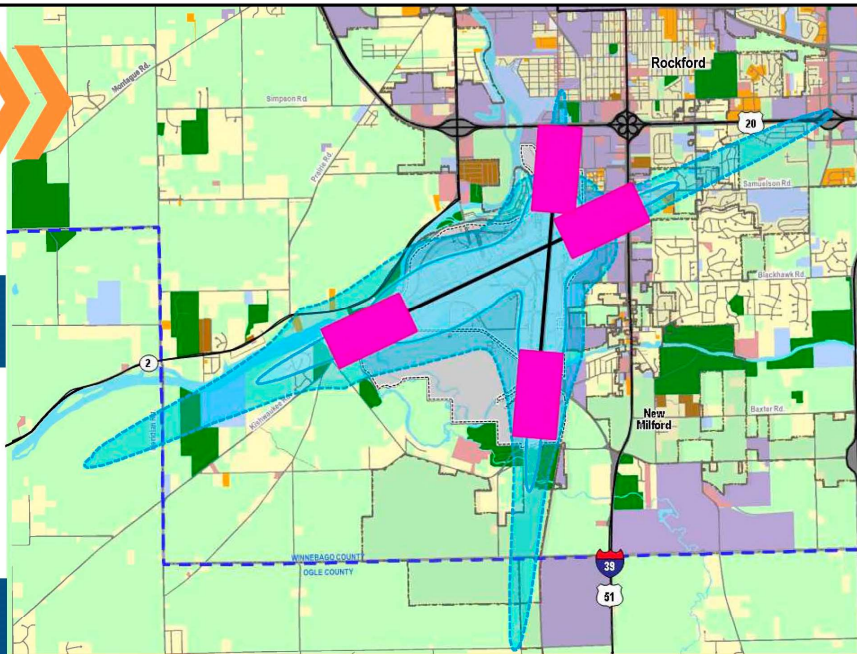
Indoor And Outdoor

60 DNL 65 DNL Zone AC-3

Single-Family Residential
Multi-Family Residential
Manufactured Housing
Park / Recreation
Institutional

Water
Agricultural / Open Space / Vacant
Commercial
Industrial
ROW/Utility

Arterial Roads
Interstate/Major Roads
Airport Property Boundary
County Boundaries
Municipal Boundaries



Land Use Mitigation Recommendations | 19

Land Use Mitigation Screening Analysis

Description	Benefits	Drawbacks	Evaluation & Recommendation
Corrective			
Offer Residential Sound Insulation Program for Single- and Multi-Family Homes within the 65+ DNL Noise Contour and in the defined Block Rounding Areas Outside of the 65+ DNL Noise Contour.	Would reduce interior noise levels for the homes impacted within the 65+ DNL contour and in the block rounding area outside of the 65+ DNL noise contour.	Final eligibility for each property would have to be determined. Final cost would still have to be determined based on participation rates and local costs to implement.	This measure has the ability to provide benefits to the homes impacted by the 65+ DNL noise contour and in the block rounding area outside of the 65+ DNL noise contour. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.
Offer Avigation Easements to Owner-Occupied Single- and Multi-Family Homes if Sound Insulation is declined by property owner.	Has the potential to convert owner-occupied residential housing units into compatible uses. Properties would remain as taxable land.	Final eligibility for each property would have to be determined. Final cost dependent on participants that decline sound insulation.	This measure has the ability to convert impacted properties to compatible uses. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.

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Land Use Mitigation Screening Analysis | 20



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Land Use Mitigation Screening Analysis

Description	Benefits	Drawbacks	Evaluation & Recommendation
Preventative			
Adopt Improved Building Codes	This alternative would recommend updating existing building codes to ensure that new residential construction meets current FAA criteria for sound insulation within AC-1 and AC-2 zones.	This alternative would likely increase the overall cost of residential construction	This measure will require potential builders to use higher quality materials during construction to reduce noise within residential structures within the 60+ DNL noise contours. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.
Develop a Voluntary Fair Disclosure Program for Resale Properties	Will disclose through regulations on the seller or their representatives at the time of sale that an existing property could be subjected to aircraft noise. Potential buyers will be made aware before they purchase the property that it is within AC-1 and AC-2 zones.	Will need to seek cooperation from the City of Rockford and Winnebago County along with the local Rockford realtors to participate.	This measure will notify potential buyers that they may be subjected to aircraft noise within the 60+ DNL noise contour. This alternative is RECOMMENDED for inclusion in the NCP.
Re-zoning of parcels within AC-1 and AC-2 zones	This measure would attempt to prevent future non-compatible development and land uses within AC-1 and AC-2 zones.	Potential loss of tax-base dependent on future zoning designation. Based on local land use regulations and ordinances, residential and other incompatible land uses are permitted within compatible zoning such as commercial and industrial.	This measure fails to meet FAA guidance for effectively preventing incompatible land use due to local land use guidelines. Therefore, this alternative is NOT RECOMMENDED for inclusion in the NCP.



Land Use Mitigation Screening Analysis | 21

Land Use Mitigation Recommendations

- **Nine (9) previously approved Land Use Mitigation Measures are recommended for continuation**
- **Eight (8) Measures are recommended for continuation with modification**
- **One (1) Measure is recommended for continuation**
- **Three (3) Measures are recommended to be withdrawn**
- **Four (4) new Measures are recommended for inclusion in the 2022 NCP**



Land Use Mitigation Recommendations | 22



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New Remedial Land Use Mitigation Recommendations

- Two (2) new remedial land use mitigation measures are recommended

LU-15: Sound Insulation of residential properties is recommended within defined boundaries known as Noise Mitigation Program Area's (NMPA)

- Not all properties will meet eligibility requirements for sound insulation, based on interior sound level reduction tests performed during the program.

LU-16: Offer Avigation Easements to owner-occupied single- and multi-family homes within NMPA #1 if sound insulation is declined and/or eligibility requirements are not met.

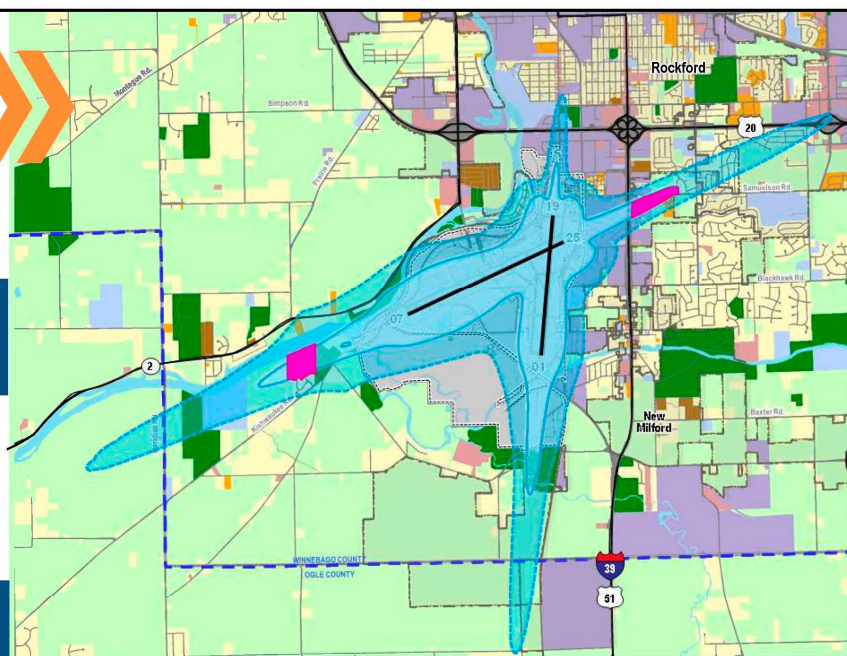


Land Use Mitigation Recommendations | 23

Remedial Land Use Mitigation Analysis Recommendations

NMPA #1 Residential Sound Insulation Program

37 Single-Family Units
16 Multi-Family Units



Land Use Mitigation Recommendations | 24



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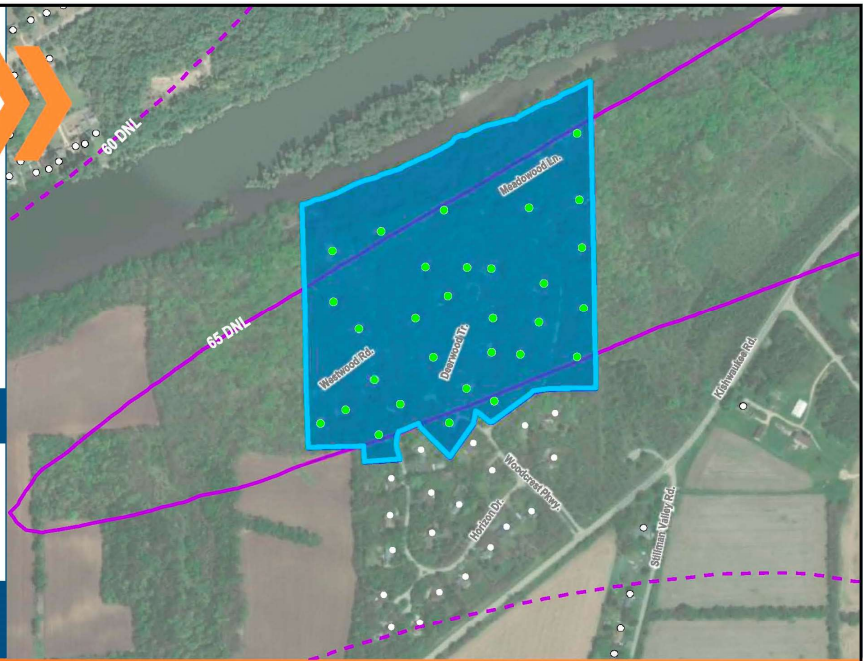
Proposed Primary NMPA #1a

NMPA Subject to FAA Review & Approval

NMPA #1a | 30 SF Units

Based on AIP Handbook
Section R-6, Eligible Noise Contour Threshold
(a) DNL 65 dB Noise Contour

- NMPA 1a
- Residential Units in NMPA 1a
- Residential Units outside NMPA 1a
- Future (2027) 60 DNL Noise Exposure Contour
- Future (2027) 65 DNL Noise Exposure Contour
- Airport Property Boundary



Land Use Mitigation Recommendations | 25

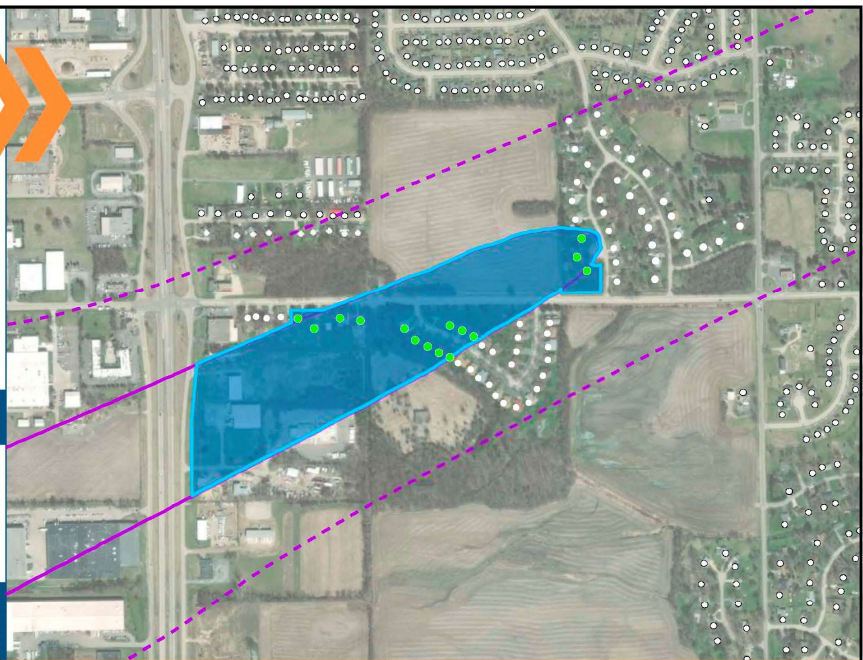
Proposed Primary NMPA #1b

NMPA Subject to FAA Review & Approval

NMPA #1b | 7 SF Unit | 16 MF Units

Based on AIP Handbook
Section R-6, Eligible Noise Contour Threshold
(a) DNL 65 dB Noise Contour

- NMPA 1b
- Residential Units in NMPA 1a
- Residential Units outside NMPA 1a
- Future (2027) 60+ DNL Noise Exposure Contour
- Future (2027) 65+ DNL Noise Exposure Contour
- Airport Property Boundary



Land Use Mitigation Recommendations | 26



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Remedial Land Use Mitigation Analysis Recommendations

NMPA #2 Residential Sound Insulation Program

Block Rounding Area Subject to FAA Review & Approval
55 Single-Family Units
40 Multi-Family Units



Land Use Mitigation Recommendations | 27

Proposed Block Rounding NMPA #2a

NMPA Subject to FAA Review & Approval

NMPA #2a | 20 SF Units

Block rounding area #2a includes SF Units outside the 65+ DNL noise contour in Woodcrest Estates subdivision south to Kishwaukee Road

Based on AIP Handbook

Table R-2, Block Rounding Requirements | (e) Logical Breakpoint

Neighborhood Boundary | Significant Arterial Surface Street



Land Use Mitigation Recommendations | 28



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Greater Rockford Airport Authority

Proposed Block Rounding NMPA #2b, 2c, 2d

NMPA Subject to FAA Review & Approval

NMPA #2b | 4 SF Units

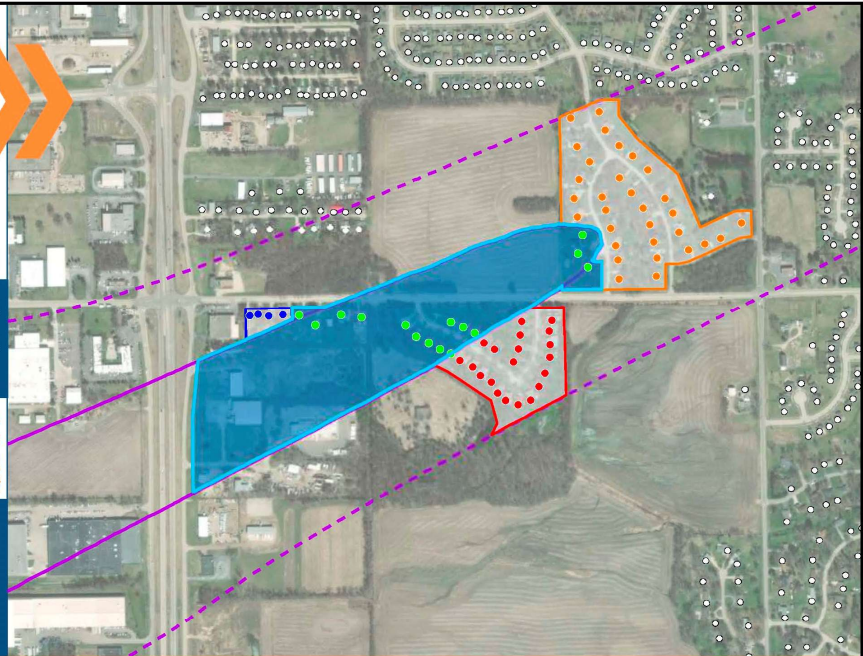
NMPA #2c | 40 MF Units

NMPA #2d | 31 SF Units

Based on AIP Handbook
Table R-2, Block Rounding Requirements
(e) Logical Breakpoint

Neighborhood Boundary | Significant Arterial Surface Street

- NMPA 1b
- NMPA 2b
- NMPA 2c
- NMPA 2d
- Residential Units in NMPA 1a
- Residential Units in NMPA 2b
- Residential Units in NMPA 2c
- Residential Units in NMPA 2d
- Residential Units outside NMPA 2d
- Future (2027) 60+ DNL Noise Exposure Contour
- Future (2027) 65+ DNL Noise Exposure Contour
- Airport Property Boundary



Land Use Mitigation Recommendations | 29

NMPA Housing Units and Population Counts

Land Use	NMPA #1		NMPA #2		Total	
	Total Housing Units	Population	Total Housing Units	Population	Total Housing Units	Population
Runway 7 Approach End – Southwest of Airport						
SF Residential	30	76	20	51	50	127
MF Residential	0	0	0	0	0	0
Runway 25 Approach End – Northeast of Airport						
SF Residential	7	19	35	97	42	116
MF Residential	16	44	40	110	56	154
Total	53	139	95	258	148	397



Land Use Mitigation Recommendations | 30



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Corrective Land Use Mitigation Estimated Cost

Measure Id	Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)
Residential Sound Insulation Program				
LU-15 ⁽¹⁾	Offer Residential Sound Insulation to 53 Residential Units within the 65 DNL Noise Contour (NMPA 1a & 1b) and 95 Residential Units outside the 65 DNL Noise Contour (NMPA 2a, 2b, 2c, & 2d)	\$9,187,500 ⁽²⁾ (\$62,500 per home)	\$7,350,000	\$1,837,500

Notes:

(1) Property owners who decline sound insulation would be offered avigation easements as part of measure LU-16. Estimated costs of avigation easements \$3,000 per home.

(2) Total cost for LU-15 mitigation measure is the maximum possible mitigation cost and assumes 100 percent participation in program by eligible property owners. Property owners participating would also have to ensure they meet both the eligibility requirements for interior noise levels and the year the property was built. In addition, some property owners may choose one measure over another which would reduce overall costs. All costs are based on 2020 cost projections.

NMPA	Housing Counts	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)
1a/1b	Residential Units inside 65 DNL – 53 SF & MF units	\$3,312,500	\$2,650,000	\$662,500
2a	Residential Units outside 65 DNL – 20 SF units	\$1,250,000	\$1,000,000	\$250,000
2b	Residential Units outside 65 DNL – 4 SF units	\$250,000	\$200,000	\$50,000
2c	Residential Units outside 65 DNL – 40 MF units	\$2,500,000	\$2,000,000	\$500,000
2d	Residential Units outside 65 DNL – 30 SF units	\$1,875,000	\$1,500,000	\$375,000



Land Use Mitigation Recommendations | 31

New Preventative Land Use Mitigation Recommendations

- Two (2) new preventative land use mitigation measures are recommended

LU17: Improved Building Codes

- Update existing building codes to meet current sound insulation guidelines
- Reduces interior noise levels
- For new development or major remodeling

LU-18: Voluntary Fair Disclosure Program

- Property sales subjected to notification
- Probability of safety or aircraft noise impacts
- Formal measure would require recording of a notice at time of sale
- Informal measure could be mailings of disclosure notices within community



Land Use Mitigation Recommendations | 32



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Preventative Land Use Mitigation Estimated Costs

Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)	Direct Cost To Local Government	Direct Cost To Users
Mitigation Measures (Preventative)					
Adopt Improved Building Codes	\$25,000	\$20,000	\$5,000	Minimal	None
Develop A Voluntary Fair Disclosure Program	\$25,000	--	\$25,000	Minimal	None
Subtotal	\$50,000 Plus Administrative Costs	\$20,000 Plus Administrative Costs	\$30,000 Plus Administrative Costs	Minimal Administrative Costs; Plus Potential Loss Of Tax Base	None



Land Use Mitigation Recommendations | 33

Previously Approved Program Management Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Program Management Measures					
OM-1	Monitoring compliance with recommended Noise Abatement Measures, contour updating (five-year cycle), and land use implementation assistance.	Greater Rockford Airport Authority (GRAA)	Approved	Implemented	Recommended to be continued
OM-2	Noise complaint response system and computer database.	GRAA	Approved	Partially Implemented	Recommended to be continued with modifications
OM-3	Plan review and evaluation. GRAA staff periodically review the NCP and consider revisions and refinements, as necessary.	GRAA	Approved	Implemented	Recommended to be continued
OM-4	Establish a Pilot/Community Awareness Program.	GRAA	Approved	Not Implemented	Recommended to be continued
OM-5	Publication of Instrument Departure Procedures for Runways 1, 19, and 25.	GRAA	Approved	Not Implemented	Recommended to be continued
OM-6	Update airport information in the Airport Facilities Directory.	GRAA	Approved	Implemented	Recommended to be continued



Previously Approved Program Management Measures | 34



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Program Management Screening Analysis

Description	Benefits	Drawbacks	Evaluation & Recommendation
Formal logging of noise complaints	This measure would provide airport staff with data on potential or emerging noise issues around the airport.	Costs for staff to maintain website, respond to telephone complaints and/or logging complaints in a formal manner.	Airport staff should continue to receive noise complaints on an as-required basis. Due to the low level of noise complaints, acquiring a noise complaint system is not recommended. However, a more formal system of complaint logging should be used by airport staff and the information used as a basis for future meetings. As a result, it is RECOMMENDED that the present system of logging noise complaints be continued with modification and should be included in the NCP. Modification to OM-2
Initiate noise monitoring program	This measure would provide the airport with information regarding aircraft noise levels to the public.	Costs to purchase, run, and maintain permanent noise monitoring system or portable noise monitors including staff costs to run the system and to analyze the data.	Due to the low level of noise complaints and the cost to implement and maintain a noise monitoring system/program, this alternative is NOT RECOMMENDED for further analysis.



Program Management Screening Analysis | 35

Program Management Recommendations

- **Five (5) previously approved Program Management Measures are recommended for continuation**
- **One (1) Measure is recommended for continuation with modification**



Program Management Recommendations | 36



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Program Management Estimated Costs

Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)	Direct Cost To Local Government	Direct Cost To Users
Program Management Measures					
Continue Logging of Noise Complaints	Minimal Administrative Costs	None	Minimal Administrative Costs	None	None
Initiate Community Roundtable or Noise Abatement Committee	Minimal Administrative Costs	None	Minimal Administrative Costs	None	None
Perform Regular Updates to the NEMs and Review of NCP					
Update NEM ONLY Or	\$350,000 to \$400,000	\$280,000 to \$320,000	\$70,000 to \$80,000	None	None
Update NEM & NCP	\$650,000 to \$750,000	\$520,000 to \$600,000	\$130,000 to \$150,000		
Subtotal	\$350,000 to \$750,000 plus administrative costs	\$280,000 to \$600,000 plus administrative costs	\$70,000 to \$150,000 plus administrative costs	None	None



Program Management Recommendations | 37

Next Steps

- **Gather Input and Acceptance of Noise Abatement, Land Use Mitigation, Program Management Measures**
 - Gather input from advisory committee
 - Gather input from public
 - Gather input from GRAA
 - Gather input from ATC / FAA
 - GRAA acceptance of NCP recommendations
- **Prepare Materials for Next AC meeting and Public Hearing/Workshop**
- **Prepare Draft NEM and NCP documentation**
- **Gather Comments on Preliminary Draft documentation**



Next Steps | 38



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Advisory Committee Meeting #3 TBD

- AC Meeting Announcement
- Presentation

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/advisory-committee/>



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Public Workshop #1 November 17, 2022

- Public Workshop Announcement
- Presentation

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/public-meetings/>



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

PUBLIC WORKSHOP ANNOUNCEMENT



PUBLIC INFORMATION WORKSHOP ANNOUNCEMENT

Where: Online

When: December 15th, 6:00 p.m. – 8:00 p.m.

The Greater Rockford Airport Authority (GRAA) is currently conducting a study to document the noise effects from aircraft operations at Chicago Rockford International Airport (RFD). The study is commonly referred to as a Part 150 Noise Compatibility Study (Part 150 Study). The purpose for conducting a Part 150 Study is to develop a balanced and cost-effective plan to reduce current noise impacts, where practical, and to limit the potential for future noise impacts.

An important element of a successful Part 150 Study at RFD is for the airport staff and consulting team to hear from residents of the communities in the vicinity of the airport that are most affected by aircraft noise levels. To make this possible, a Public Information Workshop will take place on **December 15th, 2021, from 6:00 p.m. – 8:00 p.m.** This will be the first of 3 public information workshops held during the course of the study.

The workshop will be held **virtually online**, and will include a presentation followed by a question and answer session with the study team. A link to register for the workshop is located on the study website:

<https://www.airportprojects.net/rfd-part150/>

Residents and, business owners, are encouraged to attend the workshop to provide input, ask questions, and gain an understanding of the scope and purpose of the study.

The GRAA has contracted with Landrum & Brown, an internationally-recognized aviation planning firm, to conduct this study.

We value and look forward to your input and participation in this process.

Sincerely,

Zach Oakley
Deputy Director of Operations and Planning



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority



PUBLIC WORKSHOP PRESENTATION

14 CFR Part 150 Noise Compatibility Study Update

Public Information Workshop | December 2021



Comments & Questions

- All meeting attendees are muted
- Questions will be addressed during Question and Answer breaks
- Questions can be submitted through
 - Q&A  : Attendee can type questions or comments
 - Raise Hand  : Attendee can “Raise Hand”, the attendee will be unmuted in order to verbally ask their question or make a comment
 - Study Website: Comments and questions can also be submitted via the study website contact page:
<https://www.airportprojects.net/rfd-part150/contact/>



Comments & Questions | 2

Agenda

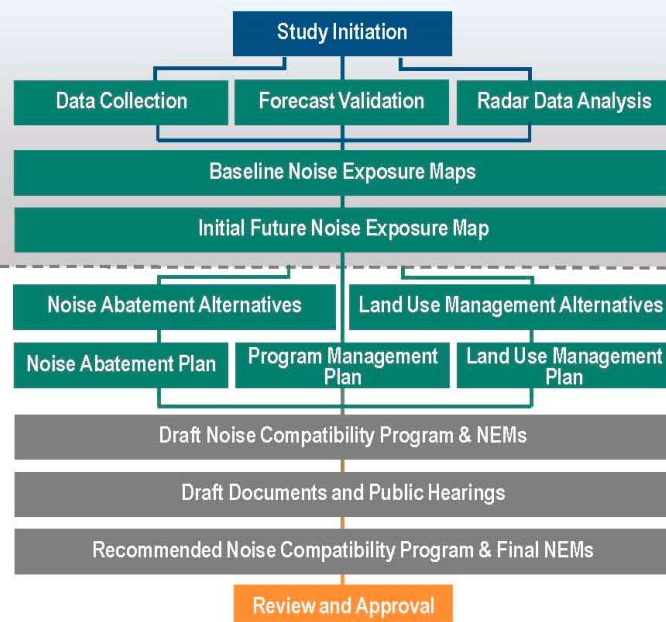


- Introduction
- History of Noise Abatement Planning
- Part 150 Study Overview, Process & Elements
- Public Involvement
- Noise Modeling Input Data Collection
- Baseline Noise Exposure Contours
- Next Steps

Part 150 Study Overview



WE ARE HERE

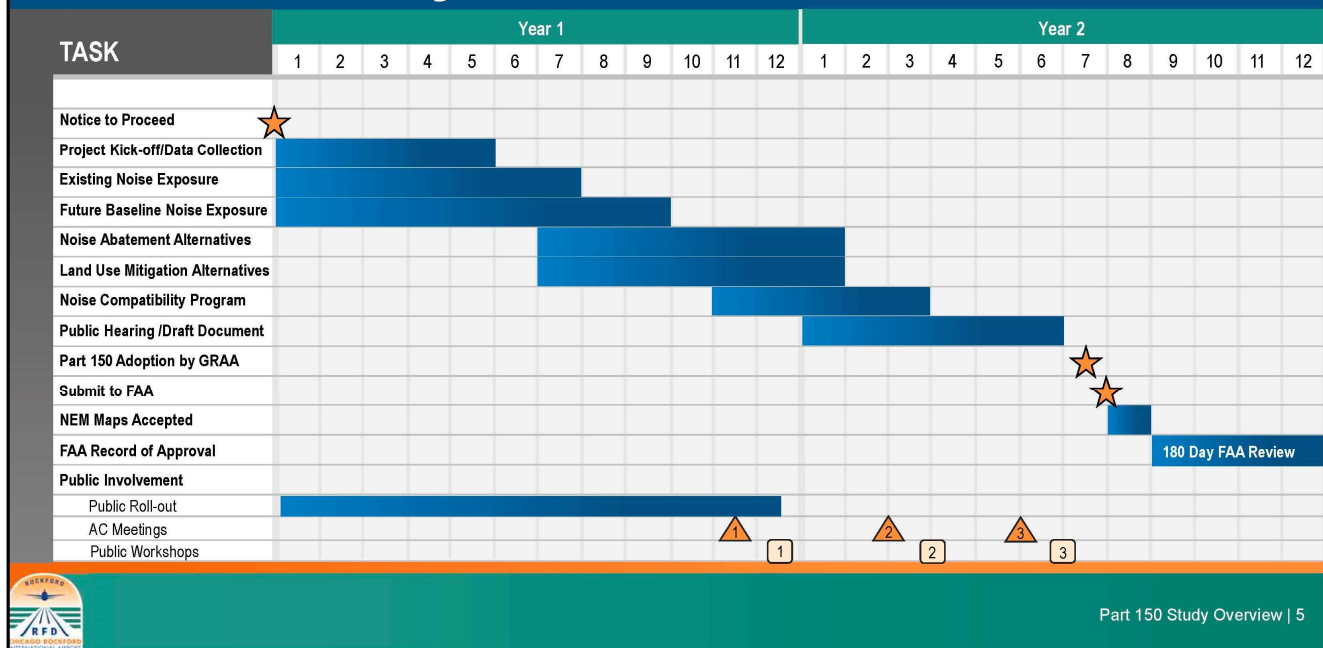




14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Part 150 Study Overview



History of Noise Compatibility Planning



Federal Regulations and Guidelines

- Jet Age + Rapid Expansion of Airports + Continued Suburban Development/Sprawl = Adverse Noise Impacts
- Aviation Noise Abatement Policy of 1976
- Aviation Safety and Noise Abatement Act of 1979
 - 14 CFR Part 150 (1981) established requirements for airport owners who choose to submit noise exposure maps and develop noise compatibility planning programs to the FAA for review and approval.
 - Typically voluntary on the part of the sponsor and is not an automatic requirement of the Federal government.
- Airport Noise and Capacity Act of 1990
 - Established phase-out timeline of Stage 2 aircraft (Commercial aircraft >75,000 lbs.)
 - Restricted airports from imposing locally based, non-voluntary restrictions without first completing a Part 161 Study. (To date no Part 161 restrictions request has been submitted and fully approved by the FAA)
- FAA Final Policy on Part 150 Noise Mitigation Measures (Oct 1, 1998)
 - New homes constructed within an FAA-approved and published noise exposure contour are NOT eligible for remedial noise mitigation.



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Previous Studies

Established existing noise abatement measures in place at RFD

- 1990 Part 150 Study
- 1995 Part 150 Study
- 2003 Part 150 Study
- 2012 NEM Update

History of Noise Compatibility Planning at RFD



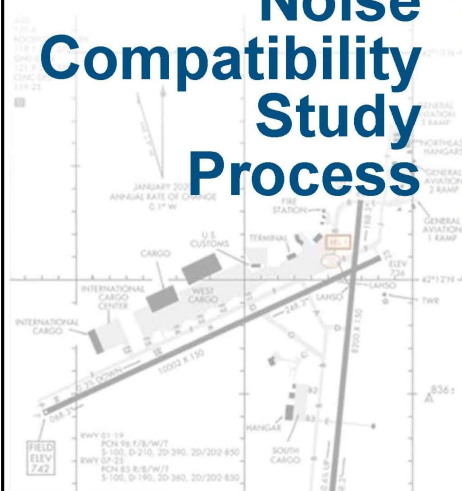
This Part 150 Update will...

- Update Noise Exposure Maps for Existing (2020) and Future (2027) Baseline conditions
- Review existing NCP
- Modify existing NCP measures where necessary
- Recommend new noise abatement and/or land use mitigation measures based on land use incompatibilities within the 65+ DNL noise contour



History of Noise Compatibility Planning at RFD | 7

Part 150 Noise Compatibility Study Process



Overview

- **Code of Federal Regulations (14 CFR) Part 150**
 - Established requirements for airport owners who choose to submit noise exposure maps and develop noise compatibility planning programs for FAA review and approval
 - Part 150 Studies undertake an in depth and public oriented approach to noise and compatible land use
- **Part 150 Studies Are Planning Studies**
 - Identify noise and land use impacts that exist today and in the future
 - Work to develop solutions within the FAA's framework
- **Part 150 Studies can open funding sources**
 - Following 14 CFR Part 150 guidelines makes airport eligible to apply for grants for implementing recommendations of the study
 - Funding is subject to availability and not guaranteed
- **Part 150 Studies Do Not:**
 - Recommend closing an airport or implementing mandatory restrictions on aircraft
 - Give environmental approval for implementing noise abatement or land use programs



Part 150 Noise Compatibility Study Process | 8



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Maps

- Description of the noise levels for existing and future (+5 years) conditions
- Future condition should take into account any changes (physical or operational) that may have an effect on the noise levels around the airport
 - Examples of physical changes may include: runway threshold relocation, changes in terminal/gate layout, new aircraft parking facilities
 - Examples of operational changes may include: changes in aircraft operating levels, and fleet mix, new flight tracks, new destinations

Essential Elements of a Part 150 Study



Noise Compatibility Program

- Recommendations for reducing, minimizing, and/or mitigating aircraft noise and land use conflicts
 - Noise Abatement
 - Land Use Mitigation
 - Program Management



Essential Elements of a Part 150 Study | 9

Public Involvement



Public Involvement Opportunities

- **Advisory Committee** – Group of stakeholders affected by, or having oversight responsibilities for, issues covered by the Part 150 Study Update
 - Airport Authority Officials
 - Aircraft Operators
 - Government Officials / Land Use Planners
 - Community Groups
 - Air Traffic Controllers
- **Public Workshops** - Open house, informational meetings to discuss and gather comments on potential aviation noise, land use, and other mitigation measures
- **Public Hearings** - to receive comments (either oral or written) from the public on the Draft Part 150 Study Update document
- **Project Website / Social Media**
 - Project website and social media will be updated with study information, including images and documents pertinent to the study - <https://www.airportprojects.net/rfd-part150/>
 - Posting of all meeting notices
 - Posting of study process and draft findings



Public Involvement | 10



Questions & Answers



Please raise hand to ask question



AEDT Input Data

Data Sources

- Airport Layout Plan
- Radar Data
- ATCT Counts
- Forecasted Operations



Input Data

- Runway Layout
- Operating Levels
- Fleet Mix
- Runway Use
- Flight Tracks
- Flight Profiles



Aviation Environmental Design Tool (AEDT)

- Aircraft Database (over 5000 aircraft)
- Aircraft Performance Data
- Aircraft Noise Data



- Noise Contours
- Tabular Reports
- Grid Point Analysis



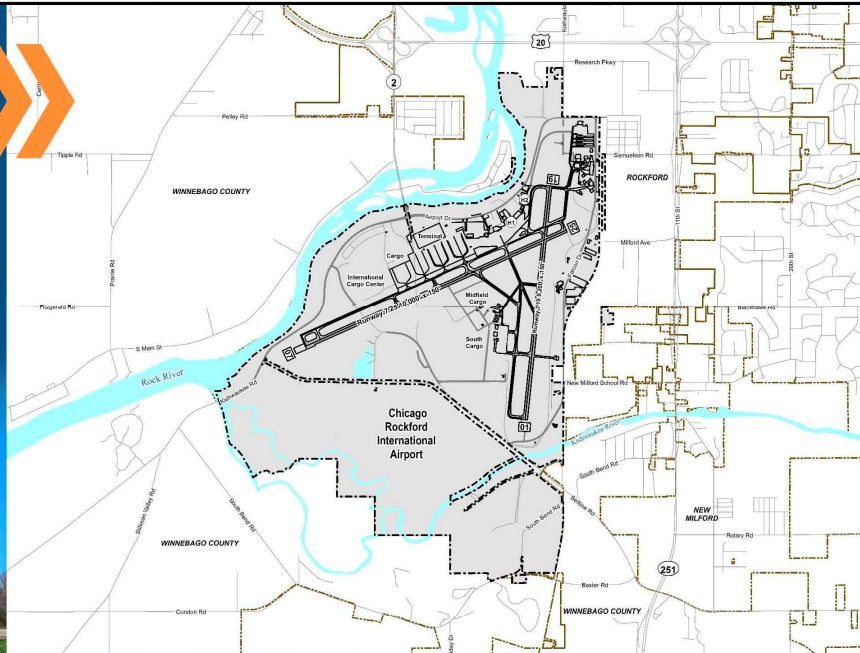


14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Airport Layout

-  Jurisdictional Boundary
-  Airport Property Boundary



Airport Layout | 13

Data Collection

Overview

- **Existing (2020) Baseline condition input data based on most recent 12 months of data from:**
 - FAA's Traffic Flow Management System (TFMS) data
 - FAA's Operational Network (OPSNET)
 - Radar track data received from the FAA's National Offload Program (NOP)
- **Existing (2020) Baseline condition cargo operations primarily consist of:**
 - Boeing 767-200 Series Freighter (767CF6) 34%
 - Boeing 757-200 Series Freighter (757PW / 757RR) 33%
 - Airbus A300B4-600 Series (A300-622R) 24%
- **Future (2027) Baseline condition input data based on data from:**
 - Existing (2020) Baseline condition
 - AEDT Flight Tracks
 - Time of Day
 - Runway Utilization
 - Stage length
 - Forecast Working Paper Sensitivity Analysis, 2021
 - Annual Operations
 - Fleet Mix
- **Future (2027) Baseline condition cargo operations primarily consist of:**
 - Boeing 767-300 ER Freighter (7673ER) 43%
 - Boeing 757-200 Series Freighter (757PW / 757RR) 23%
 - Airbus A300B4-600 Series (A300-622R) 25%

Data Collection | 14



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Existing (2020) Baseline Condition Aircraft Operations

Aircraft Type	2020 Annual Operations	2020 Average Annual Day			Percent of Total
		Day	Night	Total	
Cargo Aircraft	17,494.8	18.4	29.5	47.9	40.9%
Commercial Aircraft	4,885.2	10.1	3.3	13.4	11.4%
General Aviation Jets	2,006.0	5.2	0.3	5.5	4.7%
General Aviation Props	17,286.9	46.2	1.2	47.4	40.4%
General Aviation Helicopter	57.1	0.1	0.1	0.2	0.1%
Military Aircraft	1,031.0	2.8	--	2.8	2.4%
Grand Total	42,761	82.7	34.4	117.2	100.0%



Data Collection | 15

Data Collection

Future (2027) Baseline Condition Forecasted Aircraft Operations

Aircraft Type	2027 Annual Operations	2027 Average Annual Day			Percent of Total
		Day	Night	Total	
Cargo Aircraft	29,936.0	34.6	47.4	82.0	48.0%
Commercial Aircraft	4,394.0	11.4	0.7	12.0	7.0%
General Aviation Jets	10,096.1	25.7	2.0	27.7	16.2%
General Aviation Props	16,189.3	42.6	1.7	44.4	26.0%
General Aviation Helicopter	57.0	0.1	0.1	0.2	0.1%
Military Aircraft	1,670.0	4.6	--	4.6	2.7%
Grand Total	62,342.4	119.0	51.8	170.8	100.0%



Data Collection | 16



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Existing (2020) & Future (2027) Baseline Condition Arrival Runway Utilization

Aircraft Category	Runway End						Total
	01	07	19	25	H1	H2	
Daytime Arrivals							
Cargo Jets	21.6%	25.9%	14.8%	37.7%	--	--	100.0%
Commercial Jets	21.4%	23.6%	16.6%	38.4%	--	--	100.0%
General Aviation Jets	24.3%	26.5%	10.1%	39.2%	--	--	100.0%
General Aviation Props	27.2%	17.2%	19.4%	36.2%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	54.8%	5.5%	39.7%	--	--	100.0%
Military Helicopter	--	(50.0%)	(10.4%)	(39.6%)	--	--	100.0%
Nighttime Arrivals							
Cargo Jets	26.1%	40.1%	7.2%	26.6%	--	--	100.0%
Commercial Jets	22.8%	29.0%	4.3%	43.8%	--	--	100.0%
General Aviation Jets	28.6%	21.4%	14.3%	35.7%	--	--	100.0%
General Aviation Props	11.5%	26.9%	15.4%	46.2%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	--	--	--	--	--	--
Military Helicopter	--	--	--	--	--	--	--



Data Collection | 17

Data Collection

Existing (2020) & Future (2027) Baseline Condition Departure Runway Utilization

Aircraft Category	Runway End						Total
	01	07	19	25	H1	H2	
Daytime Departures							
Cargo Jets	6.7%	21.8%	16.9%	54.7%	--	--	100.0%
Commercial Jets	12.9%	23.6%	23.0%	40.5%	--	--	100.0%
General Aviation Jets	14.5%	17.9%	24.9%	42.8%	--	--	100.0%
General Aviation Props	18.2%	16.1%	27.8%	37.9%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	11.8% (6.7%)	11.8% (6.7%)	31.7% (38.6%)	44.6% (47.9%)	--	--	100.0%
Military Helicopter	--	--	--	--	100.0%	--	100.0%
Nighttime Departures							
Cargo Jets	2.3%	13.6%	24.4%	59.7%	--	--	100.0%
Commercial Jets	3.0%	43.8%	14.2%	39.1%	--	--	100.0%
General Aviation Jets	--	10.0%	30.0%	60.0%	--	--	100.0%
General Aviation Props	--	15.2%	40.6%	40.6%	--	--	100.0%
General Aviation Helicopter	--	--	--	--	--	100.0%	100.0%
Military Aircraft	--	--	--	--	--	--	--
Military Helicopter	--	--	--	--	--	--	--



Data Collection | 18



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Flight Tracks

- Flight tracks are lines that represent the path of an aircraft as it arrives or departs the airport
- AEDT applies a 3-dimensional profile to each track that includes altitude, speed, thrust, and flap settings to calculate aircraft noise along each flight route
- Radar data was collected from the FAA for the year 2020
 - Sixteen (16) weeks of radar data, two (2) weeks from 8 different months in 2020
 - May through September excluded due to Runway 07/25 closure
- Representative tracks were created in the AEDT to model operations

Flight Tracks | 19

Data Collection

Flight Profiles

- All arrivals are categorized Stage Length 1
- All general aviation prop/helicopter and military departures are categorized Stage Length 1
- Cargo, commercial and general aviation jets are categorized by distance to destination from RFD

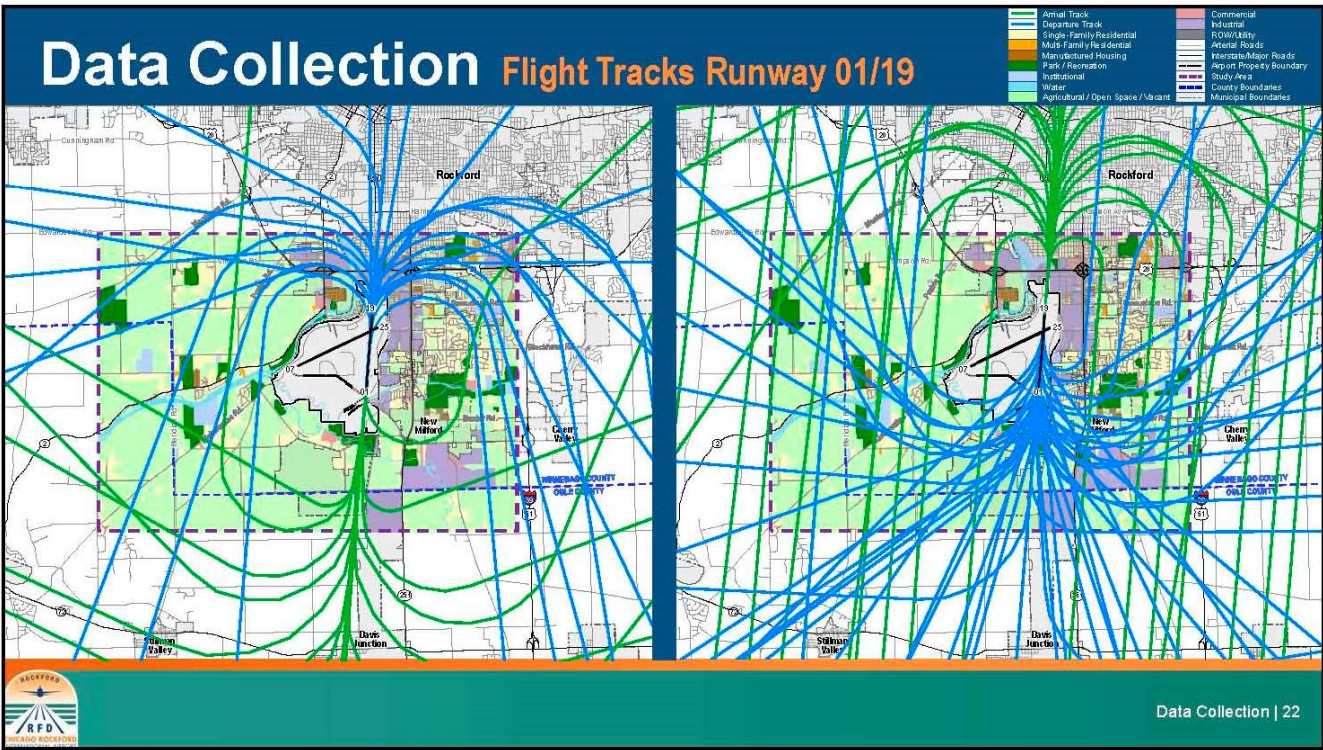
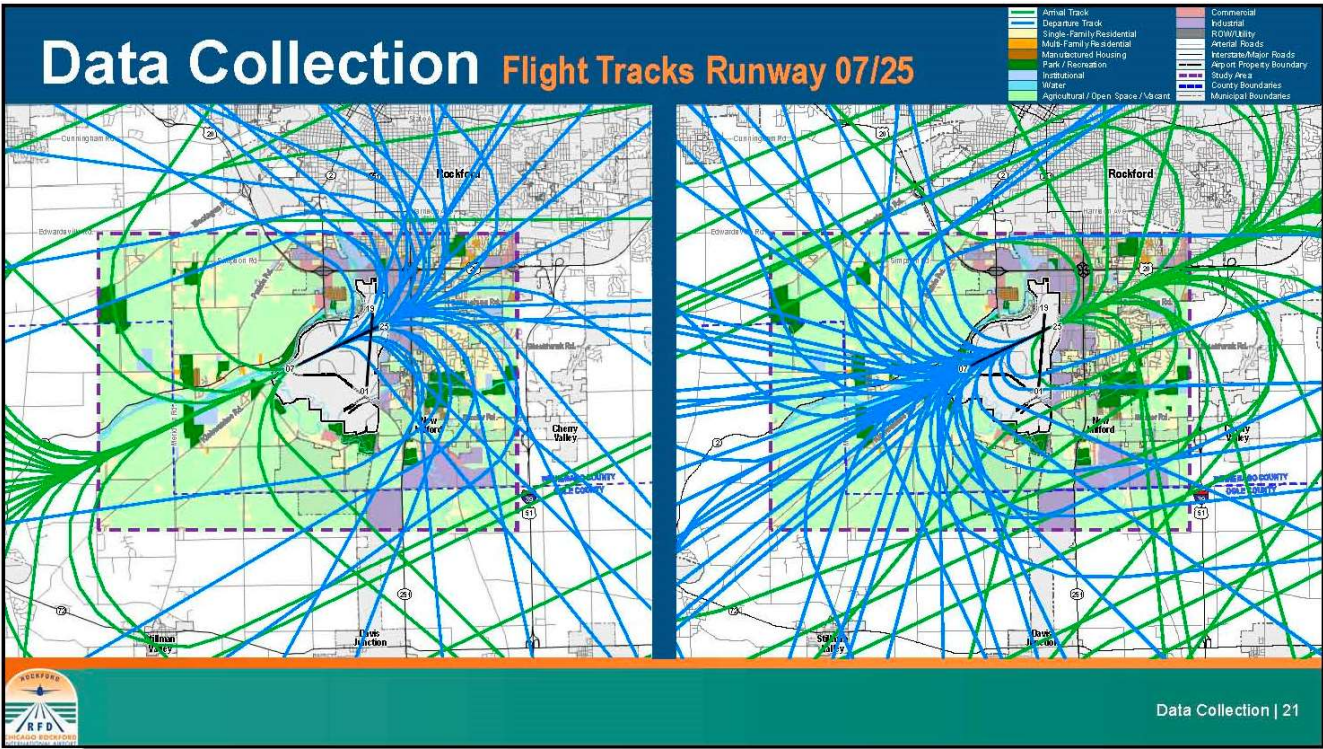
Stage Length	Distance (nautical miles)	Typical Destinations
1	0 – 500	SDF, MSP, MCI
2	501 – 1,000	DFW, BWI, DEN
3	1,001 – 1,500	ONT, MA, SEA
4	1,501 – 2,500	OAK, ANC
5	2,501 – 3,500	International
6	3,501 – 4,500	International
7	4,501 – 5,500	International

Aircraft Category	Stage Length							Total
	1	2	3	4	5	6	7	
Daytime Departures								
Cargo Jets	26.5%	15.9%	56.3%	0.7%	--	0.6%	0.0%	100.0%
Commercial Jets	2.9%	76.6%	19.1%	1.4%	--	0.1%	--	100.0%
General Aviation Jets	99.2%	0.8%	--	--	--	--	--	100.0%
Nighttime Departures								
Cargo Jets	33.8%	29.0%	25.8%	11.0%	0.0%	0.4%	--	100.0%
Commercial Jets	43.6%	28.6%	27.7%	0.2%	--	--	--	100.0%
General Aviation Jets	100.0%	--	--	--	--	--	--	100.0%

Flight Tracks | 20



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE
Greater Rockford Airport Authority



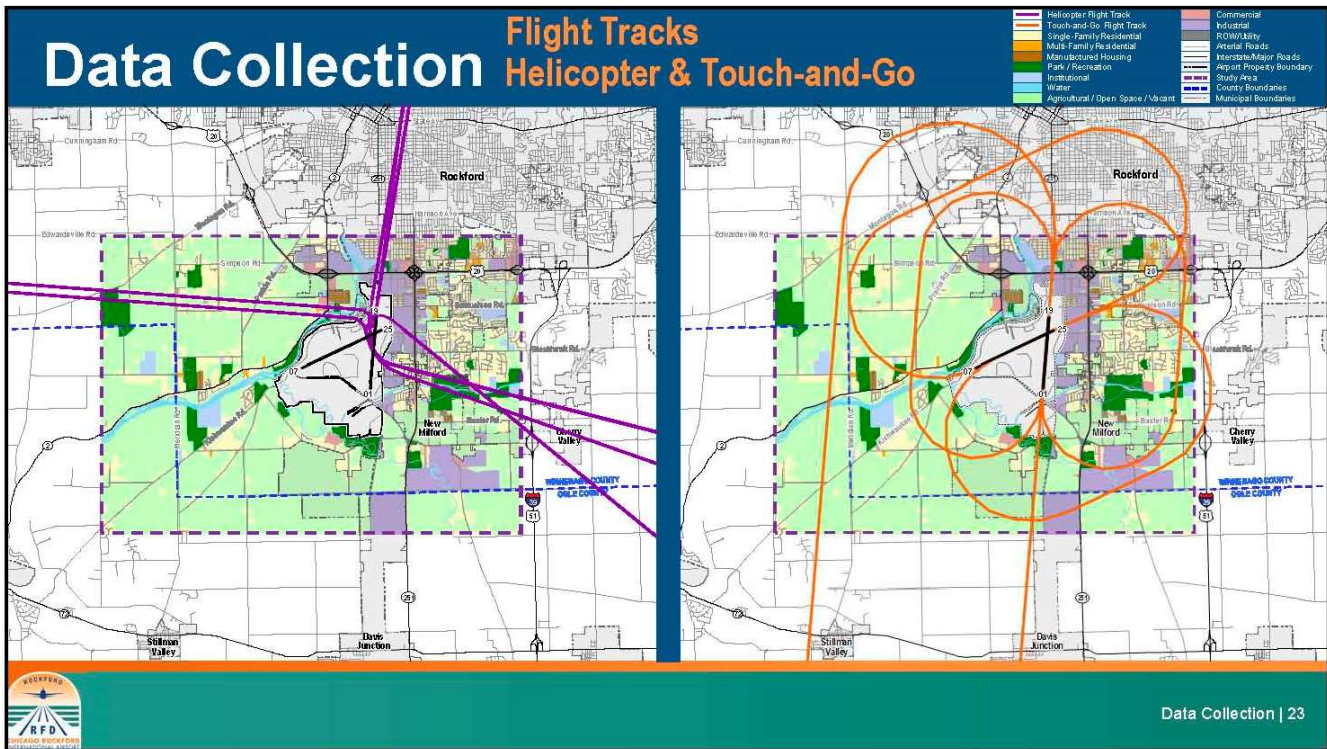


14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Data Collection

Flight Tracks Helicopter & Touch-and-Go



Questions & Answers



Please raise hand to ask question



Questions & Answers | 24



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Contours

Technical Requirements

- Represents an annual-average day (1 year of operations/365 days)
- Described with a set of continuous lines that represent equal levels of noise
- Prepared using the FAA's Airport Environmental Design Tool (AEDT) Ver 3d
- Must use specific noise metric: Day-Night Average Sound Level (DNL)
 - DNL represents 24-hour average noise level
 - Penalty for nighttime (10:00 p.m. - 6:59 a.m.) flights (x 10)
 - National standard for all Federal agencies
 - 65 DNL identified as threshold for impact to noise sensitive land uses



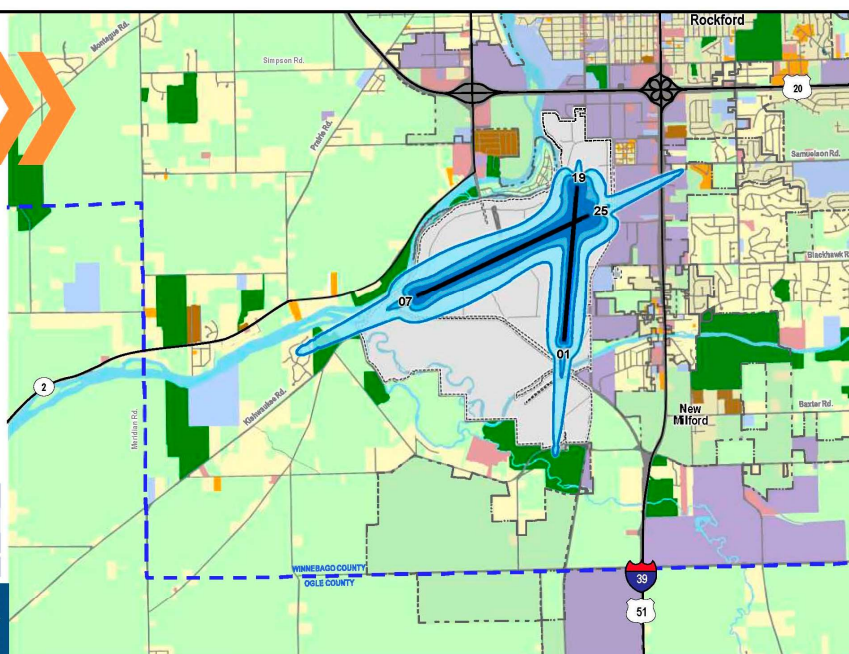
Noise Exposure Contours | 25

Noise Exposure Contours

Existing (2020)
Condition Land Use
Incompatibilities

65 - 70 DNL	752.9 Acres
70 - 75 DNL	297.8 Acres
75+ DNL	251.3 Acres
65+ DNL	1,302.0 Acres

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



Noise Exposure Contours | 26



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

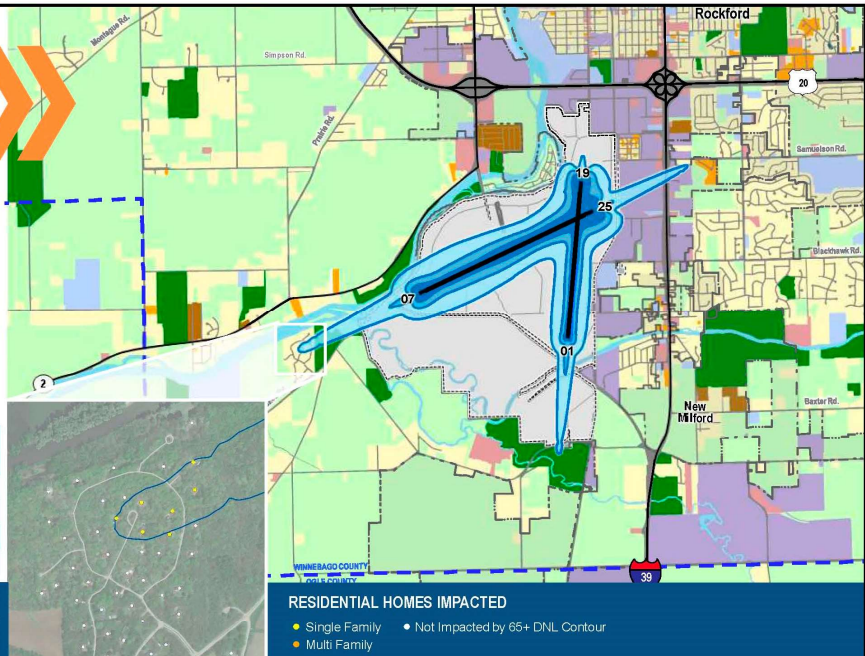
Greater Rockford Airport Authority

Noise Exposure Contours

Existing (2020)
Condition Land Use
Incompatibilities

RESIDENTIAL IMPACTS				
	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	7	7
Multi-Family Units	0	0	0	0
Total Housing Units	0	0	7	7
Estimated Population	0	0	18	18

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour



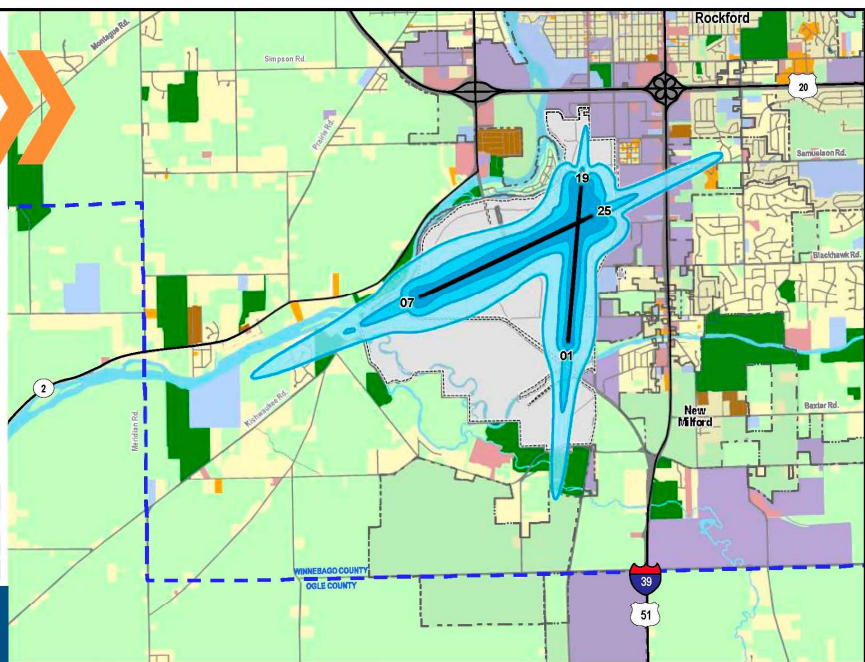
Noise Exposure Contours | 27

Noise Exposure Contours

Existing (2027)
Condition Land Use
Incompatibilities

65 - 70 DNL	1,148.2 Acres
70 - 75 DNL	450.3 Acres
75+ DNL	368.1 Acres
65+ DNL	1,966.6 Acres

Single-Family Residential	Water	Arterial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries



Noise Exposure Contours | 28



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Exposure Contours

Existing (2027)
Condition Land Use
Incompatibilities

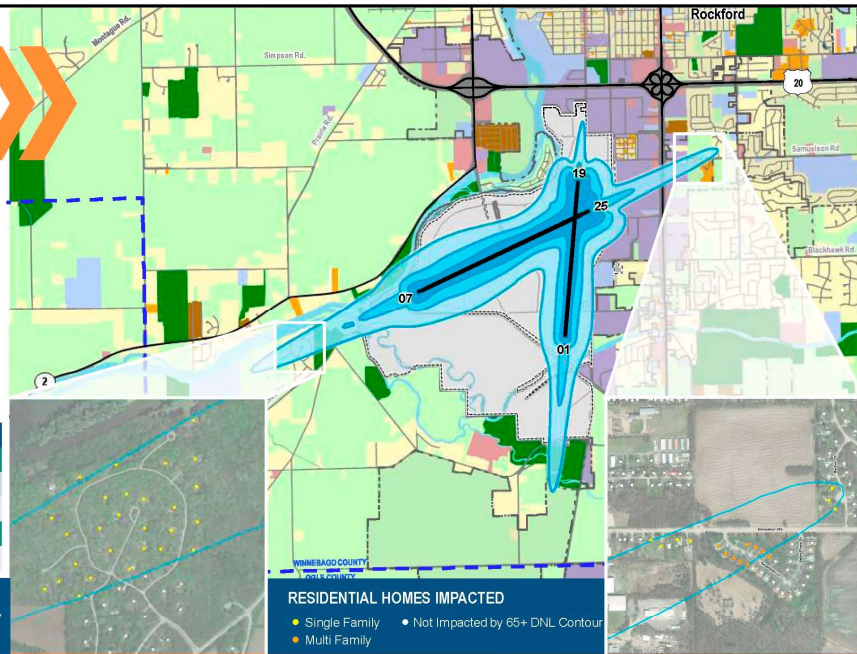
RESIDENTIAL IMPACTS

	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	34	34
Multi-Family Units	0	0	18	18
Total Housing Units	0	0	52	52
Estimated Population	0	0	138	138

Single-Family Residential	Water	Aerial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries

RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour



Noise Exposure Contours | 29

Noise Exposure Contours

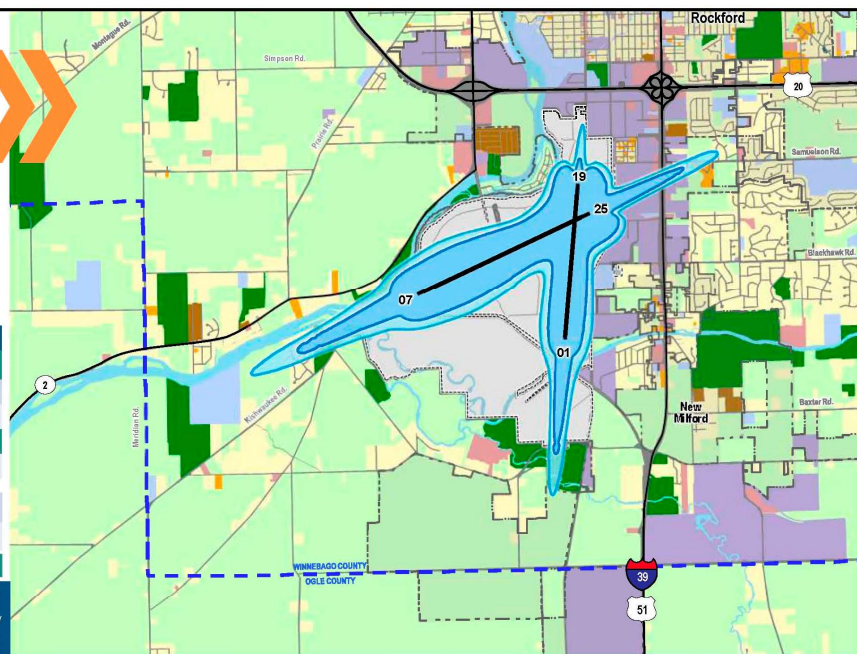
Existing 2020 / 2027
65 DNL Comparison

RESIDENTIAL IMPACTS

	2020 65+ DNL	2027 65+ DNL	DIFFERENCE
Single Family Units	7	34	+27
Multi-Family Units	0	18	+18
Total Housing Units	7	52	+45
Estimated Population	18	138	+120

2020 65+ DNL	1,302.0 Acres
2027 65+ DNL	1,966.6 Acres
Change in Acreage	+694.6 Acres

Single-Family Residential	Water	Aerial Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundaries
Institutional	ROW/Utility	Municipal Boundaries

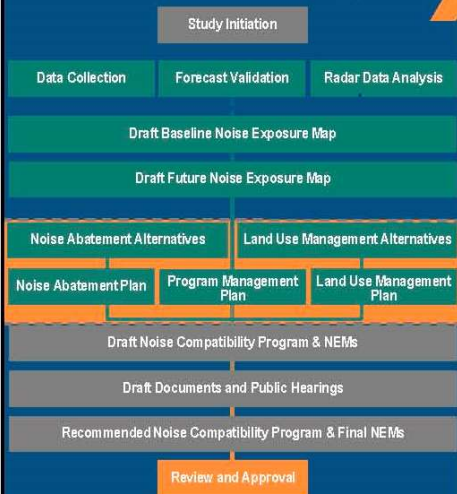


Noise Exposure Contours | 30

Questions & Answers

Please raise hand to ask question

Next Steps



▪ Noise Compatibility Program (NCP) Alternatives Analysis

• Noise Abatement Alternatives

*Purpose: To **ABATE** noise levels in surrounding communities*

• Land Use Mitigation Alternatives

*Purpose: To **MITIGATE** noise levels in surrounding communities*

• Program Management Alternatives

*Purpose: To **PROVIDE** administrative and management actions to allow the airport to maintain land use compatibility in surrounding communities*

▪ Develop Recommended NCP Measures & Program Map



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Public Comments

Please submit comments on the Study Website contact page:
<https://www.airportprojects.net/rfd-part150/contact/>



Public Comments | 33

Contacts



Jesse Baker

1-816-225-8346

jbaker@landrum-brown.com

Jesse Baker, will be the Project Manager for this Part 150 Study. Jesse has over 18 years of experience in environmental analysis and modeling. Jesse began his career with L&B and provided noise and air quality data analysis for numerous large-scale projects, including the EIS for the New York / New Jersey / Philadelphia Airspace Re-design and the EIS for the relocation of St. George Municipal Airport. Jesse also participated in Part 150 Studies at Kansas City International and Albany International Airports.

Jesse's technical background, while focused on environmental analysis, and modeling of airport design, airspace design, and air traffic control procedures also includes serving on the Aviation Environmental Design Tool (AEDT) and Aviation Environmental Screening Tool (AEST) development team as a Quality Assurance Lead and Subject Matter Expert, and providing technical support and guidance to the FAA Environmental Policy Team Office (ATO-AJV-114) and the FAA Office of Environmental and Energy Research and Development (FAA-AEE).

Through his work on the development of AEDT, Jesse has become one of the foremost experts on the use of the program for aviation noise and air quality analysis. His expertise will be of great benefit to the Part 150 Study at RFD.



Contacts | 34



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Public Workshop #2 December 5, 2022

- Public Workshop Announcement
- Presentation

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/public-meetings/>



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

PUBLIC WORKSHOP ANNOUNCEMENT



PUBLIC INFORMATION WORKSHOP ANNOUNCEMENT

Where: Online Zoom Meeting

When: December 8th from 6:00 p.m. to 8:00 p.m.

The Greater Rockford Airport Authority (GAA) is presenting an online Virtual Public Information Workshop on December 8th, 2022, from 6:00 p.m. to 8:00 p.m. for the Part 150 Noise Compatibility Study it is currently conducting at the Chicago Rockford International Airport (RFD). The study is commonly referred to as a Part 150 Noise Compatibility Study (Part 150 Study).

The purpose for conducting a Part 150 Study is to develop a balanced and cost-effective plan to reduce current noise impacts, where practical, and to limit the potential for future noise impacts. The Noise Compatibility Study is conducted under guidance provided in Title 14 Code of Federal Regulations (CFR) Part 150. The first component of the study is to identify Noise Exposure Maps (NEMs) and the second is to develop a Noise Compatibility Program (NCP).

For this public workshop, the materials presented will review the Proposed 2027 NEM contours presented at the first workshop and the recommended noise abatement and land use mitigation measures within the RFD NCP. The recommended measures included in the NCP are designed to minimize the impacts of aviation noise to the surrounding community and enhance the administration of the overall noise compatibility program for RFD. The meeting will also give an overview of the next steps in the Part 150 Study process and how to provide public comments on the study and information presented in the presentation. If you were unable to attend the first public workshop, a recording of the workshop can be found on the study website listed below.

An important element of a successful Part 150 Study at RFD is for the airport staff and consulting team to hear from residents of the communities in the vicinity of the airport that are most affected by aircraft noise levels. To make this possible, residents, business owners, and concerned citizens are encouraged to participate in the workshop and provide input, ask questions, and gain an understanding of the scope and purpose of the study.

A link to register for the public information workshop is located on the study website:

<https://www.airportprojects.net/rfd-part150/>

Public comments can be submitted during the public information workshop and will be accepted for a period of 30 days following the workshop. Comments on the study and materials presented during the public information workshop can be submitted via the study website : <https://www.airportprojects.net/rfd-part150/contact/>

We value and look forward to your input and participation in this process.

Sincerely,

Zach Oakley
Deputy Director of Operations and Planning

60 AIRPORT DR ROCKFORD, IL 61109-2902 PHONE 815 969-4000 FLYRFD.com FOREIGN-TRADE ZONE (FTZ) #176

14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

PUBLIC WORKSHOP PRESENTATION



14 CFR Part 150 Noise Compatibility Study Update

Greater Rockford
Airport Authority
(GRAA)

Public Information Workshop | December 2022



Comments & Questions

- All meeting attendees are muted
- Questions will be addressed during Question and Answer breaks
- Questions can be submitted through
 - Q&A  : Attendee can type questions or comments
 - Raise Hand  : Attendee can "Raise Hand", the attendee will be unmuted in order to verbally ask their question or make a comment
 - Study Website: Comments and questions can also be submitted via the study website contact page:
<https://www.airportprojects.net/rfd-part150/contact/>



Comments & Questions | 2



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Agenda

- Part 150 Study Overview
- Public Involvement
- Future 2027 Noise Compatibility Program (NCP) Noise Contour
- Elements of a Noise Compatibility Program
- Noise Abatement Measures
- Land Use Mitigation Measures
 - Remedial / Corrective
 - Preventative
- Program Management Measures
- Next Steps

Agenda | 3

Overview

▪ Part 150 Studies Are Planning Studies

- Identify noise and land use impacts that exist today and in the future
- Work to develop solutions within the FAA's framework

▪ Part 150 Studies can open funding sources

- Following 14 CFR Part 150 guidelines makes airport eligible to apply for grants for implementing recommendations of the study
- Funding is subject to availability and not guaranteed

▪ Part 150 Studies Do Not:

- Recommend closing an airport or implementing mandatory restrictions on aircraft
- Give environmental approval for implementing noise abatement or land use programs

Part 150 Study Overview

Noise Compatibility Planning at RFD



Previous Studies

Established existing noise abatement measures in place at RFD

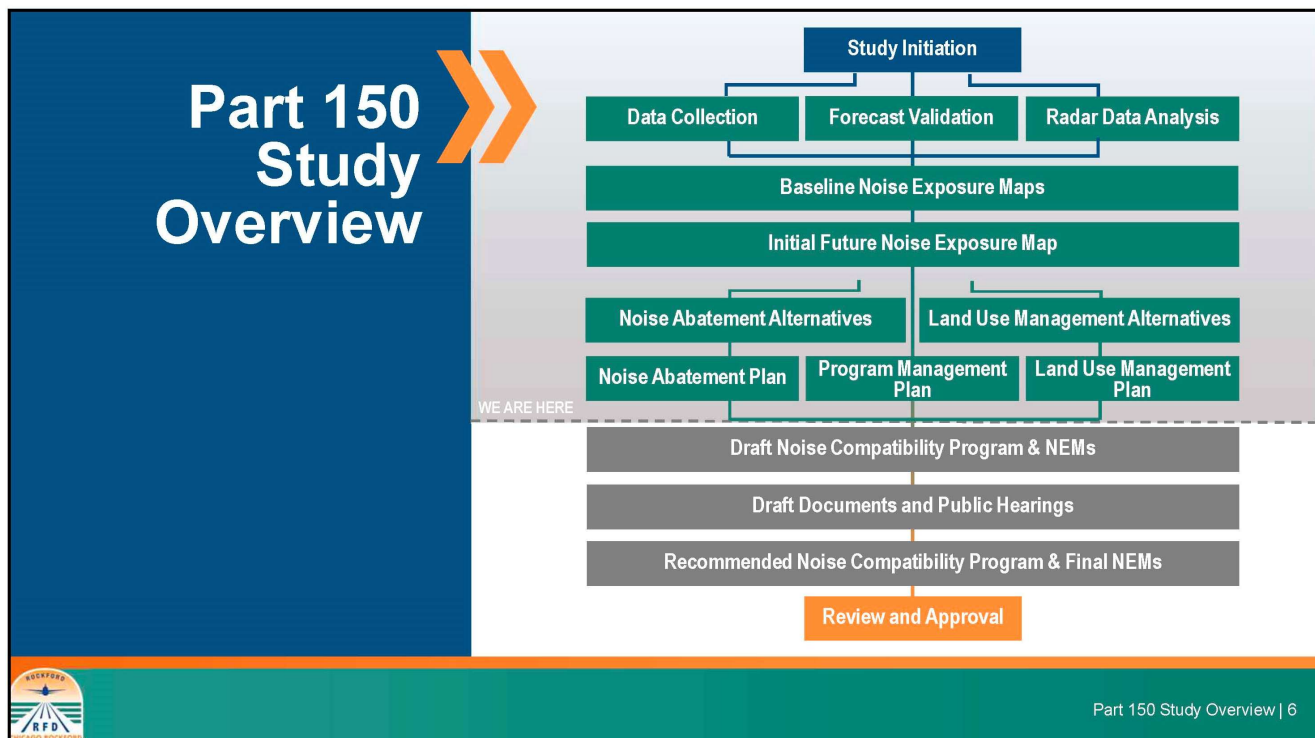
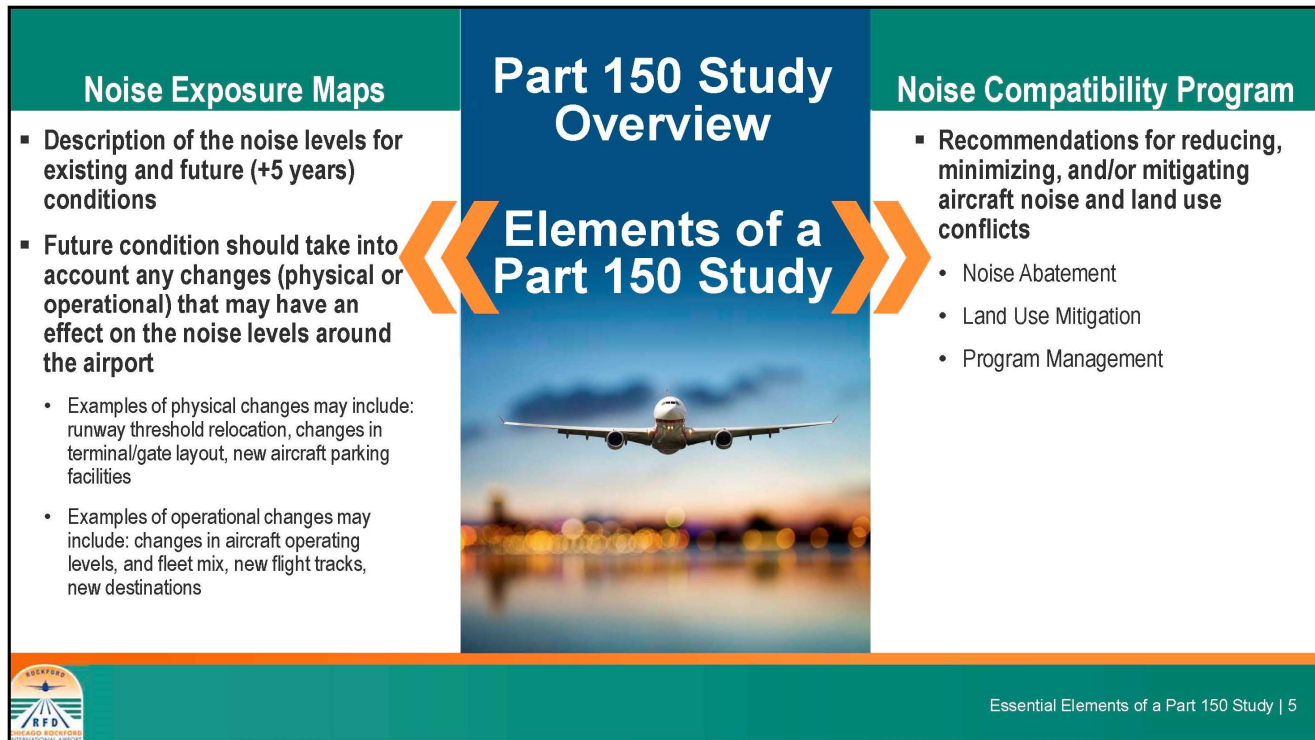
- 1990 Part 150 Study
- 1995 Part 150 Study
- 2003 Part 150 Study
- 2012 NEM Update

Part 150 Study Overview | 4



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority





14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Public Involvement



Public Involvement Opportunities

- **Advisory Committee** – Group of stakeholders affected by, or having oversight responsibilities for, issues covered by the Part 150 Study Update
 - Airport Authority Officials
 - Aircraft Operators
 - Government Officials / Land Use Planners
 - Community Groups
 - Air Traffic Controllers
- **Public Workshops** - Open house, informational meetings to discuss and gather comments on potential aviation noise, land use, and other mitigation measures
- **Public Hearings** - to receive comments (either oral or written) from the public on the Draft Part 150 Study Update document
- **Project Website**
 - Project website will be updated with study information, including images and documents pertinent to the study - <https://www.airportprojects.net/rfd-part150/>
 - Posting of all meeting notices
 - Posting of study process and draft findings



Public Involvement | 7

Questions & Answers

Please raise hand to ask question



Questions & Answers | 8



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Future 2027 NCP Noise Contour

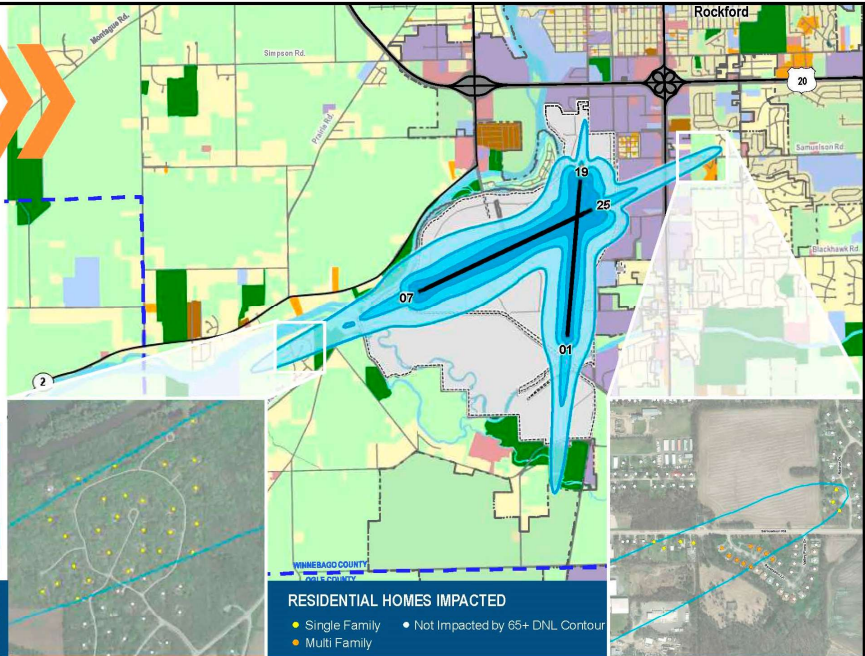
NEMs Subject to FAA Review & Approval

Land Use Incompatibilities

RESIDENTIAL IMPACTS

	75+ DNL	70-75 DNL	65-70 DNL	65+ DNL
Single Family Units	0	0	34	34
Multi-Family Units	0	0	18	18
Total Housing Units	0	0	52	52
Estimated Population	0	0	138	138

Single-Family Residential	Water	Airport Roads
Multi-Family Residential	Agricultural / Open Space / Vacant	Interstate/Major Roads
Manufactured Housing	Commercial	Airport Property Boundary
Park / Recreation	Industrial	County Boundary
Institutional	ROW/Utility	Municipal Boundaries



RESIDENTIAL HOMES IMPACTED

- Single Family
- Multi Family
- Not Impacted by 65+ DNL Contour



Preliminary Future 2027 NCP Noise Contour | 9

Elements of a Noise Compatibility Program

Types Of NCP Measures:

■ Noise Abatement

Purpose: To abate noise levels in surrounding communities

- Flight Track Location
- Runway Use
- Flight Management
- Ground Activity Restrictions
- Facility Modification

■ Land Use Mitigation

Purpose: To mitigate noise levels in surrounding communities

- Preventive
- Remedial / Corrective

■ Program Management

Purpose: To provide administrative and management actions to allow the airport to maintain land use compatibility in surrounding communities

- Noise Complaint Protocols
- Management of Noise Program
- Updates to NEM/NCP



Elements of a Noise Compatibility Program | 10



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Previously Approved Noise Abatement Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Noise Abatement Measures					
NA-1	Maintain existing noise abatement procedures per Tower Order of June 15, 1984.	Air Traffic Control Tower (ATCT), Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be withdrawn
NA-3	All aircraft departing on Runway 7 should be fanned along three departure tracks: Left, Right, and Center.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-4	Direct pilots of C-130s to turn as tightly as practicable when training on Runway 19.	ATCT, Airlines, GRAA	Approved as Voluntary	Not Applicable	Recommended to be withdrawn
NA-7 / NA-12	During daytime and nighttime hours all aircraft over 12,500 lbs. departing Rwy 25 having departure courses of 250 degrees clockwise through 069 degrees inclusive turn right on course to the Dubuque (DBQ) or the Nodine (CDI) navigational fix as soon as practicable.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-8 / NA-13	During daytime and nighttime hours all aircraft over 12,500 lbs. departing Rwy 25 having departure courses 070 degrees clockwise through 249 degrees inclusive retain 20-degree left turn and maintain heading until reaching 3,000 feet mean sea level (MSL).	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-9	During nighttime hours all aircraft over 12,500 lbs. departing Runway 19 having departure courses of 0 degrees clockwise through 190 degrees maintain runway heading until reaching 3,000 feet MSL before turning on course.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications



Previously Approved Noise Abatement Measures | 11

Previously Approved Noise Abatement Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Noise Abatement Measures					
NA-10	Establish an informal preferential runway use plan for all daytime and nighttime operations after Rwy 7/25 is extended.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-11	For all aircraft requiring more than 8,000 feet certified takeoff length, Rwy 25 preferred.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-14	Aircraft weighing more than 12,500 lbs. conduct touch and go and low approach training activity on the south side of the airport when using Rwy 7 or 25.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued with modifications
NA-15	During nighttime hours all aircraft over 12,500 lbs. departing Rwy 1, maintain runway heading until reaching 3,000 feet MSL before turning on course.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued
NA-16	Encourage the use of noise attenuating construction standards for all new on-airport structures/facilities and use those structures as noise barriers/buffers to adjacent off-airport land uses.	ATCT, Airlines, GRAA	Approved as Voluntary	Implemented as Conditions Allow	Recommended to be continued



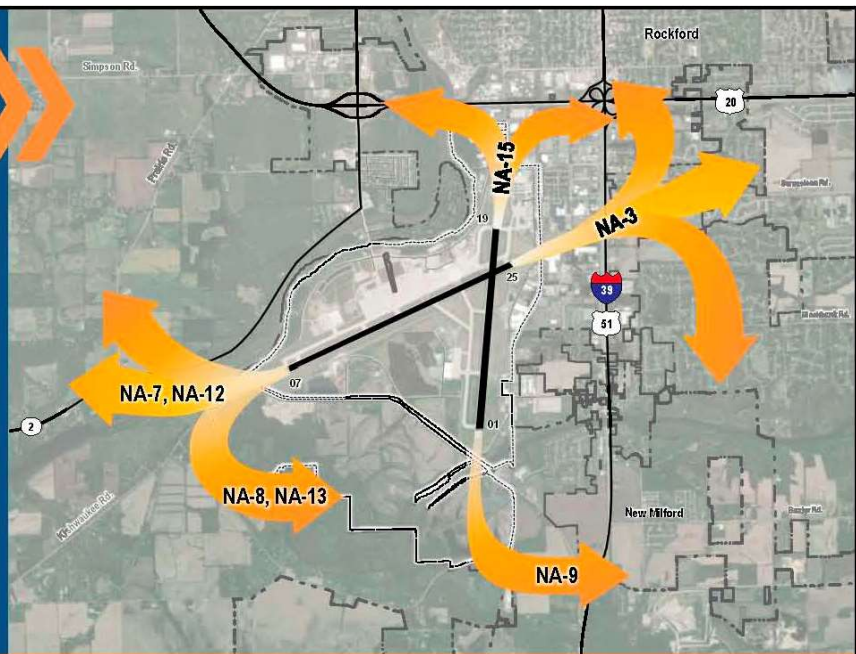
Previously Approved Noise Abatement Measures | 12



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Current Noise Abatement Measures



Previously Approved Noise Abatement Measures | 13

Questions & Answers

Please raise hand to ask question



Questions & Answers | 14



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Flight Track Modifications			
Modify arrival and departure flight tracks to reduce noise within the 65 DNL noise contour	In some circumstances may reduce noise within the 65+ DNL contour	<p>Impacted areas northeast of Runway End 25 are primarily impacted by arrival operations on final approach. These flight track locations can not be adjusted. ATC currently disperses departure operations with left and right turns based on destination.</p> <p>Areas to the southwest of Runway End 7, are impacted by both arrival and departure operations. The arrival tracks could not be modified as the aircraft are on final approach near the impacted homes. Departures are currently dispersed with left and right turns as soon as practical.</p>	<p>Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.</p> <p>Several currently approved voluntary measures address departure flight track dispersion and turn locations and are recommended to be continued. (NA-1, NA-3, NA-4, NA-7, NA-8, NA-9, NA-12, NA-13, NA-14 and NA-15)</p>
Runway Use Modifications			
Increase usage of Runway 01/19	Could reduce noise levels for the areas within the 65+ DNL noise contour to the northeast and southwest of Runway 07/25.	<p>Based on the RFD fleet, the majority of operations will require the use of Runway 7/25 due to the length of the runway. The amount of traffic required to provide substantial noise reduction benefits in impacted areas would not be achievable based on current wind, weather and operational necessities to operate aircraft safely.</p> <p>Increasing the arrivals to Runway End 1 and Departures from Runway End 19 could potentially impact areas in dense urban areas, offsetting any benefits in the reduction of homes in the 65+ DNL to the northeast and southwest of the airport.</p>	<p>Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.</p>



Noise Abatement Screening Analysis | 15

Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Aircraft Operational Procedure Modifications			
Optimized Profile Descent Approach procedure	Optimized Profile Descent (OPD) procedures (previously known as continuous descent approach (CDA)) have been used at some airports to reduce approach noise at a distance from the airport. Generally, their most notable effect relates to reduced fuel burn and corresponding air emissions.	Potential noise reduction benefits would be limited to areas outside DNL 65+ noise contour. Due to the impacted homes location, implementing OPD's would have no significant noise benefit for impacted homes.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Implement Distant Noise Abatement Departure Profiles (NADP)	Implementing Distant NADPs can potentially reduce noise for areas further away from the runway end (greater than three miles).	Distant NADPs can potentially increase noise for areas closer to the runway end. Due to the impacted homes location, implementing NADP's would have no significant noise benefit for impacted homes.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Implement Close-in Noise Abatement Departure Profiles (NADP)	Implementing Close-in NADPs can potentially reduce noise for areas in close proximity to the runway end (less than three miles).	Close-in NADPs can potentially increase noise for areas farther away from the runway end. Due to the fleet mix at RFD many of the aircraft would not have the capabilities to execute Close-in NADPs.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Moderate Reverse Thrust on Landing	Reduces the amount of noise from the application of reverse thrust after landing.	Reverse thrust can not be eliminated altogether and would be up to the discretion of the pilot. Due to the location of the homes and the anticipated participation, significant reductions to the number of impacted homes in the 65+ DNL are unlikely.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.



Noise Abatement Screening Analysis | 16



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Noise Abatement Screening Analysis

Description	Benefits	Drawbacks	Evaluation And Recommendation
Airport Facility Modifications			
Extend Runway 1/19	Additional aircraft in the RFD fleet mix would be able to utilize Runway 1/19, potentially reducing the utilization of Runway 7/25.	New residential areas to the north and south of the airport could be impacted by increasing utilization of Runway 1/19. Existing buildings and roadways to the north and the Kishwaukee River and existing railroad to the south limit the potential length of Runway 1/19. The cost benefit of such a project is not practical.	Due to the cost of this measure and limitations to the final runway length this alternative is NOT RECOMMENDED to be continued for further analysis.
Ground Run-up Enclosures (GRE)	Can reduce jet run-up noise levels by up to 20 dB.	Currently there are no significant jet aircraft maintenance activities that would justify the cost-benefit of constructing GRE's.	Due to the inability to provide benefits to the homes impacted within the 65+ DNL noise contour this alternative is NOT RECOMMENDED for further analysis.
Airport Facility Restrictions			
Implement Airport Operational Restrictions (Part 161 Restrictions) such as: noise-/time-based landing fees, airport capacity restrictions based on relative "noisiness", aircraft type restrictions based on "noisiness"	Can resolve noise annoyance issues with certain loud aircraft events or aircraft types operating at RFD.	Such restrictions would be subject to the costly and time-consuming analytical requirements under Federal Aviation Regulations Part 161. The FAA has never officially approved such measures. Would have severe financial ramifications both to the Airport and the region.	Restrictions on access to an airport are measures of last resort for use in the most extreme cases of noise impact. This alternative is NOT RECOMMENDED for further analysis.



Noise Abatement Screening Analysis | 17

Noise Abatement Recommendations

Existing Noise Abatement Measures

Five (5) measures recommended to continue

Six (6) measures recommended to continue with modifications

Two (2) measures recommended to be withdrawn

The currently implemented noise abatement measures reduce noise impacts within the 65+ DNL noise contour to the fullest extent possible



Noise Abatement Recommendations | 18



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Questions & Answers

Please raise hand to ask question



Questions & Answers | 19

Previously Approved Land Use Mitigation Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Land Use Measures					
LU-2	Adopt noise overlay zoning prohibiting development of selected noise-sensitive land uses within the 60-65 DNL noise contour of the 2008 Noise Exposure Map (NEM)/Noise Compatibility Program (NCP)	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	To date only Ogle County zoning ordinances have incorporated the RFD NCP, these ordinances were updated in 2021 but continue to reference the 1994 NCP.	Recommended to be continued with modification to include the new 2022/2027 NEMs
LU-4	Amend local comprehensive plans by adopting the updated Part 150 NCP as their noise compatibility elements for the City of Rockford and Ogle and Winnebago Counties.	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	To date only Ogle County Comprehensive Plans have historically incorporated the RFD NCP, however this language is no longer included in the 2012 Comprehensive Plan. Language related to continuing an active presence in RFD activities is included.	Recommended to be continued with modification to include the new 2022/2027 NEMs
LU-5	Adopt guidelines for discretionary review of development projects for the City of Rockford, Winnebago County, Ogle County, and the GRAA	GRAA, City of Rockford, Winnebago County, Ogle County	Approved	Implemented as Needed	Recommended to be continued with modification to include the new 2022/2027 NEMs
LU-8	Voluntary acquisition of single-family residences on Blackhawk Island	GRAA	Approved	Fully Implemented	Recommended to be withdrawn from NCP
LU-9	Redevelop airport-owned land parcels located along Kishwaukee Street south of Research Parkway	GRAA	Approved	The implementation of this is measure pending, dependent upon the interest of a potential developer and the availability of funding.	Recommended to be continued



Previously Approved Land Use Measures | 20



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Previously Approved Land Use Mitigation Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Land Use Measures					
LU-11	Acquire development and overflight rights via purchase of land use and aviation easement over undeveloped parcel in Runway 7 approach	GRAA	Approved	Fully Implemented	Recommended to be withdrawn from NCP
LU-12	Offer options of voluntary sale to GRAA or sound insulation to owner of one (1) single-family residence south of the airport in the 65 DNL contour of the 1993 NCP.	GRAA	Approved	This measure was implemented with the voluntary sale of one (1) single-family home.	Recommended to be withdrawn as acquisition of the single-family home was completed.
LU-13	Encourage the City of Rockford and Winnebago County to require plat notes on new subdivision plats and to record the notes on deeds for new subdivisions within the Airport Noise Overlay Zones	GRAA, City of Rockford, Winnebago County	Approved	To date, the airport noise contours are not referenced in any local subdivision ordinance.	Recommended to be continued with modification to include the new 2022/2027 NEMs.
LU-14	Encourage Winnebago County, the City of Rockford, the Village of New Milford, and the Village of Davis Junction not to allow an increase in the residential density in the Agricultural Priority (AG) or Rural Residential (RR) zoning districts (Winnebago County) in the 2008 NEM/NCP 60+ DNL noise contour.	GRAA, City of Rockford, Winnebago County, Ogle County and Villages of New Milford and Davis Junction	Approved	To date based on zoning ordinances the allowable residential densities allowed in these zones has been increased	Recommended to be continued with modification to include the new 2022/2027 NEMs.



Previously Approved Land Use Measures | 21

Land Use Mitigation Airport Noise Overlay

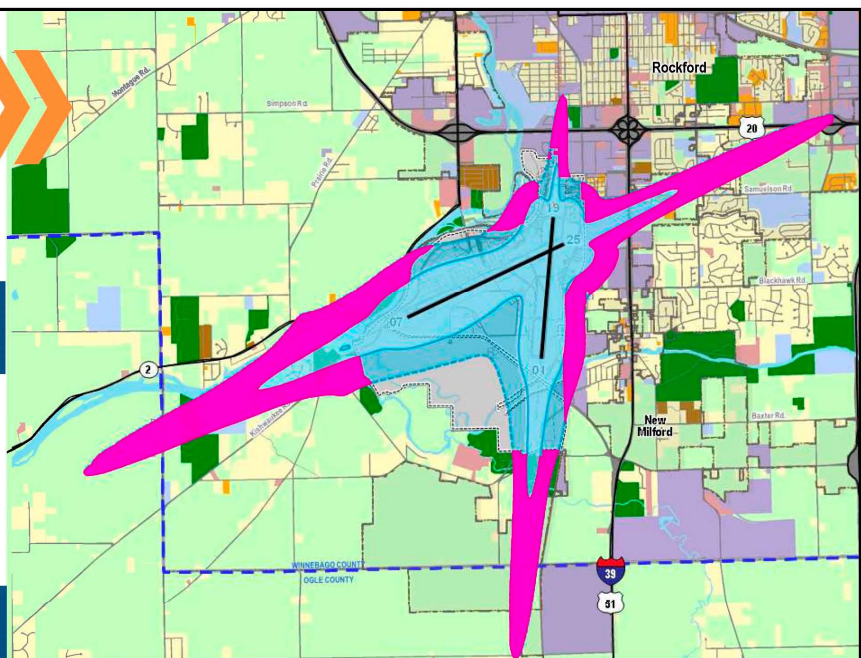
Zone AC-1 Prohibited Land Uses

Recommended Land Use Restrictions

Mobile Homes
Hospitals and Nursing Homes
Outdoor Music Shells and Amphitheaters
Resorts and Group Camps

60 DNL 65 DNL Zone AC-1

Single-Family Residential
Multi-Family Residential
Manufactured Housing
Park / Recreation
Institutional
Water
Agricultural / Open Space / Vacant
Commercial
Industrial
ROW / Utility
Arterial Roads
Interstate/Major Roads
Airport Property Boundary
County Boundaries
Municipal Boundaries

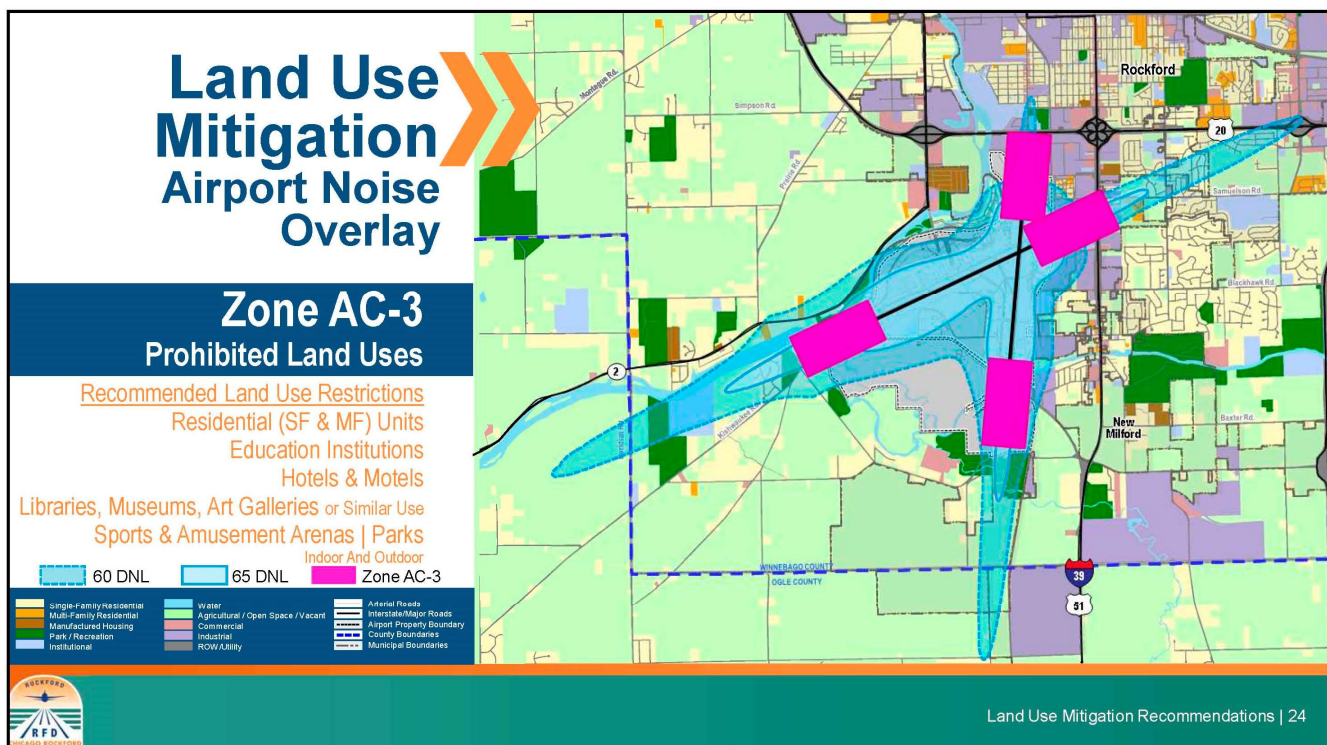
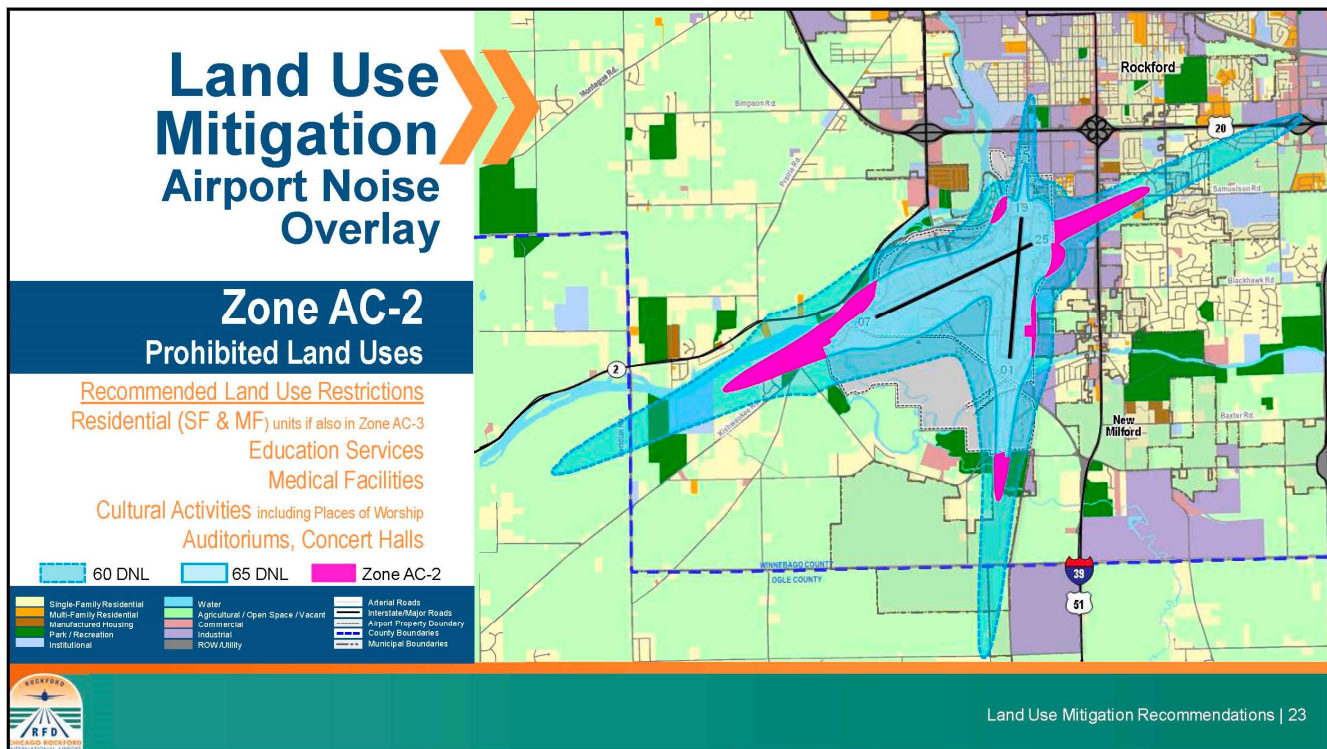


Land Use Mitigation Recommendations | 22



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority





14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Questions & Answers



Please raise hand to ask question



Questions & Answers | 25

Land Use Mitigation Screening Analysis



Description	Benefits	Drawbacks	Evaluation & Recommendation
Corrective / Remedial			
Offer Residential Sound Insulation Program for Single- and Multi-Family Homes within the 65+ DNL Noise Contour and in the defined Block Rounding Areas Outside of the 65+ DNL Noise Contour.	Would reduce interior noise levels for the homes impacted within the 65+ DNL contour and in the block rounding area outside of the 65+ DNL noise contour.	Final eligibility for each property would have to be determined. Final cost would still have to be determined based on participation rates and local costs to implement.	This measure has the ability to provide benefits to the homes impacted by the 65+ DNL noise contour and in the block rounding area outside the 65+ DNL noise contour. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.
Offer Avigation Easements to Owner-Occupied Single- and Multi-Family Homes if Sound Insulation is declined by property owner.	Has the potential to convert owner-occupied residential housing units into compatible uses. Properties would remain as taxable land.	Final eligibility for each property would have to be determined. Final cost dependent on participants that decline sound insulation.	This measure has the ability to convert impacted properties to compatible uses. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.



Land Use Mitigation Screening Analysis | 26



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Land Use Mitigation Screening Analysis

Description	Benefits	Drawbacks	Evaluation & Recommendation
Preventative			
Adopt Improved Building Codes	This alternative would recommend updating existing building codes to ensure that new residential construction meets current FAA criteria for sound insulation within AC-1 and AC-2 zones.	This alternative would likely increase the overall cost of residential construction	This measure will require potential builders to use higher quality materials during construction to reduce noise within residential structures within the 60+ DNL noise contours. Therefore, this alternative is RECOMMENDED for inclusion in the NCP.
Develop a Voluntary Fair Disclosure Program for Resale Properties	Will disclose through regulations on the seller or their representatives at the time of sale that an existing property could be subjected to aircraft noise. Potential buyers will be made aware before they purchase the property that it is within AC-1 and AC-2 zones.	Will need to seek cooperation from the City of Rockford and Winnebago County along with the local Rockford realtors to participate.	This measure will notify potential buyers that they may be subjected to aircraft noise within the 60+ DNL noise contour. This alternative is RECOMMENDED for inclusion in the NCP.
Re-zoning of parcels within AC-1 and AC-2 zones	This measure would attempt to prevent future non-compatible development and land uses within AC-1 and AC-2 zones.	Potential loss of tax-base dependent on future zoning designation. Based on local land use regulations and ordinances, residential and other incompatible land uses are permitted within compatible zoning such as commercial and industrial.	This measure fails to meet FAA guidance for effectively preventing incompatible land use due to local land use guidelines. Therefore, this alternative is NOT RECOMMENDED for inclusion in the NCP.



Land Use Mitigation Screening Analysis | 27

Land Use Mitigation Recommendations

- **Eight (5) Measures are recommended for continuation with modification**
- **One (1) Measure is recommended for continuation**
- **Three (3) Measures are recommended to be withdrawn**
- **Four (4) new Measures are recommended for inclusion in the 2022 NCP**



Land Use Mitigation Recommendations | 28



Questions & Answers



Please raise hand to ask question



New Remedial Land Use Mitigation Recommendations



- Two (2) new corrective / remedial land use mitigation measures are recommended

LU-15: Sound Insulation of residential properties is recommended within defined boundaries known as **Noise Mitigation Program Area's (NMPA)**

- Not all properties will meet eligibility requirements for sound insulation, based on interior sound level reduction tests performed during the program.

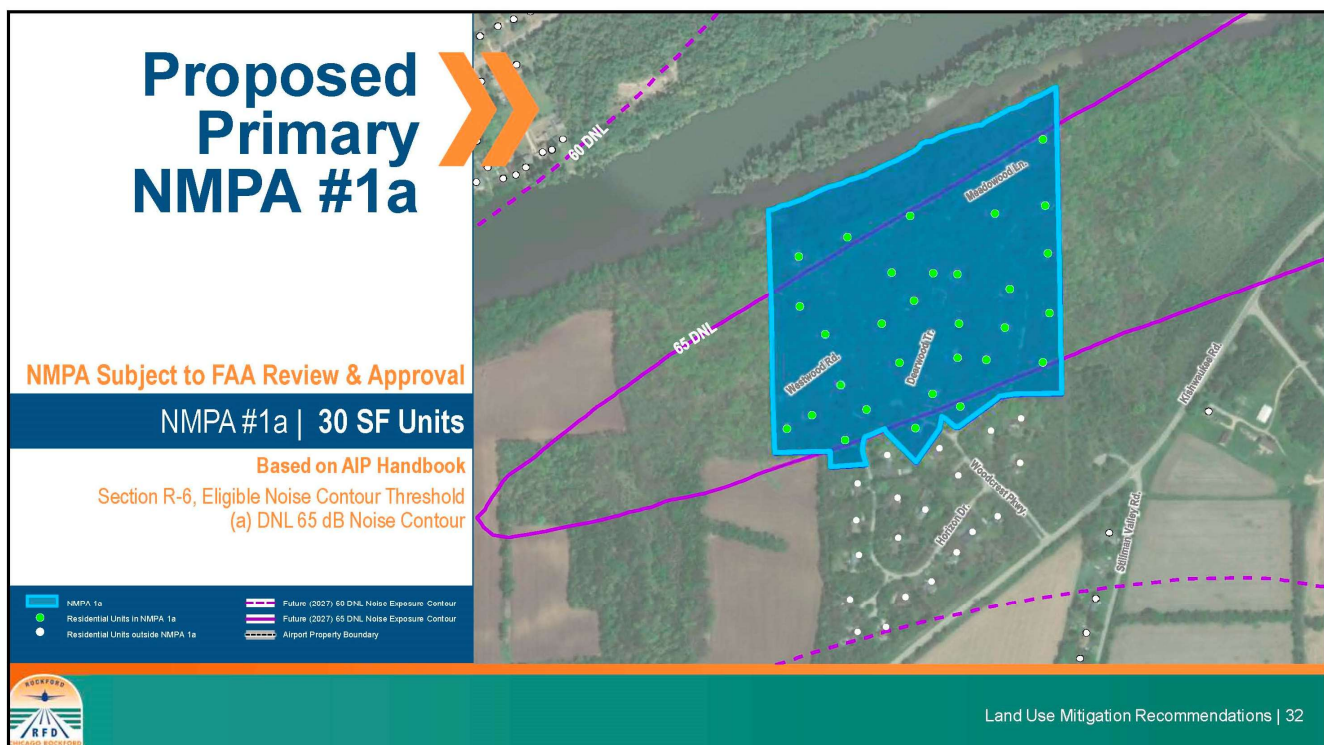
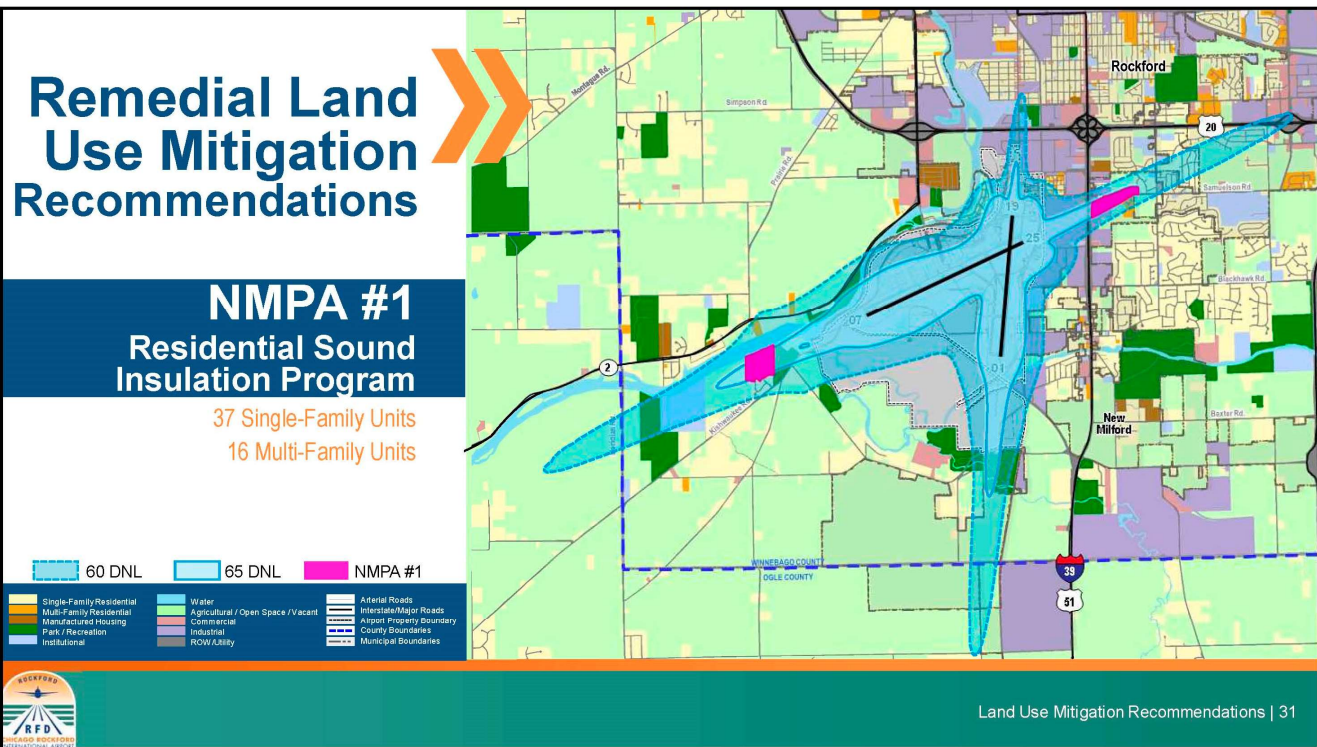
LU-16: Offer Avigation Easements to owner-occupied single- and multi-family homes within NMPA #1 if sound insulation is declined and or eligibility requirements are not met.





14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority





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Greater Rockford Airport Authority

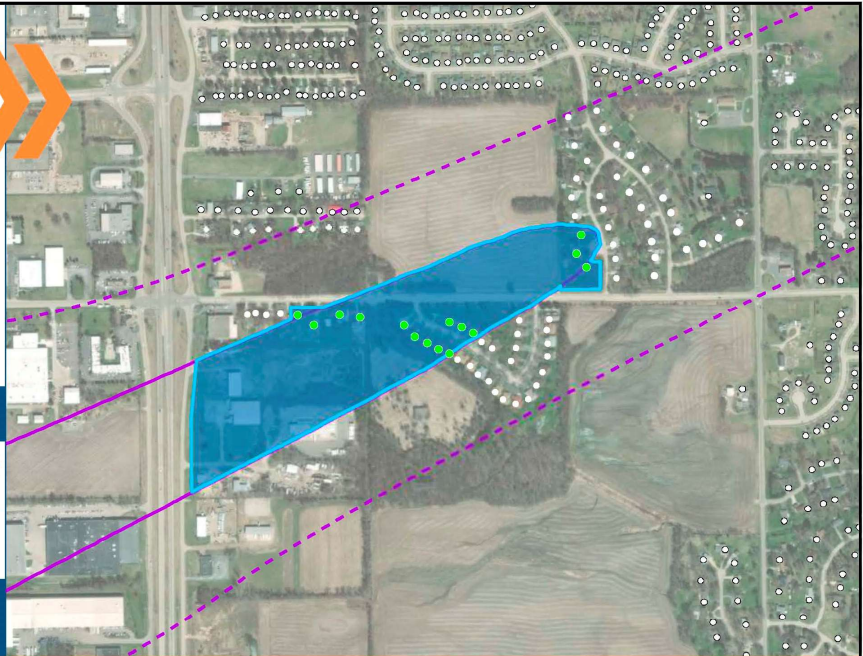
Proposed Primary NMPA #1b

NMPA Subject to FAA Review & Approval

NMPA #1b | 7 SF Unit | 16 MF Units

Based on AIP Handbook
Section R-6, Eligible Noise Contour Threshold
(a) DNL 65 dB Noise Contour

- NMPA 1b
- Residential Units in NMPA 1a
- Residential Units outside NMPA 1a
- Future (2027) 60+ DNL Noise Exposure Contour
- Future (2027) 65+ DNL Noise Exposure Contour
- Airport Property Boundary



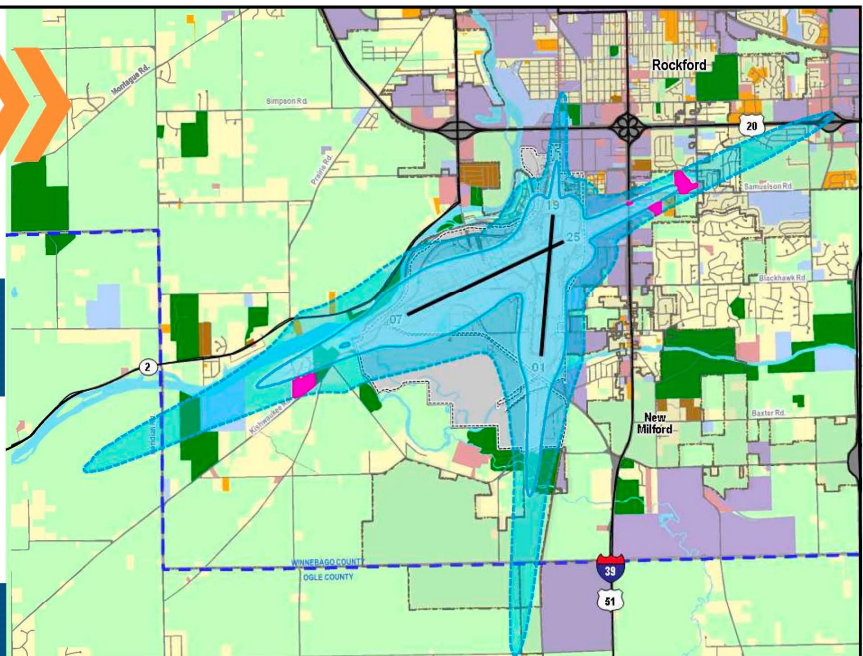
Land Use Mitigation Recommendations | 33

Remedial Land Use Mitigation Recommendations

NMPA #2 Residential Sound Insulation Program

Block Rounding Area Subject to FAA
Review & Approval
55 Single-Family Units
40 Multi-Family Units

- 60 DNL
- 65 DNL
- NMPA #2
- Single Family Residential
- Multi-Family Residential
- Manufactured Housing
- Park / Recreation
- Institutional
- Water
- Agricultural / Open Space / Vacant
- Commercial
- Industrial
- ROW/Utility
- Arterial Roads
- Interstate/Major Roads
- Airport Property Boundary
- County Boundaries
- Municipal Boundaries



Land Use Mitigation Recommendations | 34



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Proposed Block Rounding NMPA #2a

NMPA Subject to FAA Review & Approval

NMPA #2a | 20 SF Units

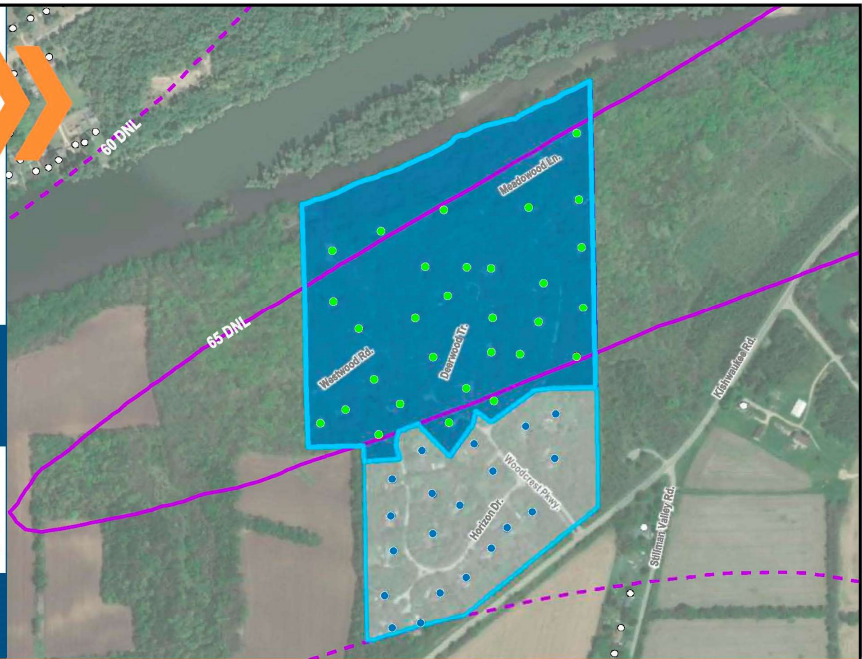
Block rounding area #2a includes SF Units outside the 65+ DNL noise contour in Woodcrest Estates subdivision south to Kishwaukee Road

Based on AIP Handbook

Table R-2, Block Rounding Requirements | (e) Logical Breakpoint

Neighborhood Boundary | Significant Arterial Surface Street

- NMPA 1a
- NMPA 2a
- Residential Units in NMPA 1a
- Residential Units in NMPA 2a
- Residential Units outside NMPA 1a
- Future (2027) 60 DNL Noise Exposure Contour
- Future (2027) 65 DNL Noise Exposure Contour
- Airport Property Boundary



Land Use Mitigation Recommendations | 35

Proposed Block Rounding NMPA #2b, 2c, 2d

NMPA Subject to FAA Review & Approval

NMPA #2b | 4 SF Units

NMPA #2c | 40 MF Units

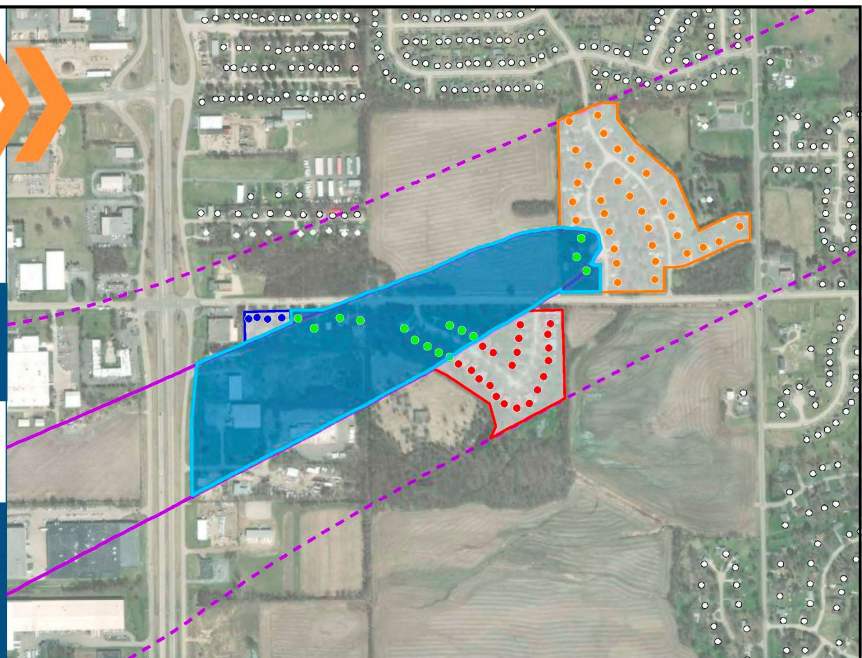
NMPA #2d | 31 SF Units

Based on AIP Handbook

Table R-2, Block Rounding Requirements | (e) Logical Breakpoint

Neighborhood Boundary | Significant Arterial Surface Street

- NMPA 1b
- NMPA 2b
- NMPA 2c
- NMPA 2d
- Residential Units in NMPA 1a
- Residential Units in NMPA 2b
- Residential Units in NMPA 2c
- Residential Units in NMPA 2d
- Residential Units outside NMPA 2d
- Future (2027) 60+ DNL Noise Exposure Contour
- Future (2027) 65+ DNL Noise Exposure Contour
- Airport Property Boundary



Land Use Mitigation Recommendations | 36



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

NMPA Housing Units and Population Counts

Land Use	NMPA #1		NMPA #2		Total	
	Total Housing Units	Population	Total Housing Units	Population	Total Housing Units	Population
Runway 7 Approach End – Southwest of Airport						
SF Residential	30	76	20	51	50	127
MF Residential	0	0	0	0	0	0
Runway 25 Approach End – Northeast of Airport						
SF Residential	7	19	35	97	42	116
MF Residential	16	44	40	110	56	154
Total	53	139	95	258	148	397



Land Use Mitigation Recommendations | 37

Corrective Land Use Mitigation Estimated Cost

Measure Id	Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)
Residential Sound Insulation Program				
LU-15 ⁽¹⁾	Offer Residential Sound Insulation to 53 Residential Units within the 65 DNL Noise Contour (NMPA 1a & 1b) and 95 Residential Units outside the 65 DNL Noise Contour (NMPA 2a, 2b, 2c, & 2d)	\$9,187,500 ⁽²⁾ (\$62,500 per home)	\$7,350,000	\$1,837,500

Notes:

(1) Property owners who decline sound insulation would be offered aviation easements as part of measure LU-16. Estimated costs of aviation easements \$3,000 per home.

(2) Total cost for LU-15 mitigation measure is the maximum possible mitigation cost and assumes 100 percent participation in program by eligible property owners. Property owners participating would also have to ensure they meet both the eligibility requirements for interior noise levels and the year the property was built. In addition, some property owners may choose one measure over another which would reduce overall costs. All costs are based on 2020 cost projections.

NMPA	Housing Counts	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)
1a/1b	Residential Units inside 65 DNL – 53 SF & MF units	\$3,312,500	\$2,650,000	\$662,500
2a	Residential Units outside 65 DNL – 20 SF units	\$1,250,000	\$1,000,000	\$250,000
2b	Residential Units outside 65 DNL – 4 SF units	\$250,000	\$200,000	\$50,000
2c	Residential Units outside 65 DNL – 40 MF units	\$2,500,000	\$2,000,000	\$500,000
2d	Residential Units outside 65 DNL – 30 SF units	\$1,875,000	\$1,500,000	\$375,000



Land Use Mitigation Recommendations | 38

Questions & Answers



Please raise hand to ask question

New Preventative Land Use Mitigation Recommendations



- Two (2) new preventative land use mitigation measures are recommended

LU17: Improved Building Codes

- Update existing building codes to meet current sound insulation guidelines
- Reduces interior noise levels
- For new development or major remodeling

LU-18: Voluntary Fair Disclosure Program

- Property sales subjected to notification
- Probability of safety or aircraft noise impacts
- Formal measure would require recording of a notice at time of sale
- Informal measure could be mailings of disclosure notices within community



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Preventative Land Use Mitigation Estimated Costs

Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)	Direct Cost To Local Government	Direct Cost To Users
Mitigation Measures (Preventative)					
Adopt Improved Building Codes	\$25,000	\$20,000	\$5,000	Minimal	None
Develop A Voluntary Fair Disclosure Program	\$25,000	--	\$25,000	Minimal	None
Subtotal	\$50,000 Plus Administrative Costs	\$20,000 Plus Administrative Costs	\$30,000 Plus Administrative Costs	Minimal Administrative Costs; Plus Potential Loss Of Tax Base	None



Land Use Mitigation Recommendations | 41

Questions & Answers



Please raise hand to ask question



Questions & Answers | 42



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Previously Approved Program Management Measures

Measure	Description	Responsible Party	2003 Status	Current Status	2022 NCP Recommendation
Approved Program Management Measures					
OM-1	Monitoring compliance with recommended Noise Abatement Measures, contour updating (five-year cycle), and land use implementation assistance.	Greater Rockford Airport Authority (GRAA)	Approved	Implemented	Recommended to be continued
OM-2	Noise complaint response system and computer database.	GRAA	Approved	Partially Implemented	Recommended to be continued with modifications
OM-3	Plan review and evaluation. GRAA staff periodically review the NCP and consider revisions and refinements, as necessary.	GRAA	Approved	Implemented	Recommended to be continued
OM-4	Establish a Pilot/Community Awareness Program.	GRAA	Approved	Not Implemented	Recommended to be continued
OM-5	Publication of Instrument Departure Procedures for Runways 1, 19, and 25.	GRAA	Approved	Not Implemented	Recommended to be continued
OM-6	Update airport information in the Airport Facilities Directory.	GRAA	Approved	Implemented	Recommended to be continued



Previously Approved Program Management Measures | 43

Program Management Screening Analysis

Description	Benefits	Drawbacks	Evaluation & Recommendation
Formal logging of noise complaints	This measure would provide airport staff with data on potential or emerging noise issues around the airport.	Costs for staff to maintain website, respond to telephone complaints and/or logging complaints in a formal manner.	Airport staff should continue to receive noise complaints on an as-required basis. Due to the low level of noise complaints, acquiring a noise complaint system is not recommended. However, a more formal system of complaint logging should be used by airport staff and the information used as a basis for future meetings. As a result, it is RECOMMENDED that the present system of logging noise complaints be continued with modification and should be included in the NCP. Modification to OM-2
Initiate noise monitoring program	This measure would provide the airport with information regarding aircraft noise levels to the public.	Costs to purchase, run, and maintain permanent noise monitoring system or portable noise monitors including staff costs to run the system and to analyze the data.	Due to the low level of noise complaints and the cost to implement and maintain a noise monitoring system/program, this alternative is NOT RECOMMENDED for further analysis.



Program Management Screening Analysis | 44



14 CFR PART 150 NOISE COMPATIBILITY STUDY UPDATE

Greater Rockford Airport Authority

Program Management Recommendations

- *Five (5) previously approved Program Management Measures are recommended for continuation*
- *One (1) Measure is recommended for continuation with modification*



Program Management Recommendations | 45

Program Management Estimated Costs

Type Of Measure	Direct Cost (Total)	Direct Cost To FAA (80% Share)	Direct Cost To Airport (20% Share)	Direct Cost To Local Government	Direct Cost To Users
Program Management Measures					
Continue Logging of Noise Complaints	Minimal Administrative Costs	None	Minimal Administrative Costs	None	None
Initiate Community Roundtable or Noise Abatement Committee	Minimal Administrative Costs	None	Minimal Administrative Costs	None	None
Perform Regular Updates to the NEMs and Review of NCP					
Update NEM ONLY	\$350,000 to \$400,000	\$280,000 to \$320,000	\$70,000 to \$80,000	None	None
Or					
Update NEM & NCP	\$650,000 to \$750,000	\$520,000 to \$600,000	\$130,000 to \$150,000		
Subtotal	\$350,000 to \$750,000 plus administrative costs	\$280,000 to \$600,000 plus administrative costs	\$70,000 to \$150,000 plus administrative costs	None	None



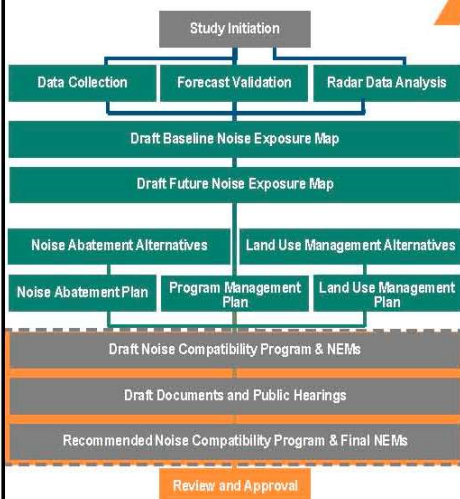
Program Management Recommendations | 46

Questions & Answers



Please raise hand to ask question

Next Steps



■ Gather Input and Acceptance of Noise Abatement, Land Use Mitigation, Program Management Measures

- Gather input from advisory committee
- *Gather input from public*
- Gather input from GRAA
- Gather input from ATC / FAA
- GRAA acceptance of NCP recommendations

■ Prepare Materials for Next Advisory Committee meeting and Public Hearing/Workshop

■ Prepare Draft NEM and NCP documentation

■ Gather Comments on Preliminary Draft documentation



Questions & Answers



Please raise hand to ask question



Public Comments



Please submit comments on the
Study Website contact page:
[https://www.airportprojects.net/rfd-
part150/contact/](https://www.airportprojects.net/rfd-part150/contact/)





Public Workshop #3 & Public Hearing November 15th, 2023

- Public Workshop/Hearing Announcement
- Public Hearing Meeting Legal Notices
- Public Workshop Presentation
- Public Hearing Transcript
- Public Hearing Comments

Note: Meeting presentation and recording of meeting are available on the study website at <https://www.airportprojects.net/rfd-part150/home/public-meetings/>