Draft Final Report

FAR Part 150 Study
Charlotte-Douglas International Airport

November 2009

Prepared for
Aviation Department
City of Charlotte

Prepared by
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TRANSMITTAL LETTER

After the Public Hearing, this report will be revised to include new information, including information from the Public Hearing. Subsequently, the Aviation Director will submit the report to the FAA for review, acceptance of the Noise Exposure Maps and approval of the Noise Compatibility Program. A transmittal letter will accompany the report.

FAR PART 250 CHECKLISTS

The submission for a FAR Part 150 study must include completed FAA Checklists for the Noise Exposure Maps and the Noise Compatibility Program. The checklists help FAA reviewers to determine that all requirements of FAR Part 150 have been met. The Draft Report submitted for public review in advance of the Public Hearing will include completed checklists. The checklists may be revised before submission to the FAA.

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PREFACE

For more than thirty years, the City of Charlotte (the City), proprietor of Charlotte-Douglas International Airport (CLT) has undertaken noise compatibility planning to reduce potential adverse impacts of noise from aircraft operations. Initially, planning was undertaken according to the noise abatement program in the "Addendum to the FEIS for Runway 18L/36R." Subsequently compatibility planning occurred under Federal Aviation Regulation Part 150. The Federal Aviation Administration approved the initial Noise Compatibility Program (NCP) for CLT on 18 May 1990. The initial NCP included new measures designed to reduce impacts of aircraft noise on neighborhoods in the vicinity of the airport. Measures included acquisition of residential properties exposed to high levels of aircraft noise, acoustic insulation of residential properties and sound insulation of noise-sensitive public buildings. The NCP included measures designed to reduce noise exposure in residential areas by controlling flight operations and land use in the vicinity of the airport. The FAR Part 150 Program included Noise Exposure Maps (NEMs) for 1989 and 1994.

The City began a study during the latter part of 1995 to update the original NEMs and the NCP. The revised program included noise contours for 1996 and 2001. The contours were believed to represent 1997 and 2002 as well. The FAA judged the NEMs in compliance on 18 April 1998 and approved the NCP on 30 March 1998.

The City began the present update study during late 2002. Because of significant changes in conditions at the airport during the early years of the present decade, the City decided during 2007 to restart the current update with new aviation forecasts. The important changes include: (1) a major increase in the use of regional jet aircraft; (2) introduction of Area Navigation Procedures (RNAV) by aircraft serving CLT; and (3) the anticipated introduction of the 3rd parallel runway at CLT. These changes have the effect of requiring that this study be a fresh look at all noise abatement opportunities at CLT.

The noise contours in this study reflect the noise exposure patterns for CLT for current (2009) and projected future (2014) Conditions with existing NCP measures in place. This document describes the study process and the recommended revisions to the NCP. It also presents the revised NEMs for operating conditions in 2009 and the implementation of the revised NCP for the future 2014 NEM.

Between the opening of Runway 18R/36L in 1979 and the beginning of the current study in late 2002, operations at the airport grew from ____ to ____, while the number of people exposed to aircraft noise in excess of DNL 65 declined from _____ to _____. Although operations increased ___ fold there was a ___% reduction in numbers of people exposed to significant levels of aircraft noise. The decrease in noise impacts was possible despite a large increase in operations for two reasons: (1) the City's noise mitigation programs have been effective; and (2) the average noisiness of aircraft has decreased greatly.

The Airport has had 3 runways in use since 1979. When this study began, a fourth runway was under construction, a third, parallel, north-south runway. The new runway is designated 18R/36L. The runway opened in 1979 is now designated as 18C/36C. The remaining, parallel runway is 18L/36R and the crosswind runway is 5/23. The new runway designations are used throughout this document.

This updated Part 150 Document describes the Update Study that was completed during 2009. The document contains the following chapters and appendices:

Chapter 1	Introduction
Chapter 2	Existing Conditions
Chapter 3	Recommended Noise Compatibility Program
Appendix A	Study Methodology
Appendix B	Proposed Noise Abatement and Land Use Measures
Appendix C	Record of Public Review and Comments

Chapters 1 through 3 present information on the existing and future noise environments and the recommended measures to reduce the noise or reduce the impacts of noise. Appendices A and B provide details of the study. Appendix C documents the communication with the general public and public and private agencies that ensured open and complete review of the recommended Updated NCP.

1 INTRODUCTION

1.1 OVERVIEW OF THE PART 150 PROCESS

This F.A.R. Part 150 Study for the Charlotte-Douglas International Airport (CLT) has two components: the Noise Exposure Maps (NEMs) and the Noise Compatibility Program (NCP). The Base Case Existing and Future noise contours present information about the existing (2009) and future (2014) aircraft noise environments around CLT with measures in place from the 1998 NCP. The Proposed NCP presents measures that are designed to further reduce potential impacts of the aircraft noise on noise sensitive land uses around CLT and to restrict the introduction of new noncompatible land uses in locations around the airport. The Proposed NCP is based on the level of aircraft operations in 2009 and forecast for 2014.

This Part 150 Study was conducted under the rules of Federal Aviation Regulation Part 150 and was financed by a grant from the FAA with partial funding by the City of Charlotte. Two committees provided advice during the study: a Citizens Advisory Committee and a Neighborhood Task Force. Representatives of the CLT Air Traffic Control Tower also participated. A series of three Public Meetings were held during the study and a Public Hearing [will be held on __ January 2009], at the end of the study process. A full record of public participation [will be] presented in Appendix C of this document.

The FAA must first approve the measures in an NCP before the agency can participate in actions over which it has primary implementation responsibility, and before it can provide grants to facilitate implementation of measures, such as land acquisition and sound insulation, for which the PTAA is the responsible party. However, approval by the FAA does not commit the agency to a schedule for action or to provision of grants for any measure.

1.2 UPDATING OF THE OPERATIONAL FORECASTS

The study process included detailed modeling of the projected noise exposure around the airport both with the existing NCP measures and with the proposed NCP. The noise described in this report was based on a forecast of aviation activity at CLT that was prepared during late 2008. Part 150 requires that NEMs and an NCP be current at the time they are submitted to the FAA. Because the study is anticipated to be submitted to the FAA during 2009, the forecast is for the years 2009 and 2014. The FAA's Atlanta ADO approved the Draft Updated Forecast during November 2008. The final forecast was issued in December 2008.[1]

1.3 PROCEDURE FOR COMPLETING THE PART 150 PROCESS

This document presents the NEM, the NCP, and documentation of the study process. After public review, including the Public Hearing, the Aviation Department will review the NEM, the NCP, the study process and the public record in preparation for submission of these documents to the FAA for review and approval. It is expected that FAA approval will occur during calendar 2010. Implementation of NCP measures approved by the FAA is expected to begin after the FAA issues a Record of Approval for the NCP.

[1] **"Charlotte Douglas International Airport – Part 150 Forecast, December 2008," HNTB Corporation, Arlington, VA.**

2 EXISTING CONDITIONS (2009) AND FUTURE CONDITIONS (2014) WITHOUT REVISED MEASURES OR NEW MEASURES IN NOISE COMPATIBILITY PROGRAM

The Part 150 Update Study for CLT addresses the effects of aircraft noise exposure on the neighborhoods surrounding the airport for both existing and future conditions. This chapter describes the conditions forecast to exist in the initial study year (2009) and in the future year that was chosen for the study (2014), if none of the changes to existing NCP measures or new NCP measures proposed in the Updated Noise Compatibility Program were in place. This chapter also contains the general information used to determine the aircraft noise exposure for these years. Appendix A presents a description of the noise analysis methodology and detailed descriptions of the noise modeling data and the updated operations forecast used in this study.

2.1 NOISE CONDITIONS WITH THE EXISTING NOISE COMPATIBILITY PROGRAM

Throughout this study, the noise exposure environment around the Airport is presented in terms of contours of the yearly average Day-Night Sound Level (DNL) for existing (2009) and forecast future (2014) conditions. The yearly average DNL is the measure adopted by the FAA to describe noise exposure around airports. DNL calculates the noise exposure with a 10 decibel (dB) penalty on noise occurring during the night (10:00 p.m. to 7:00 a.m.) and no penalty placed on noise during the daytime. The FAA requires that NEMs include contours for DNL values of 65, 70 and 75 dB. The NEMs for CLT include noise contours for a DNL value of 60 dB as well because several proposed new noise measures refer to areas where DNL is 60. It should be noted that under FAA guidelines all land uses, including residential use, are regarded as being compatible with DNL values below 65 dB.

The noise contours for this study were prepared with the FAA's Integrated Noise Model (INM) version 7.0a. The INM has become the standard for airport noise analyses in the U.S. and elsewhere. The INM determines noise exposure in the vicinity of an airport by simulating the operation of the airport on a yearly average day and calculating the noise exposure on the ground from the day's operations. Input for the INM includes: numbers of takeoffs and landings by each aircraft type using the airport; runway use; flight track use; and flight distances for takeoffs. Detailed information on the input used for this study is presented in Appendix A.

The impact of noise exposure is described in terms of the numbers of residences, numbers of residents, numbers of schools and numbers of houses of worship within each exposure range (DNL 65 to 70, DNL 70 to 75, and above DNL 75) as determined by GIS-assisted counting.

2.1.1 Base-year Noise Contours (2009)

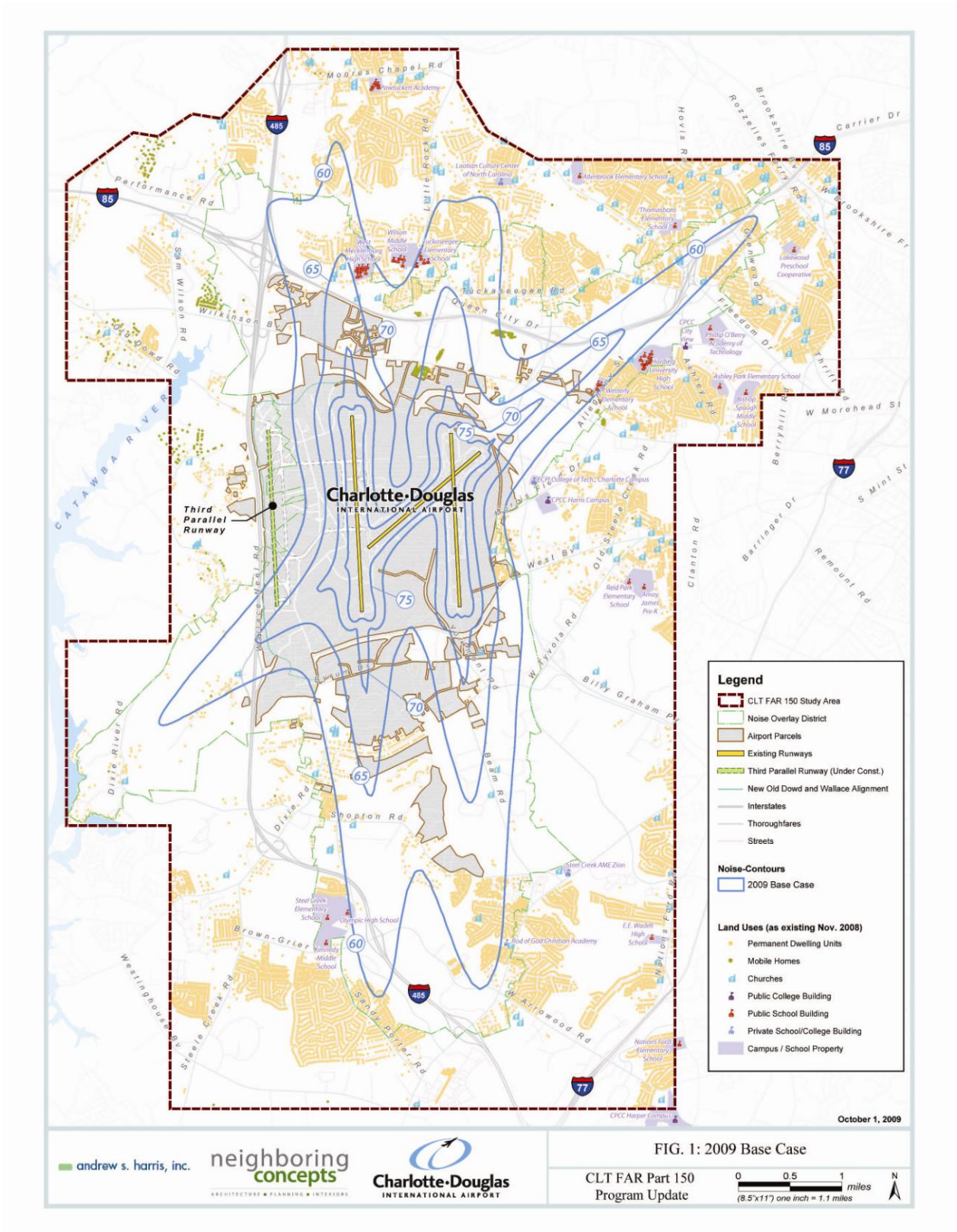
The base-year noise contours for 2009 are presented in Figure 1. (The Final NEM for 2009 is in Section 2.1.4.) These noise contours do not assume inclusion of any new or revised measures in the NCP. Therefore, they represent the aircraft noise environment that is anticipated in 2009, with measures in the 1998 NCP continuing in effect.

During 2009, the yearly average daily number of takeoffs and landings is forecast to be 1,623.43. Table 1 presents this activity in 6 separate user groups. (Appendix A contains detailed numbers of aircraft operations by INM aircraft type for the 2009 forecast.) The number of operations and their distribution between the day and night hours was derived from forecasts that included review of existing conditions during through 2007 and anticipated changes between 2007 and 2009. The 2008 Operations Forecast was submitted to the FAA Atlanta Airports District Office (ADO) during November 2008. The Atlanta ADO compared the forecast with the FAA's 2007 Terminal Area Forecast (TAF), determined that the forecast was well within the FAA's acceptability criteria and approved the forecast for 2009 and 2014 operations. Subsequently, the ADO compared the forecast with the 2008 TAF. The forecast's agreement with the 2008 TAF was even closer, less than 1 percent difference for both 2009 and 2014.

TABLE 1

Base Year Condition (2009) Yearly Average Daily Aircraft Operations
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	533.46	6.35	8.92	23.43	572.17	497.12	50.12	1.49	23.43	572.17
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.76	5.87	0.00	0.00	71.62
Cargo Jet	1.96	0.08	1.70	1.61	5.35	1.46	2.56	1.28	0.04	5.35
Cargo Prop	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01
GA Jet	34.48	5.08	7.46	1.69	48.70	34.98	1.46	9.46	2.80	48.70
GA Prop	20.39	2.66	5.44	0.00	28.50	21.23	0.40	6.11	0.76	28.50
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	658.29	14.19	23.53	32.96	728.96	623.15	60.42	18.35	27.04	728.96


Charlotte-Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
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2009 Base Case
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas INTERNATIONAL AIRPORT
FIG. 1: 2009 Base Case
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

The pattern of runway use during 2009 is assumed to be the same as occurred during recent years. Runway use data were developed for seven groups of aircraft, as shown in Table 1. Noise modeling for this study included the appropriate runway use for all aircraft groups. Nonetheless, passenger jet aircraft operations dominate the aircraft noise environment. Table 2 shows the runway use for passenger jets in 2009. Detailed runway use for all aircraft groups 2009 is shown in Appendix A, Tables A-5 (Departures) and A-6 (Arrivals).

TABLE 2

Base Year Condition (2009) Runway Use
Passenger Jets
Charlotte-Douglas international Airport

Runway*	DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
	Percentage of Departures			
5	0.5	0.5	17.6	17.6
18L	25.6	25.6	21.6	21.6
18C	28.2	28.2	16.4	16.4
23	<0.1	<0.1	17.7	17.7
36C	26.5	26.5	13.7	13.7
36R	19.2	19.2	13.0	13.0
Total	100.0	100.0	100.0	100.0
	Percentages of Arrivals			
5	<0.1	<0.1	25.5	25.5
18L	1.5	1.5	0.8	0.8
18C	27.5	27.5	16.8	16.8
23	23.9	23.9	41.2	41.2
36C	27.4	27.4	12.7	12.7
36R	19.6	19.6	3.2	3.2
Total	100.0	100.0	100.0	100.0

* New runway 18R/36L in final stage of construction. For this reason, old runway 18R/36L is shown here with its new designation, runway 18C/36 C.

Arrival tracks are generally straight in on runway heading within the study area indicated on Figure 1. Departure tracks diverge from the runway heading within the study area and proceed along their departure route. Appendix A shows the flight tracks used for modeling the noise exposure for all conditions in this study.

The DNL contour for 65 dB in Figure 1 shows the extent of significant noise exposure according to FAA guidelines. The DNL contour for 60 dB is shown in the noise contours in this document, because two measures in the proposed Update NCP involve actions within the DNL contour for 60 dB. (Appendix A includes the FAA compatibility information used for the analyses in this document.) These noise contours indicate that the pattern of noise follows the pattern of aircraft flight and is larger to the south of the airport than to the north. This pattern reflects the fact that, noise from aircraft departures with the existing aircraft fleet is typically louder than the noise from aircraft landings.

Impacts of aircraft noise in a FAR Part 150 study are identified in terms of land areas or land uses exposed to aircraft noise at levels of DNL 65 or higher. Table 3 shows the land area (off airport), the number of residences, the population, the number of houses of worship and the number of schools forecast to be exposed to values of DNL 60 and higher in 2009. The values between 60 and 65 DB are included to indicate potential effect of the two measures in the proposed Update NCP that involve actions within the DNL contour for 60 dB. Land use compatibility in this study is based upon the Land Use Compatibility Guidelines in Table 1 in Appendix A of Part 150. Table 1 is reproduced in this Report as Table A-25?? in Appendix A.

TABLE 3

Incompatible Land Uses (2009)
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.46	1.59	0.15	0.01	9.20
Residents	6,135	249	3	0	6,386
Residences	2,253	102	1	0	2,356
Houses of Worship	24	9	0	0	33
Schools	4	0	0	0	4

2.1.2 Future Base Year Noise Contours (2014) without Changes in the NCP

The regulations under FAR Part 150 require consideration of noise conditions during a future period. That period must be at least 5 years in the future and this study addresses future conditions in the year 2014, five years in the future. The number and mix of operations in 2014 will determine the extent of the noise contours around the Airport that year. For this reason, the modeling for 2014 uses a forecast of the various aircraft types

that will be in use that year. Table 4 presents the 2014 annual average daily aircraft operations by aircraft user group. As described in Section 2.1.1, Base-year Noise Contours (2009), the FAA Atlanta ADO approved the 2008 Charlotte Operations Forecast for use in this study.

The 2014 Base Case represents the simplest change from the existing (2009) Base Case, with the existing 3 runways, to use of 4 runways in 2014. During the period of daytime runway use, from 0700 to 2300, all four runways are used in the configuration proposed by personnel from the FAA Air Traffic Control Tower (ATCT) at CLT.[2] New runway 18R/36L is not used at night.[3] Nighttime runway use (from 2300 to 0700) is unchanged from the 2009 runway use. As noted previously, noise modeling for this study included the appropriate runway use for all aircraft groups. As in 2009, passenger jet aircraft operations will dominate the aircraft noise environment in 2014. Table 5 shows the runway use for passenger jets in the 2014 Base Case. Detailed runway use for all aircraft groups 2014 is shown in Appendix A, Tables A-11 (Departures) and A-12 (Arrivals). Flight Tracks and flight track uses for all 2014 conditions are in Appendix A.

TABLE 4

Forecast Condition (2014) Annual Average Daily Aircraft Operations
Charlotte-Douglas International Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	605.44	5.96	10.60	30.19	652.19	568.82	58.27	1.66	23.44	652.19
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.75	5.87	0.00	0.00	71.62
Cargo Jet	1.74	0.07	1.62	1.54	4.97	1.26	2.45	1.22	0.04	4.97
GA Jet	40.67	6.68	10.07	2.24	59.67	41.08	1.65	13.26	3.67	59.66
GA Prop	14.11	2.14	4.41	0.00	20.66	14.72	0.30	5.09	0.54	20.66
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	729.97	14.85	26.70	40.20	811.72	694.24	68.54	21.23	27.69	811.71

[2] To determine usage of the four runways, the Aviation Director arranged a series of meetings that included staff of the Aviation Department, representatives of the FAA ATCT, representatives of US Airways and the Project Consultant. At the conclusion of the meetings, representatives of the FAA ATCT submitted a description of the optimum use of the four runways. This runway use is shown in Table XX, representing daytime usage by passenger jet aircraft. Runway usage for other aircraft types are derived from the historic pattern of use with three runways. Detailed runway use for all aircraft types are shown in Appendix A[??]

[3] From the perspective of operations, the daytime period of runway use is from 0700 to 2300. However, from the perspective of noise exposure, in terms of the Day-night Sound Level (DNL), daytime is 0700 to 2200 and nighttime is 2200 to 0700. To allow runway use analyses to consider both capacity and noise exposure, the 24-hour day is divided into four periods: daytime, 0700 to 2200; early night, 2200 to 2300; middle night, 2300 to 0600; and late night 0600 to 0700.

Departure routings are unchanged from the existing 3 runways and routings from Runway 18R/36L are parallel to routings from runway 18C/36C. Table 6 shows the departure routings used in the 2014 Base Case.

The contours of Figure 2 reflect anticipated conditions in 2014 with the measures from the NCP approved in 1998. They do not reflect effects from new or revised measures that will be proposed for the future. For comparison, Figure 3 shows the noise contours for the 2014 Base Case and the noise contours for the 2009 Base Case. Table 7 shows the numbers of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for the 2014 Base Case.[4] The numbers of residences and residents exposed to DNL 65 and higher are 30 percent smaller for the 2014 Base Case than for the 2009 Base Case.

Figure 3 shows the 2014 Base Case in comparison with the 2009 Base Case

The 2014 Base Case increases the daytime capacity through the availability of runway 18R/36L from 0700 to 2300. However there is no increase in the number of departure routes other than the routes from runway 18R/36L. There is no reduction in the concentration of RNAV departure routes.

[4] Although the FAA only requires information on noise-sensitive land uses in areas where DNL is 65 or higher, data are provided in this study for areas where DNL is between 60 and 65, because two measures are proposed that would affect areas where DNL is between 60 and 65. Comparisons of alternatives are based on data for areas where DNL is 65 or greater in response to the FAA requirements.

TABLE 5

Future Condition (2014) Base Case Runway Use
Passenger Jets
Charlotte-Douglas international Airport

Runway	DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
	Percentages of Departures			
5	0.0	0.5	17.6	17.6
18L	26.0	25.6	21.6	21.6
18C	26.0	28.2	16.4	16.4
23	0.0	<0.1	17.7	17.7
36C	25.0	26.5	13.7	13.7
36R	22.0	19.2	13.0	13.0
18R	0.0	100.0	100.0	100.0
36L	1.0	1.0	0.0	0.0
Total	100.0	100.0	100.0	100.0
	Percentages of Arrivals			
5	0.0	0.0	25.5	25.5
18L	1.0	1.0	0.8	0.8
18C	5.2	5.2	16.8	16.8
23	25.0	25.0	41.2	41.2
36C	4.8	4.8	12.7	12.7
36R	21.6	21.6	3.2	3.2
18R	20.8	20.8	0.0	0.0
36L	21.6	21.6	0.0	0.0
Total	100.0	100.0	100.0	100.0

TABLE 6

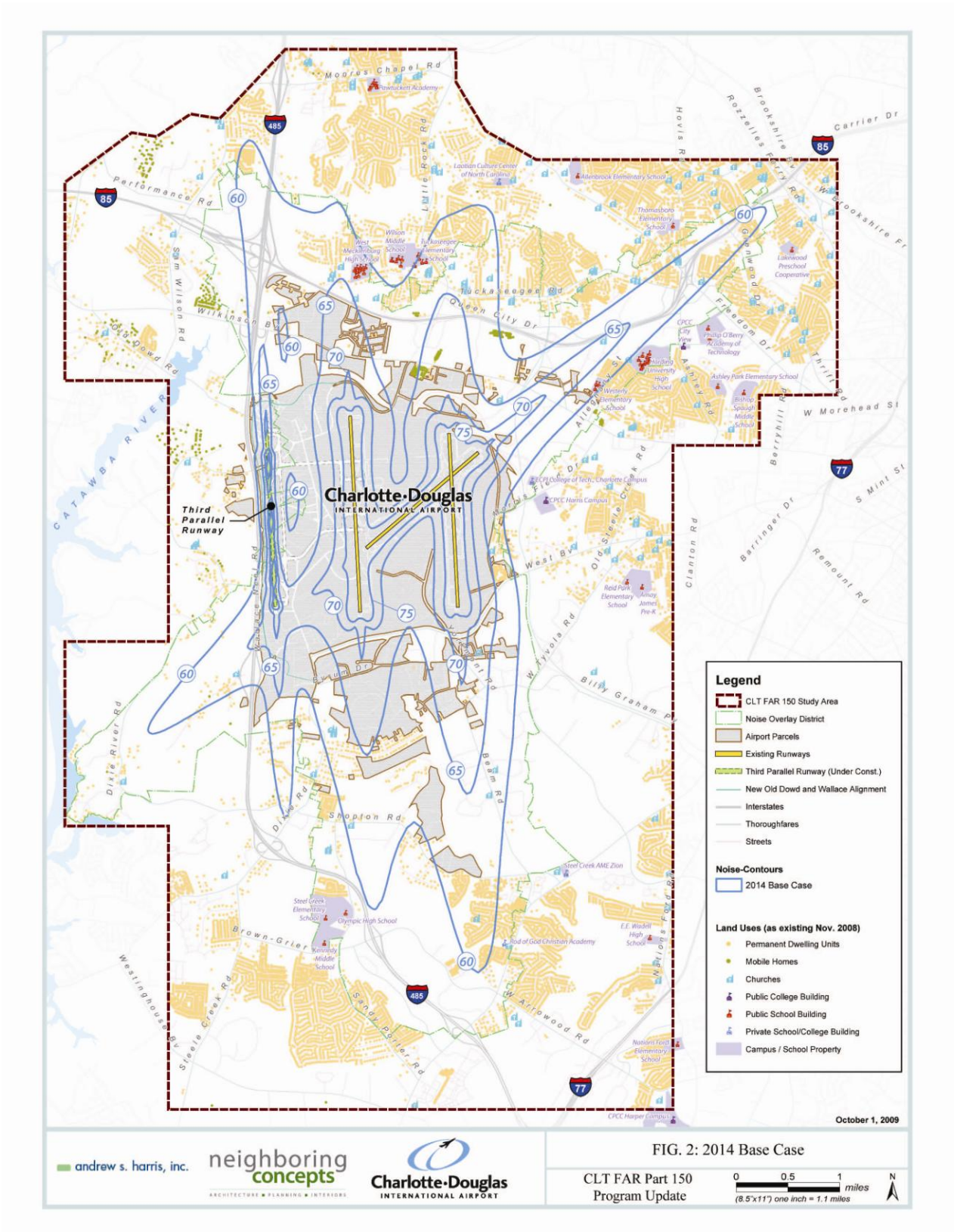
2014 Base Case Departure Headings
Charlotte-Douglas International Airport

Runway	Initial Headings (deg.)
5	50
18L	180
18C	180
18R	180
23	230
36L	330
36C	330
36R	025

TABLE 7

Incompatible Land Uses
Future Conditions (2014) Base Case
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.50	1.59	0.14	0.01	9.24
Residents	5,742	171	6	0	5,919
Residences	2,116	74	2	0	2,192
Houses of Worship	29	5	0	0	34
Schools	3	0	0	0	3


Charlotte-Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
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2014 Base Case
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas INTERNATIONAL AIRPORT
FIG. 2: 2014 Base Case
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
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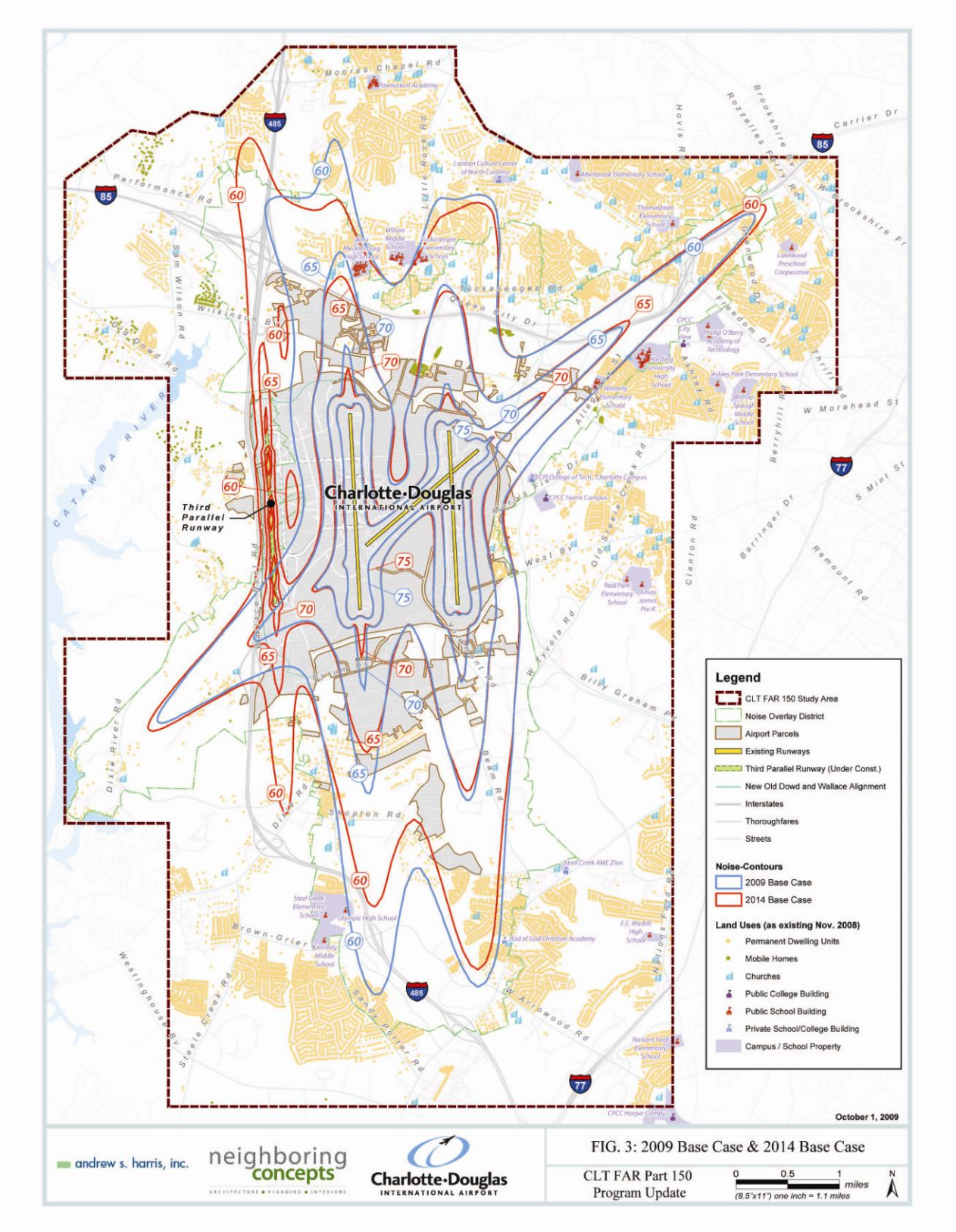
Charlotte·Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
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Noise Overlay District
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neighboring concepts
Charlotte·Douglas INTERNATIONAL AIRPORT
FIG. 3: 2009 Base Case & 2014 Base Case
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
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3 NOISE COMPATIBILITY PROGRAM

3.1 INTRODUCTION

Appendix B of FAR Part 150 (in B150.1 (b)) states the purpose of a Noise Compatibility Program (NCP) as follows:

> (1) To promote a planning process through which the airport operator can examine and analyze the noise impact created by the operation of an airport, as well as the costs and benefits associated with various alternative noise reduction techniques, and the responsible impacted land use control jurisdictions can examine existing and forecast areas of noncompatibility and consider actions to reduce noncompatible uses.
>
> (2) To bring together through public participation, agency coordination, and overall cooperation, all interested parties with their respective authorities and obligations, thereby facilitating the creation of an agreed upon noise abatement plan especially suited to the individual airport location while at the same time not unduly affecting the national air transportation system.
>
> (3) To develop comprehensive and implementable noise reduction techniques and land use controls which, to the maximum extent feasible, will confine severe aircraft YDNL values of DNL 75 dB or greater to areas included within the airport boundary and will establish and maintain compatible land uses in the areas affected by noise between the DNL 65 and 75 dB contours.

In summary, the purpose of the NCP is to promote a planning process that involves all concerned parties in the process and produces a program that can be implemented to reduce adverse impacts of aircraft noise in the community around an airport.

The specific types of measures that must be considered under FAR Part 150, to the extent that they are appropriate to the specific airport, are as follows:

> (1) Acquisition of land and interests therein, including, but not limited to air rights, easements, and development rights, to ensure the use of property for purposes which are compatible with airport operations.
>
> (2) The construction of barriers and acoustical shielding, including the soundproofing of public buildings.
>
> (3) The implementation of a preferential runway system.

(4) The use of flight procedures (including the modifications of flight tracks) to control the operation of aircraft to reduce exposure of individuals (or specific noise sensitive areas) to noise in the area around the airport.

(5) The implementation of any restriction on the use of airport by any type or class of aircraft based on the noise characteristics of those aircraft. Such restrictions may include, but are not limited to --

(i) Denial of use of the airport to aircraft types or classes which do not meet Federal noise standards;

(ii) Capacity limitations based on the relative noisiness of different types of aircraft;

(iii) Requirement that aircraft using the airport must use noise abatement takeoff or approach procedures previously approved as safe by the FAA;

(iv) Landing fees based on FAA certificated or estimated noise emission levels or on time of arrival; and

(v) Partial or complete curfews.

(6) Other actions or combinations of actions which would have a beneficial noise control or abatement impact on the public.

(7) Other actions recommended for analysis by the FAA for the specific airport. [5]

The noise abatement alternatives contemplated by FAR Part 150 involve various implementing authorities. The alternatives include:

(1) Noise abatement alternatives for which the airport operator has adequate implementation authority.

(2) Noise abatement alternatives for which the requisite implementation authority is vested in a local agency or political subdivision governing body, or a state agency or political subdivision governing body.

(3) Noise abatement options for which requisite authority is vested in the FAA or other Federal agency.

3.2 MEASURES IN EXISTING NOISE COMPATIBILITY PROGRAM

The Noise Compatibility Program (NCP) approved in 1998 represents refinement of the original noise compatibility planning that occurred in preparation for the opening of runway 18R/36L (now runway 18C/36C) that came into service in 1979, and was set forth in the "Addendum to the Final Environmental Impact Statement for Runway 18R/36L."[6]. With the opening of that runway, departures used runways 18L, 18C, 36C and 36R and arrivals used runways 18C, 23, 36C and 36R. To minimize noise impacts at the three

[5] Measures that would impose noise and access restrictions on type 3 aircraft are now subject to limitations of FAR PART 161. See Appendix B.

[6] **[Insert reference for the Addendum.] Runwy 18R/36L is now called "runway 18C/36C."**

schools to the north of the airport (West Mecklenburg High School, Wilson Middle School and Tuckaseegee Elementary School) departures on runways 36C and 36R were turned away from the schools. At night (10:00 PM to 7:00 AM) runway 23 became the preferred departure runway and runway 05 became the preferred arrival runway. With the three runways 18L/36R, 18C/36C, and 05/23, the operating pattern that provided the greatest flight capacity places departures on runways 18L and 18C with arrivals on runways 18C and 23.

The existing NCP includes measures developed during the three decades since the opening of runway 18C/36CThese measures include acquisition of property exposed to the highest levels of aircraft noise (properties inside the DNL 75 contours); and sound insulation of schools, places of worship and residences inside the DNL 65 contours. The existing NCP contains 19 currently-operative measures: (1) 7 Noise Abatement Measures; 5 Land Use Measures; and 7 Noise Mitigation Measures. Table 7 identifies the measures that are currently in place. Most measures apply to the Airport whether with three runways or with four. Several measures apply to specific existing runways and Measures NA-8 and NA-9 apply only after new runway 18R/36L opens.

Table 8

Measures in Existing Noise Compatibility Program (Approved 1998)

Charlotte-Douglas International Airport

	Noise Abatement Measures
Measure	**Description**
NA-1	Continue periodic monitoring procedures as initiated in the 1990 Part 150 NCP, within the Airport environs.
NA-2 & NA 3	Measures not adopted. Numbers retained for continuity.
NA-4	Provide monthly reports on late night (11 p.m. to 7 a.m.) runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management and frequent nighttime operators. Conduct follow-up with FAA (ATCT) and carriers to enhance voluntary adherence to existing program.
NA-5	Designate runways 18R and 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 7:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths.
NA-6	Reaffirm airport user policy that designates locations and procedures for aircraft runups. Establish a runup position on the USAir ramp parallel to runway 5/23.
NA-7	Departing runways 36R and 36L (future 36C), turbojet and large four-engine prop aircraft initiate turns at the 2.0 DME (36L) and 2.3 DME north of the CLT VOR/DME, respectively.
NA-8	On construction of a third parallel runway west of Runway 18R/36L (future 18C/36C), establish an initial departure turn, as soon as practicable, by turbojets and four-engine prop aircraft to a heading of 195 degrees from Runway 17 (future 18R).
NA-9	On construction of a third parallel runway west of Runway 18R/36L (future 18C/36C), establish an initial departure turn, as soon as practicable, by turbojets and four-engine prop aircraft to a heading of 315 degrees from Runway 35 (future 36L).

Table 8 (continued)
Measures in Existing Noise Compatibility Program (Approved 1998)
Charlotte-Douglas International Airport

	Land Use Measures
Measure	**Description**
LU-1	Promote compatible land use planning, within 65 DNL of combined 1996 NEM and 1996 NCP contours.
LU-2	Pursue zoning for compatible development.
LU-3	Revoke previously approved, but not implemented, measure to establish insulation performance standards for new construction. This measure is replaced by Measure LU-8.
LU-4	Require dedication of avigation easement as a condition of approval for the development of property located in the Airport Environs.
LU-5 and LU-6	Measures not adopted. Numbers retained for continuity.
LU-7	Establish an Airport Overlay District that corresponds to the airport environs in which there will be special requirements relating to developing, rezoning, and transferring residential property.
LU-8	Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District.
LU-9	Develop a method for insuring that buyers of residential property within the Airport Environs receive full disclosure of the location of the property relative to the Airport.

Table 8 (continued)

Measures in Existing Noise Compatibility Program (Approved 1998)

Charlotte-Douglas International Airport

	Noise Mitigation Measures
Measure	**Description**
NM-1	Continue the public information program to distribute noise and noise abatement information to the public.
NM-2	Continue sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour (land-use corrective Measure No. 2 of the 1990 NCP). The continuation of this measure is updated to include the 65 DNL for the combined 1996 NCP/NEM contours and to provide for the voluntary participation of noise-sensitive public buildings (e.g., schools and churches) in the recommended sound insulation program.
NM-3	Sound insulate eligible houses located in the 65 DNL contour of the 1996 NCP/NEM, whichever is greater, which may be benefitted under FAA design criteria. Update area of consideration.
NM-4	This measure was replaced by the following current measures: NM-2, NM-3 and NM-6 through NM-9.
NM-5	This measure was completed through acquisition of properties where the use was not compatible with 75 DNL or greater.
NM-6	Acquire mobile homes located in the 70 DNL contour of the 1996 NCP/NEM, whichever is greater.
NM-7	At the Airport's option, purchase avigation easements on, sound insulate, or acquire houses within the combined 65 DNL contour of the 1996 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)
NM-8	Sound insulate eligible houses within the 65 DNL contour of the 2001 NCP/NEM (if any remain to be treated).
NM-9	Acquire mobile homes within the 65 DNL contour of the 2001 NCP/NEM.

3.3 DEVELOPMENT OF THE PROPOSED UPDATED NOISE COMPATIBILITY PROGRAM

In 1979, noise exposure from aircraft operations was dominated by noise from early-technology jet aircraft such as the Boeing 727, early Boeing 737s and early Douglas DC-9 aircraft. During the intervening period, major changes have occurred in the aircraft fleet serving the airport. Early aircraft such as the 727 were initially quieted and subsequently removed from most airline fleets. During the same period, new-technology, quieter aircraft have been added to airline fleets and now comprise almost the entire fleet serving the airport. Elimination of the older, noisier aircraft fleet and replacing it with a quieter fleet has significantly decreased the area around the airport exposed to aircraft noise in excess of DNL 65 during the last three decades. By 2009, the extent of all major noise contours, identified by the FAA as contours with values of DNL 65 and above, is significantly less than the extent of the corresponding noise contours in the NCP approved in 1996.

3.3.1 Conditions to Be Considered

During the base year for this study, 2009, three elements of the aircraft noise environment are of particular interest: (1) new parallel runway 18R/36L is expected to open by 2010; (2) the number of operations by regional jet aircraft continues to increase; and (3) the FAA has recently implemented area navigation (RNAV) departure procedures at the airport. This study considers noise-related implications of these elements as explained more fully below.

- **Parallel Runway 18R/36L** – This new runway will be used primarily for arrivals. Although the flight tracks that serve this runway will be over areas that have experienced overflights for many years, the number of overflights may change in some locations. This runway will be used during peak arrival periods and will thus serve fewer operations and during smaller portions of the day because it is located farther away from the terminal than the existing three runways. Flight procedures for this runway have been designed to meet safety requirements while avoiding unnecessary changes in the number and location of overflights of noise-sensitive land uses. At times when one of the other runways is out of service, such as for maintenance, the new runway may be used for a greater portion of departures than during operations with all four runways.

- **Regional Jet Operations** – Regional Jets, as a class of aircraft, are among the quietest jets that use the airport. The number of operations in regional jets has increased rapidly for two reasons: (1) these aircraft have replaced the previous, prop-driven aircraft; and (2) airlines have replaced larger, so-called "online Jets" on some routes with regional jets. The growth of operations in this class of aircraft has

allowed the number of operations to increase at the airport while decreasing the noise exposure from airport operations.

- **Introduction of RNAV Departure Procedures --** The FAA recently updated arrival and departure procedures using ground-based equipment at many airports by adopting RNAV procedures that are based on satellite-facilitated global positioning systems. In the long run, RNAV procedures will increase the number of aircraft able to fly in the U.S. airspace by providing more routes than can be served by traditional ground-based systems. The initial RNAV procedures have increased the precision of flight routing. However, the first generation of RNAV procedures has implemented only a limited number of routes. Because the number of routes is currently limited, system capacity has not yet achieved the potential capacity benefits of RNAV and has introduced some unanticipated noise issues around many airports, including CLT.

  The previous departure procedures at the airport resulted in departure paths from the airport that were quite widely dispersed, not closely clustered. Departure paths of aircraft following RNAV procedures are tightly clustered. As a result of the clustering, residents of some areas 10 to 20 miles away from the airport now experience increased numbers of overflights, even though the frequency of flights to individual destinations has not changed significantly. While the increase in overflights may not raise the noise exposure to levels that are recognized by the FAA as significant, residents around the airport have complained about the increase in overflights.

  The initial RNAV departure procedures rely on routing of aircraft to several ultimate destinations via a limited set of locations called "waypoints." The use of a limited number of waypoints increases the concentration of overflights noted above and also limits the capacity of the airport. Increasing the number of available waypoints would allow the FAA to increase the number of RNAV routes from the airport and increase airport capacity. It would also reduce the concentration of overflights in the airport region.

  This study includes examination of changes in the number and dispersion of RNAV departure procedures to increase airport capacity and decrease the concentration of overflights in areas around the airport.

The proposed Updated NCP for the Airport was developed for the City of Charlotte by the study consultants with continuing consultation with the staff of the aviation department augmented by meetings with staff of the FAA Air Traffic Control Tower and airport users. Public consultation included three Public Meetings including members of the Airport Advisory Committee and the Neighborhood Task Force. The study concluded with a Public Hearing. The Public Involvement Program is documented in greater detail in Appendix C.

All participants in the Part 150 Study were advised that when reviewing potential noise abatement procedures, an initial consideration must be whether a proposed measure meets FAA requirements for safety and for efficient airport operation. FAA Air Traffic personnel are responsible for safe and expeditious handling of traffic. Therefore, measures under consideration have been reviewed during the course of the study with personnel from the CLT Air Traffic Control Tower. Procedures that meet the criteria for safe and expeditious traffic flow were evaluated to determine the extent that they could reduce potential adverse noise impacts.

The basic measures of potential noise impact in the FAR Part 150 study are numbers of persons exposed to aircraft noise in excess of DNL 65 and numbers of noise-sensitive land uses (i.e., residences, schools or churches) in areas with aircraft noise exposure in excess of DNL 65. The primary analysis tool is comparison of impacts from different scenarios, according to these measures.

The NEM and the NCP focus on two periods, the year when the Part 150 documents representing existing conditions have been prepared, in this case 2009, and a future year at least 5 years later. For this study, the future year is 2014.

Although FAR Part 150 prescribes consideration of a broad range of noise mitigation measures during development of an NCP, it does not require inclusion of specific measures or types of measures in a proposed NCP. Rather, FAR Part 150 requires that the proposed NCP include "A description and analysis of the alternative measures considered by the airport operator in developing the program, together with a discussion of why each rejected measure was not included in the program." Decisions about the measures to include in an NCP must reflect careful review of the costs and benefits associated with individual measures and comparison of the costs of measures that provide equivalent benefits. FAR Part 150 does not prescribe a format for the NCP's discussion of measures. A two-part format is used in this document for the discussion: (1) identification of the measures considered for the NCP; and (2) discussion of each measure recommended for the NCP and why it was included. All discussions identify the benefits of measures, the costs of measures and implementation issues.

The development of measures for the Updated CLT NCP comprised several steps. Initially, the project consultants evaluated existing measures and considered three possible actions: (1) retaining the measure as it is; (2) modifying the measure as appropriate; and, (3) deleting the measure. Subsequently, the project consultants discussed existing measures and possible new measures with the Airport staff. After initial discussion of existing measures several new measures were proposed and presented for discussion with airport users and the public.

3.3.2 Analysis of Possible Operational Alternatives

This section documents development and analysis possible new measures for the proposed Updated NCP. Noise Mitigation measures were considered to achieve two goals:

(1) Retrieval of airfield capacity that has been constrained by existing nighttime runway use restrictions, without increasing noise impacts; and

(2) Reduction of concentration of overflights resulting from new RNAV procedures.

It is important to note that the populations inside the noise contours for 2009 are significantly smaller than the populations inside the equivalent contours reported during the previous Part 150 study accepted by the FAA in 1998. The analysis during this study concluded that it will be possible to decrease the populations inside all DNL contours of interest, DNL 60 and above, between 2009 and 2014 while also increasing the capacity of the airport. The remainder of this section reports on detailed discussions of 6 alternative cases for 2014. Three of the alternatives involve alternative schedules of runway use for and three of them involve alternative schedules of runway use in combination with alternative departure procedures. The discussions of each case include descriptions of the case, identification of effects on capacity and analysis of populations, residences, schools, places of worship and areas within noise exposure contours. The effects of each 2014 alternative are compared to the effects of the 2014 Base Case and the 2009 Base Case.

2014 Alternative 1: This is the first alternative considered as a way to increase operating capacity at the airport during the primary operation hours, from 0600 to 2300. The existing NCP includes the hour from 0600 to 0700 in the period of restricted operations described in Measure NA-5. In Alternative 1, the daytime pattern of runway use of 4 runways is as proposed by the FAA from 0600 to 2300, an hour longer than in the Base Case, with existing Night Preferential Runway Use from 2300 to 0600. Departure routings are unchanged on the existing 3 runways and the routings from runway 18R/36L are parallel to routings from runway 18C/36C. The routings for all alternatives are in Table 11. New runway 18R/36L is not used at night. Runway use for the 2014 Alternative 1 is shown in Table 9. Departure routings are unchanged from the existing 3 runways and routings from Runway 18R/36L are parallel to routings from runway 18C/36C. Departure and arrival tracks are shown in Appendix A.

The noise exposure from this case is illustrated by Figure 4. For comparison, Figure 4 also shows the noise contours for the 2014 Base Case. Table 10 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for 2014 Alternative 1. The numbers of residences and residents exposed to DNL 65 and higher are smaller for 2014 Alternative 1 than for the 2009 Base Case and 6 percent larger than for the 2014 Base Case. Alternative 1 increases the daytime capacity through the availability of 4 runways from 0600 to 2300. Like the 2014 Base Case, there is no increase in the number of departure routes other than the routes from runway 18R/36L. Thus there is no reduction in the concentration of RNAV departure routes.

TABLE 9

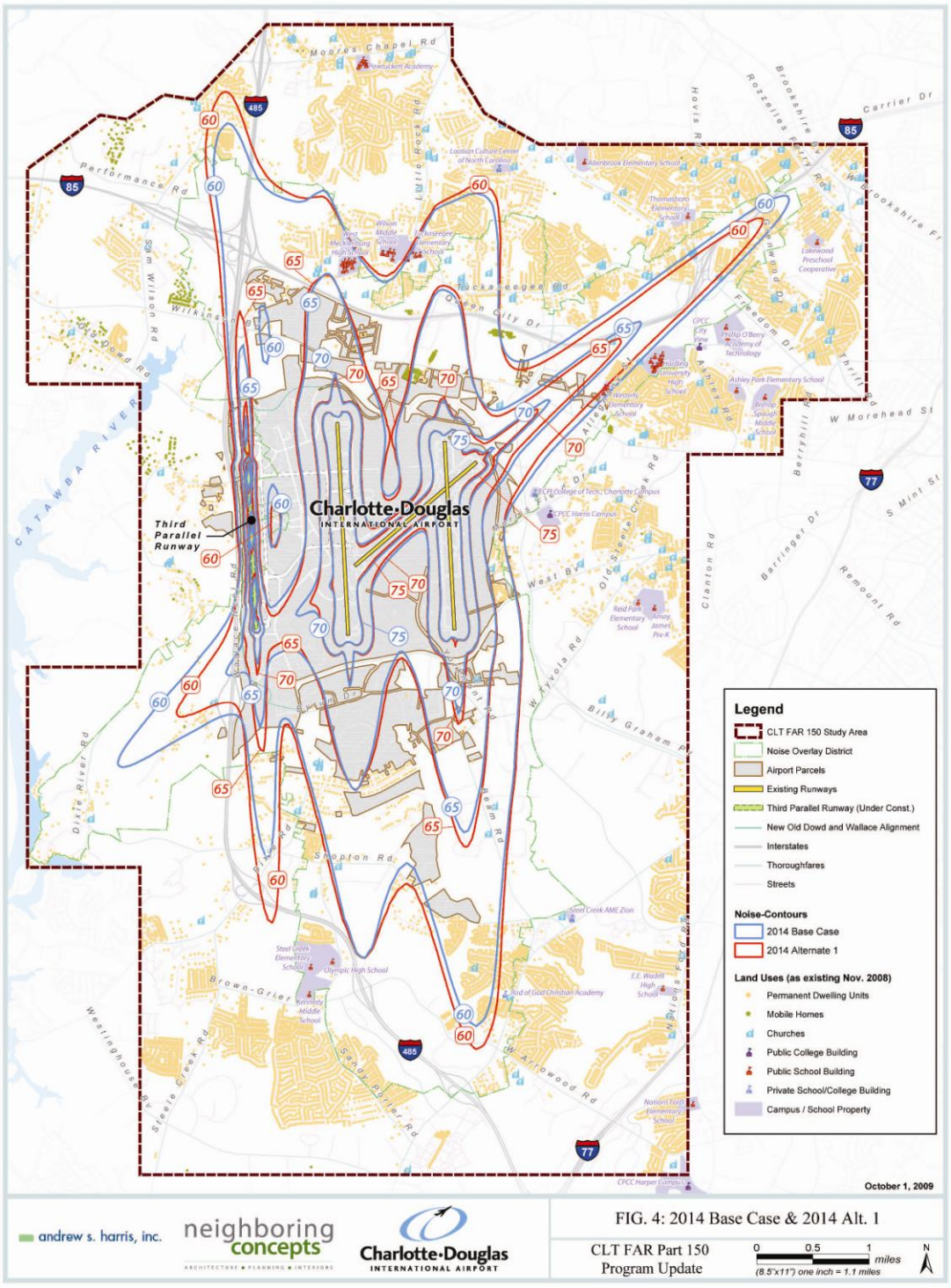
Future Condition (2014) Alternative 1 Runway Use
Passenger Jets
Charlotte-Douglas international Airport

Runway	DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
	Percentages of Departures			
5	0.0	0.0	17.6	0.0
18L	26.0	26.0	21.6	26.0
18C	26.0	26.0	16.4	26.0
23	0.0	0.0	17.7	0.0
36C	25.0	25.0	13.7	25.0
36R	22.0	22.0	13.0	22.0
18R	0.0	0.0	0.0	0.0
36L	1.0	1.0	0.0	1.0
Total	100.0	100.0	100.0	100.0
	Percentages of Arrivals			
5	0.0	0.0	25.5	0.0
18L	1.0	1.0	0.8	1.0
18C	5.2	5.2	16.8	5.2
23	25.0	25.0	41.2	25.0
36C	4.8	4.8	12.7	4.8
36R	21.6	21.6	3.2	21.6
18R	20.8	20.8	0.0	20.8
36L	21.6	21.6	0.0	21.6
Total	100.0	100.0	100.0	100.0

TABLE 10

Incompatible Land Uses
Future Conditions (2014) Alternative 1
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.61	1.64	0.13	0.01	9.38
Residents	5,942	186	0	0	6,128
Residences	2,191	81	0	0	2,272
Houses of Worship	27	4	0	0	31
Schools	3	0	0	0	3


Charlotte·Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 1
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte·Douglas INTERNATIONAL AIRPORT
FIG. 4: 2014 Base Case & 2014 Alt. 1
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

2014 Alternative 1.2: Alternative 1.2 was the sixth alternative developed. It was prepared after the development of Alternative 4.2 as a way to get almost as much 24-hour capacity as Alternative 4.2 without the increase in numbers of residents exposed to aircraft noise that occurs with Alternative 4.2. The runway use for Alternative 1.2 is the same as it is for Alternative 1. However, there is a refined set of departures used on runways 18L/36R and 18C/36C and routings from runway 18R/36L parallel to the new routings from runway 18C/36C. (This is the same set of departure routes as for Alternative 4.2. The headings are in Table 11.)

Table 11

Base Case and Revised 2014 Departure Headings for CLT Runways

Runway	Base Case 2014 Headings (deg.) Also Used for Alternatives 1, 2 and 3	Initial Revised 2014 Headings (deg.) Used for Alternative 4	Refined Revised 2014 Headings (deg.) Used for Alternatives 1.2 and 4.2
18L	180	165 and 180	165 and 180
18C	180	180, 195 and 210	180, 195 and 210
18R	180	180, 195 and 210	180, 195 and 210
36L	330	320 and 340	315 and 330
36C	330	320 and 340	315 and 330
36R	025	010 and 030	025 and 040

The noise exposure from this case is illustrated by Figure 5. For comparison, Figure 5 also shows the noise contours for the 2014 Base Case. Table 12 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour 2014 Alternative 1.2. The numbers of residences and residents exposed to DNL 65 and higher are 20 percent smaller for 2014 Alternative 1.2 than for the 2009 Base Case and 15 percent larger than for the 2014 Base Case and for Alternative 1. Alternative 1 increases the daytime capacity through the availability of 4 runways from 0600 to 2300 and through the increased number of departure routes. The increased number of departure routes also decreases the concentration of RNAV routes relative to the Base Case and Alternative 1.

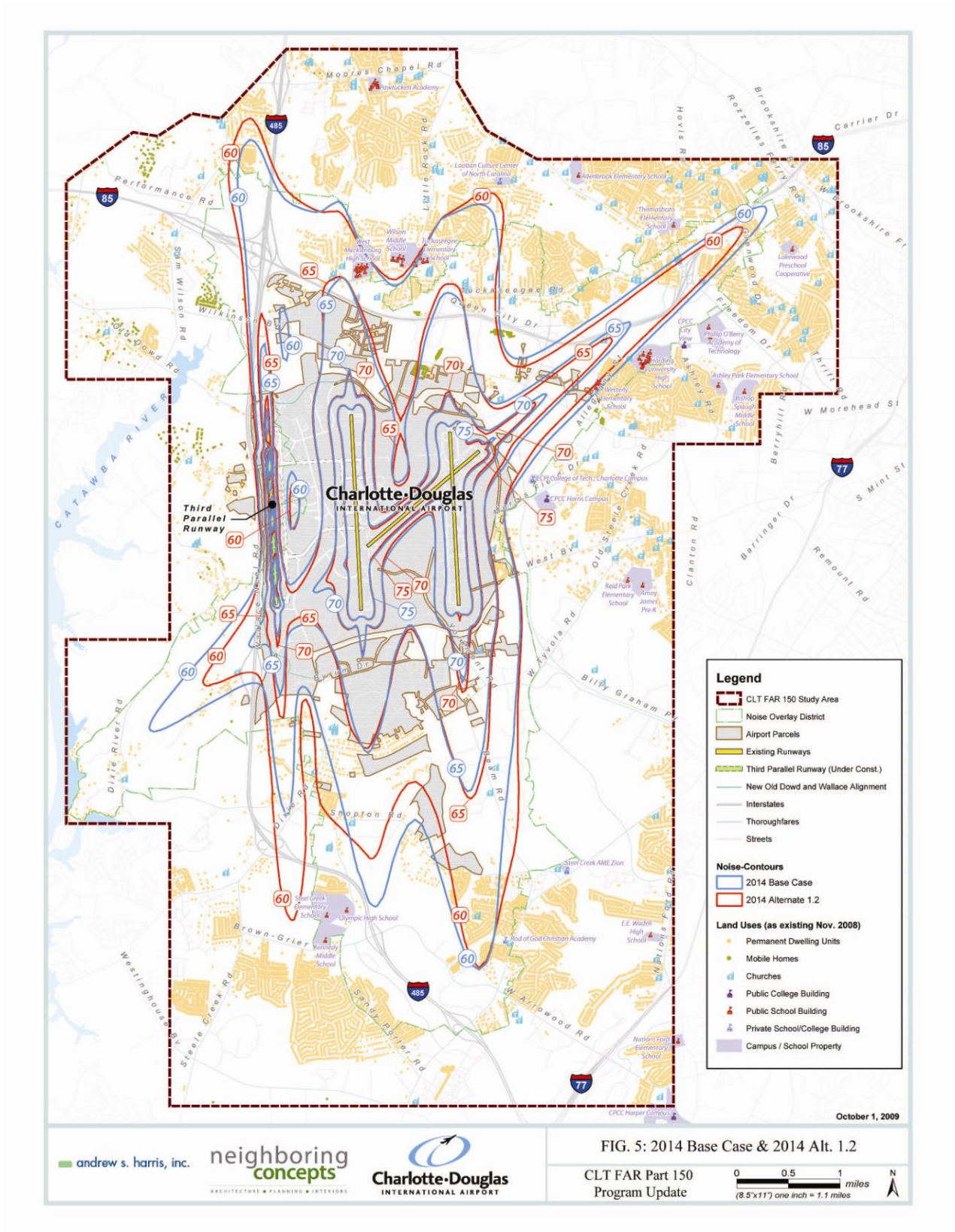

Charlotte-Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 1.2
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas INTERNATIONAL AIRPORT
FIG. 5: 2014 Base Case & 2014 Alt. 1.2
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

TABLE 12

Incompatible Land Uses
Future Conditions (2014) Alternative 1.2
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.43	1.65	0.13	0.01	9.21
Residents	5,835	203	0	0	6,038
Residences	2,153	88	0	0	2,241
Houses of Worship	27	4	0	0	31
Schools	3	0	0	0	3

2014 Alternative 2: Alternative 2 was the second alternative developed. The pattern of runway use for 4 runways as proposed by the FAA is used in Alternative 2 for the entire 24-hour day. Thus, there is no night-preferential runway use. Runway use for Alternative 2 is shown in Table 13. Departure routings are unchanged on the existing 3 runways and the routings from runway 18R/36L are parallel to routings from runway 18C/36C. Although it is assumed in this alternative that runway 18R/36L would be used at in the middle of the night, it is unlikely that the runway would actually be used from 2300 to 0600 because demand is low between 2300 and 0600 and runway 18R/36L is the most distant runway from the terminal building and other aircraft service areas. Nonetheless, this alternative has been evaluated, because it reflects unrestricted use of all runways 24 hours a day.

The noise exposure from this case is illustrated by Figure 6. For comparison, Figure 6 also shows the noise contours for the 2014 Base Case. Table 14 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for 2014 Alternative 2. The numbers of residences and residents exposed to DNL 65 and higher are 11 percent larger for 2014 Alternative 2 than for the 2009 Base Case and 59 percent larger than for the 2014 Base Case. Alternative 2 increases the daytime capacity through the availability of runway 18R/36L from 0600 to 2300. Like the 2014 Base Case, there is no increase in the number of departure routes other than the routes from runway 18R/36L. Thus there is no reduction in the concentration of RNAV departure routes.

TABLE 13

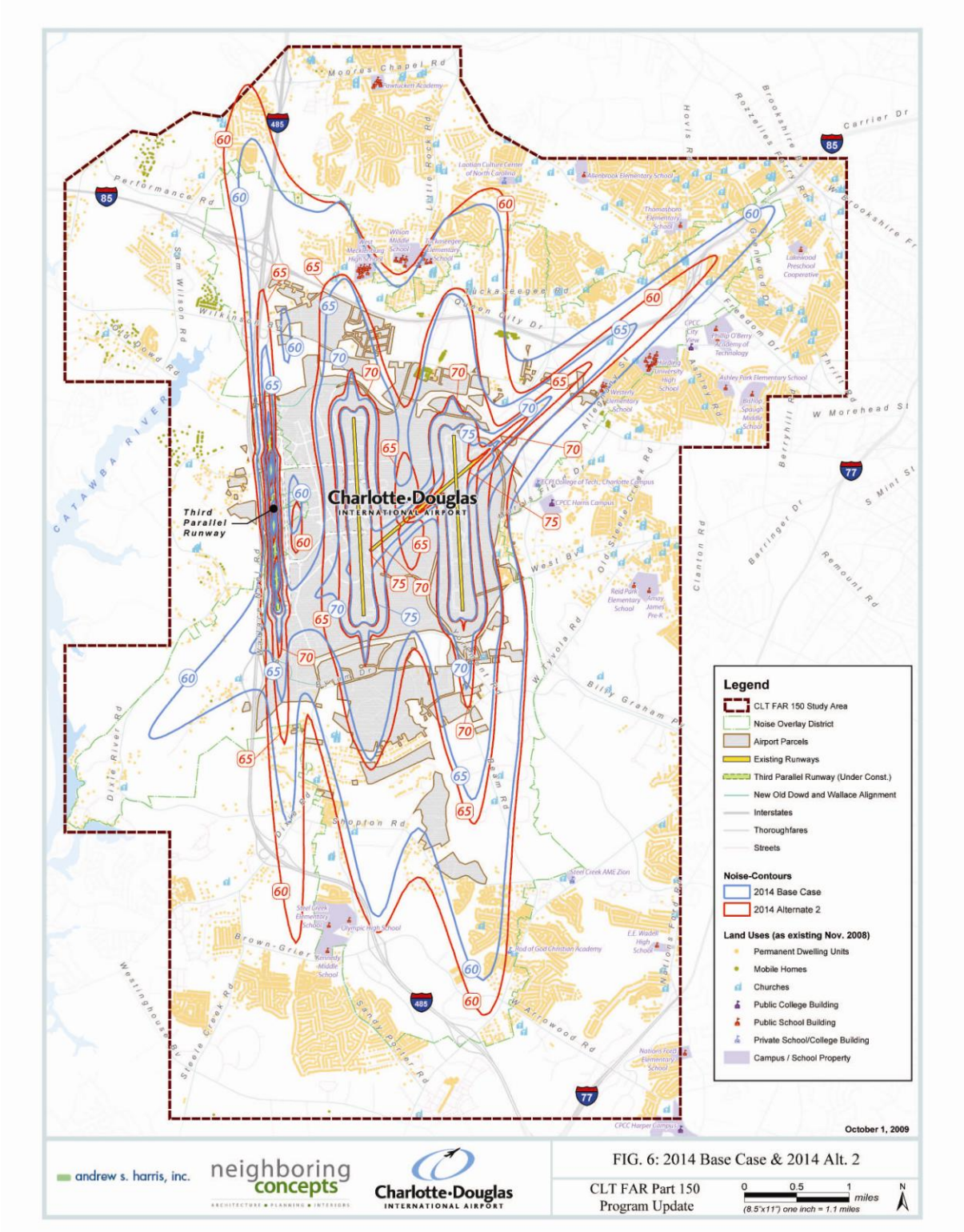
Future Condition (2014) Alternative 2 Runway Use
Passenger Jets
Charlotte-Douglas international Airport

Runway	DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
	Percentages of Departures			
5	0.0	0.0	0.0	0.0
18L	26.0	26.0	26.0	26.0
18C	26.0	26.0	26.0	26.0
23	0.0	0.0	0.0	0.0
36C	25.0	25.0	25.0	25.0
36R	22.0	22.0	22.0	22.0
18R	0.0	0.0	0.0	0.0
36L	1.0	1.0	1.0	1.0
Total	100.0	100.0	100.0	100.0
	Percentages of Arrivals			
5	0.0	0.0	0.0	0.0
18L	1.0	1.0	1.0	1.0
18C	5.2	5.2	5.2	5.2
23	25.0	25.0	25.0	25.0
36C	4.8	4.8	4.8	4.8
36R	21.6	21.6	21.6	21.6
18R	20.8	20.8	20.8	20.8
36L	21.6	21.6	21.6	21.6
Total	100.0	100.0	100.0	100.0

TABLE 14

Incompatible Land Uses
Future Conditions (2014) Alternative 2
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.74	1.71	0.13	0.01	9.59
Residents	6,232	280	0	0	6,511
Residences	2,305	117	0	0	2,422
Houses of Worship	23	6	0	0	29
Schools	2	0	0	0	2


Charlotte·Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 2
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte·Douglas INTERNATIONAL AIRPORT
FIG. 6: 2014 Base Case & 2014 Alt. 2
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

2014 Alternative 3: Alternative 3 was the third alternative developed. The daytime pattern of runway use for 4 runways is as proposed by the FAA used from 0600 to 2300 and the existing 3-runway daytime pattern of use is employed from 2300 to 0600. Runway use for Alternative 3 is shown in Table 15. Departure routings are unchanged on the existing 3 runways and the routings from runway 18R/36L are parallel to routings from runway 18C/36C.

The noise exposure from this case is illustrated by Figure 7. For comparison, Figure 7 also shows the noise contours for the 2014 Base Case. Table 16 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for 2014 Alternative 3. The numbers of residences and residents exposed to DNL 65 and higher are 32 percent larger for 2014 Alternative 3 than for the 2009 Base Case and 89 percent larger than for the 2014 Base Case. Alternative 3 increases the daytime capacity through the availability of runway 18R/36L from 0600 to 2300 and through achieving full availability of the original 3 runways in the existing pattern of daytime use from 2300 to 0600. Like the 2014 Base Case, there is no increase in the number of departure routes other than the routes from runway 18R/36L. Thus there is no reduction in the concentration of RNAV departure routes.

TABLE 15

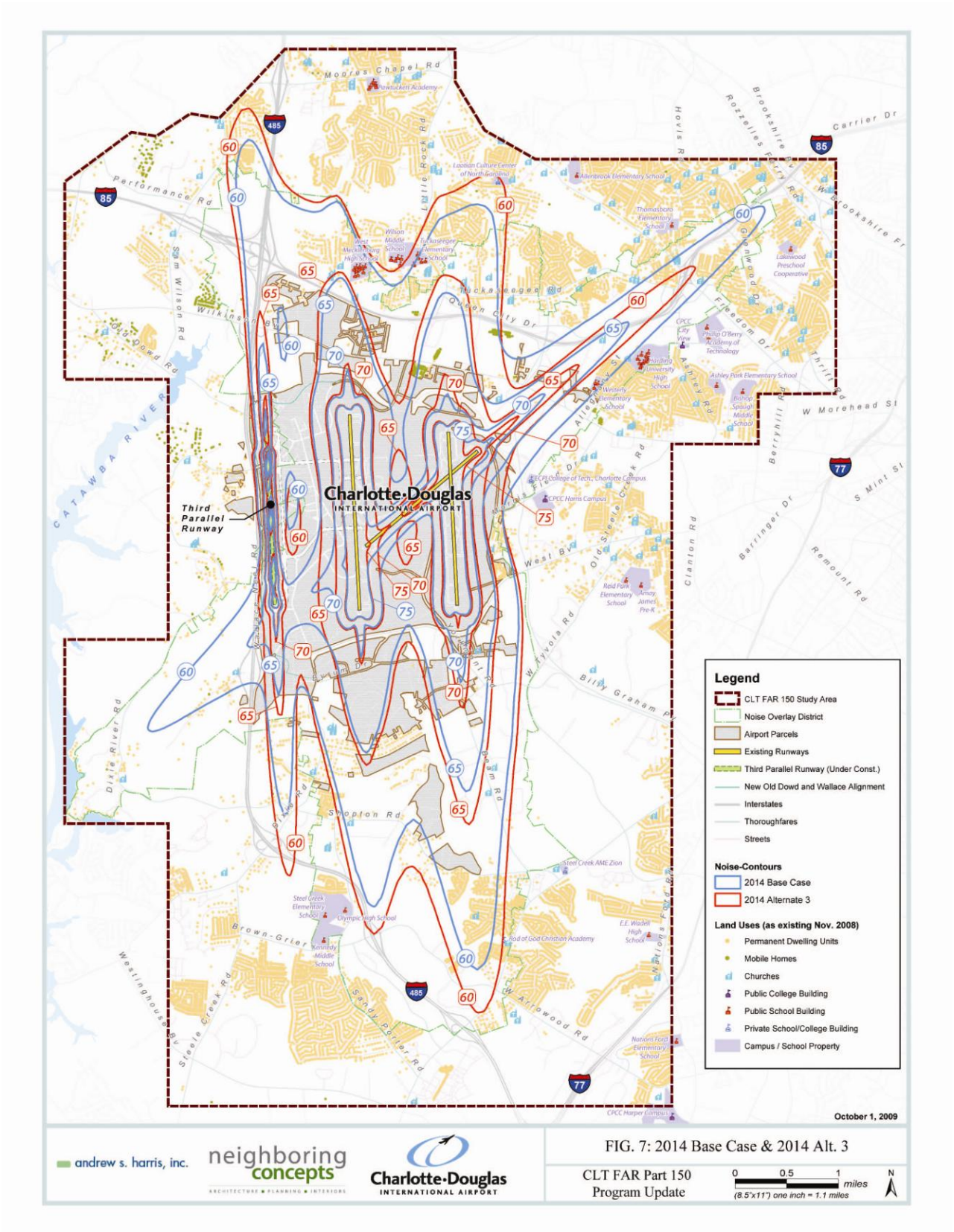
Future Condition (2014) Alternative 3 Runway Use
Passenger Jets
Charlotte-Douglas international Airport

Runway	DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
	Percentages of Departures			
5	0.0	0.0	0.5	0.0
18L	26.0	26.0	25.6	26.0
18C	26.0	26.0	28.2	26.0
23	0.0	0.0	<0.1	0.0
36C	25.0	25.0	26.5	25.0
36R	22.0	22.0	19.2	22.0
18R	0.0	0.0	0.0	0.0
36L	1.0	1.0	0.0	1.0
Total	100.0	100.0	100.0	100.0
	Percentages of Arrivals			
5	0.0	0.0	<0.1	0.0
18L	1.0	1.0	1.5	1.0
18C	5.2	5.2	27.5	5.2
23	25.0	25.0	23.9	25.0
36C	4.8	4.8	27.4	4.8
36R	21.6	21.6	19.6	21.6
18R	20.8	20.8	0.0	20.8
36L	21.6	21.6	0.0	21.6
Total	100.0	100.0	100.0	100.0

TABLE 16

Incompatible Land Uses
Future Conditions (2014) Alternative 3
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.54	1.75	0.14	0.01	9.45
Residents	6,288	329	3	0	6,620
Residences	2,321	136	1	0	2,458
Houses of Worship	21	8	0	0	29
Schools	2	0	0	0	2


Charlotte-Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 3
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas INTERNATIONAL AIRPORT
FIG. 7: 2014 Base Case & 2014 Alt. 3
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

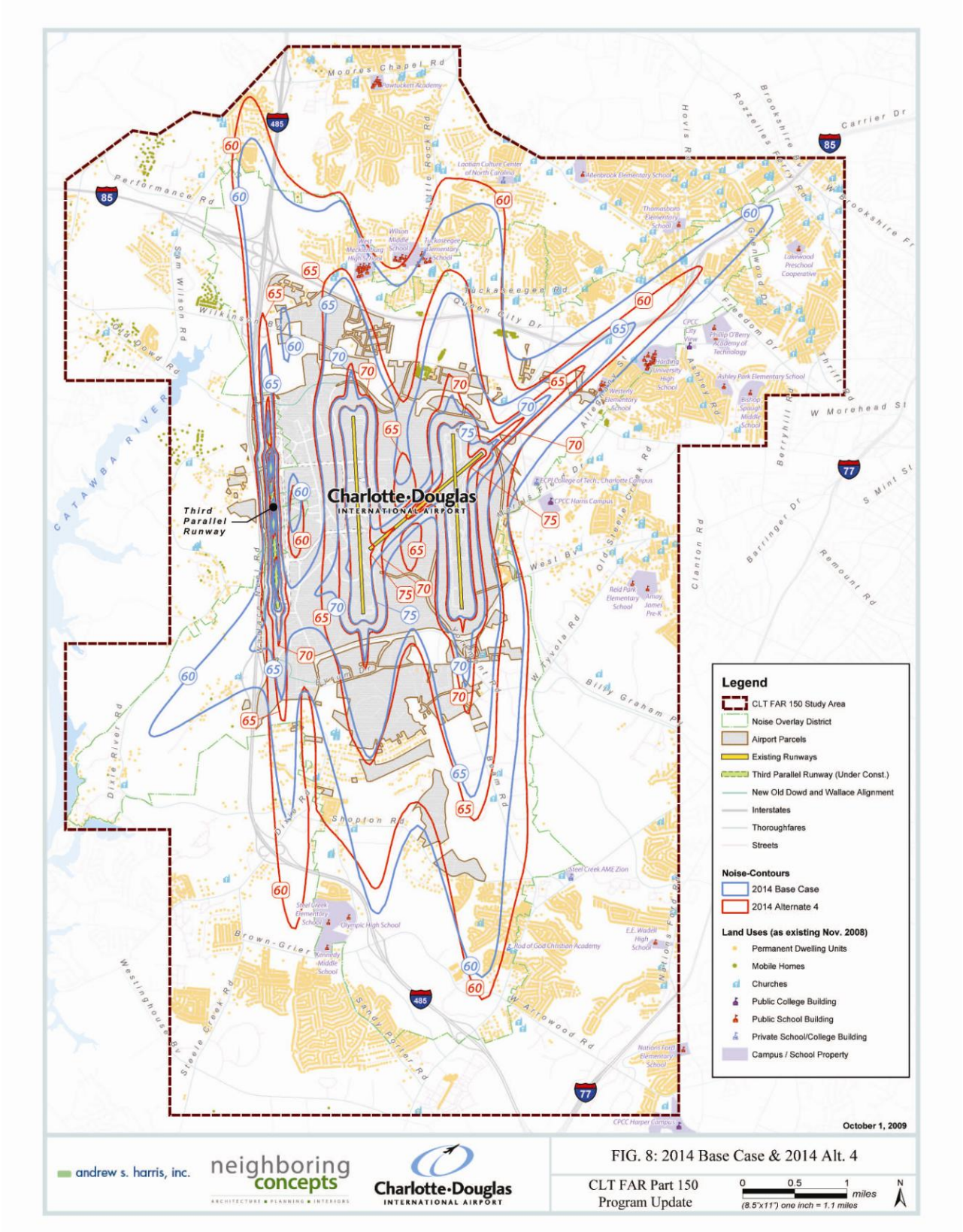
2014 Alternative 4: Alternative 4 was the fourth alternative developed. Alternative 4 has the same runway use as Alternative 3. (The daytime pattern of runway use for 4 runways is as proposed by the FAA used from 0600 to 2300 and the existing 3-runway daytime pattern of use is employed from 2300 to 0600.) For Alternative 4, an initial set of new departure routings is used on runways 18L/36R and 18C/36C and routings from runway 18R/36L parallel to the new routings from runway 18C/36C.

The noise exposure from this case is illustrated by Figure 8. For comparison, Figure 8 also shows the noise contours for the 2014 Base Case. Table 17 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for 2014 Alternative 4. The numbers of residences and residents exposed to DNL 65 and higher are 39 percent larger for 2014 Alternative 4 than for the 2009 Base Case and 99 percent larger than for the 2014 Base Case. Alternative 4 increases the daytime capacity through the availability of runway 18R/36L from 0600 to 2300, through achieving full availability of the original 3 runways in the existing pattern of daytime use from 2300 to 0600 and through the increased number of departure routes. The increased number of departure routes decreases the concentration of RNAV routes relative to the Base Case and all alternatives other than Alternatives 1.2 and 4.2.

TABLE 17

Incompatible Land Uses
Future Conditions (2014) Alternative 4
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.34	1.76	0.15	0.01	9.25
Residents	6,322	345	6	0	6,673
Residences	2,339	141	2	0	2,482
Houses of Worship	22	8	0	0	30
Schools	3	0	0	0	3


Charlotte·Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 4
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte·Douglas INTERNATIONAL AIRPORT
FIG. 8: 2014 Base Case & 2014 Alt. 4
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

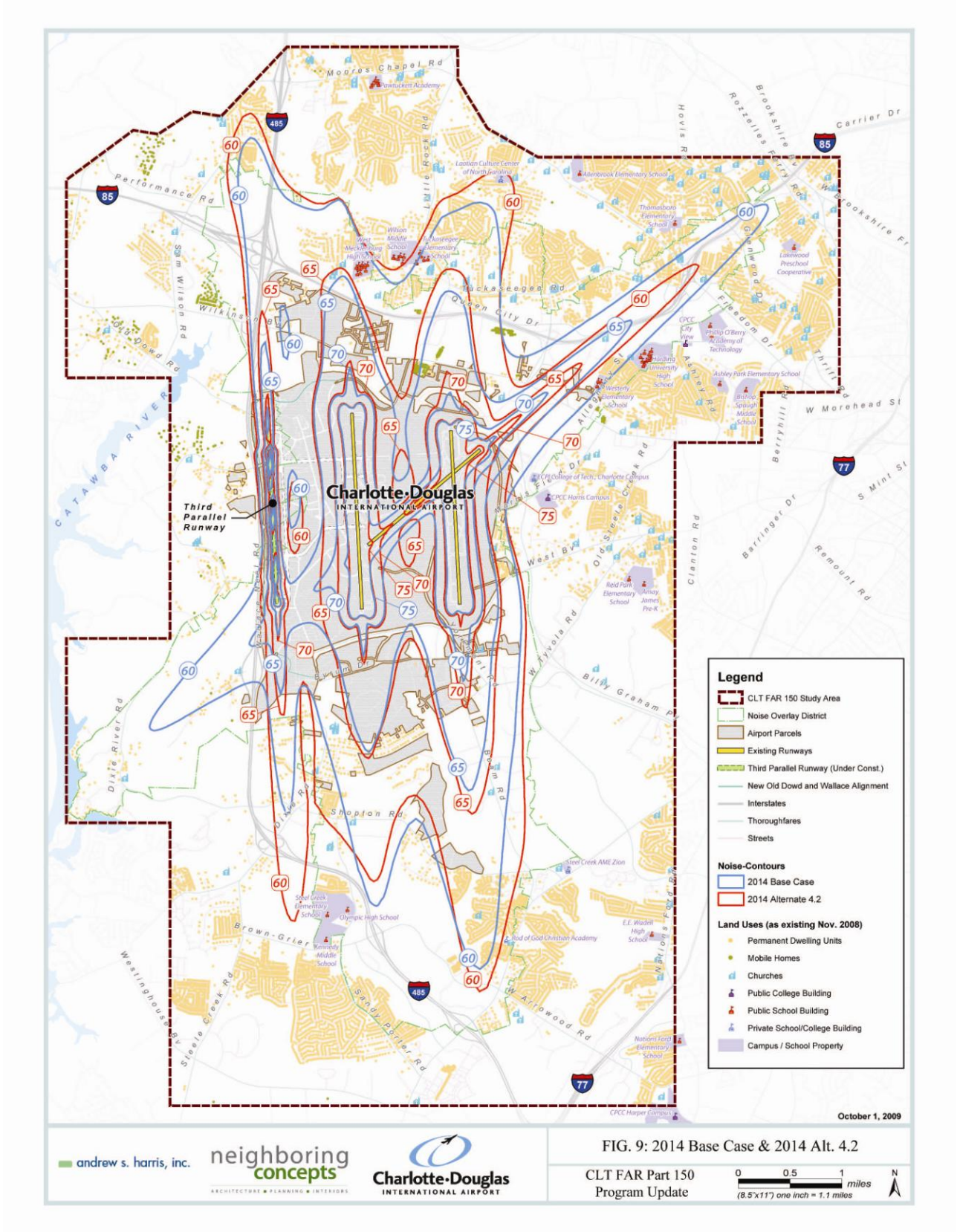
2014 Alternative 4.2: Runway use is as for Alternative 4 (The daytime pattern of runway use for 4 runways is as proposed by the FAA used from 0600 to 2300 and the existing 3-runway daytime pattern of use is employed from 2300 to 0600). As with Alternative 4, additional and revised routes are used runways 18L/36R, 18C/36C and 18R/36L. However, these routes differ slightly from the routes used in Alternative 4. The routes are identified in Table 11.

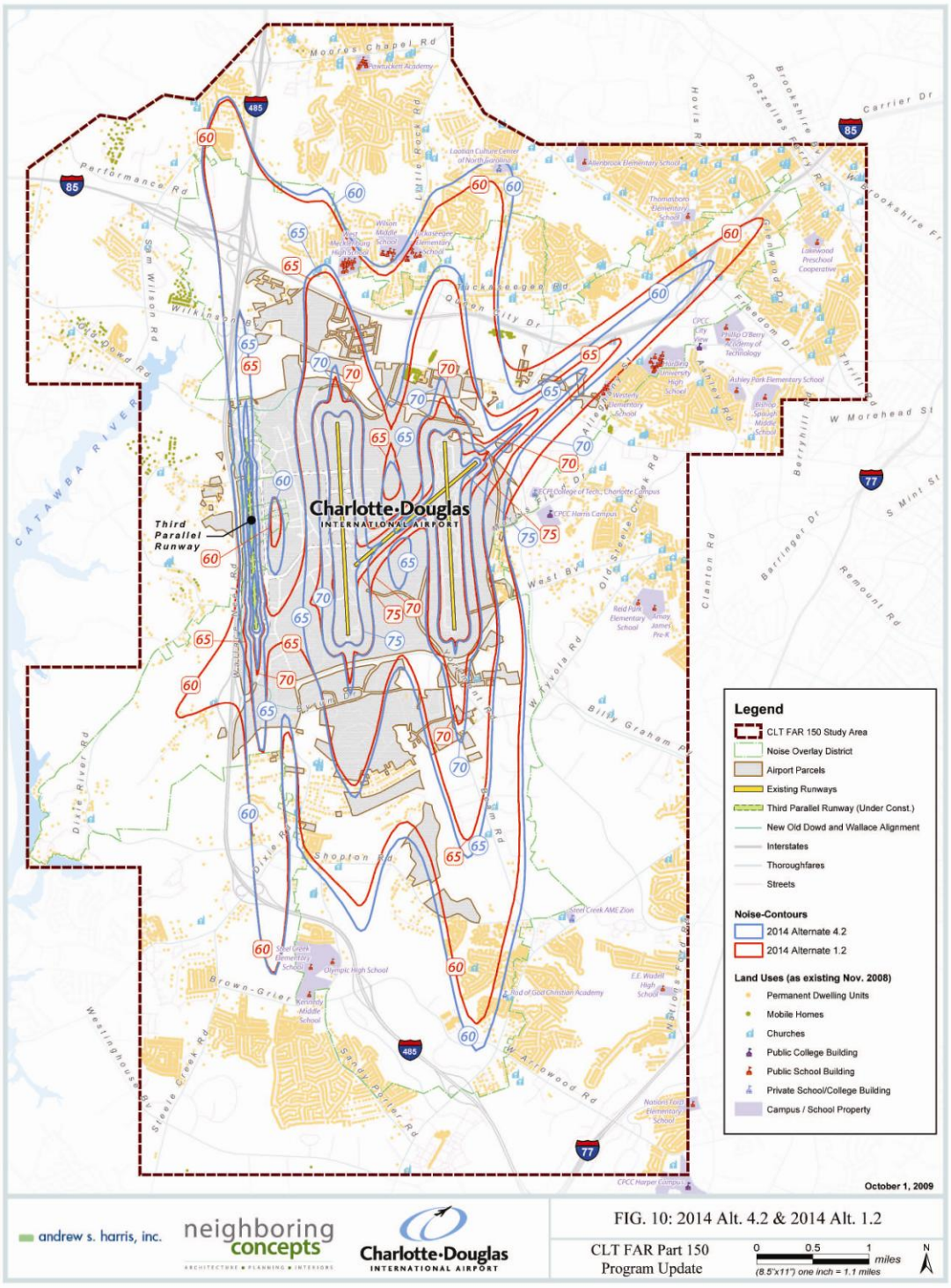
The noise exposure from this case is illustrated by Figure 9. For comparison, Figure 9 also shows the noise contours for the 2014 Base Case and Figure 10 shows the noise contours for Alternative 1.2 and Alternative 4.2. Table 18 shows the number of residences, residents, schools and places of worship within contours for DNL 60 and above along with land areas within the same contour for 2014 Alternative 4.2. The numbers of residences and residents exposed to DNL 65 and higher are 37 percent larger for 2014 Alternative 4 than for the 2009 Base Case and 96 percent larger than for the 2014 Base Case. The number of residences and residents is 59 percent larger for Alternative 4.2 than for Alternative 1.2. Alternative 4.2 increases the daytime capacity through the availability of runway 18R/36L from 0600 to 2300, through achieving full availability of the original 3 runways in the existing pattern of daytime use from 2300 to 0600 and through the increased number of departure routes. The increased number of departure routes decreases the concentration of RNAV routes relative to the Base Case and to all alternative other than Alternatives 1.2 and 4 (alternatives that both have the same number of additional departure routes as Alternative 4.2).

TABLE 18

Incompatible Land Uses
Future Conditions (2014) Alternative 4.2
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.29	1.76	0.15	0.01	9.20
Residents	6,226	339	6	0	6,571
Residences	2,302	139	2	0	2,443
Houses of Worship	21	9	0	0	30
Schools	3	0	0	0	3


Charlotte-Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Base Case
2014 Alternate 4.2
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas INTERNATIONAL AIRPORT
FIG. 9: 2014 Base Case & 2014 Alt. 4.2
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N


Charlotte·Douglas
INTERNATIONAL AIRPORT
Third Parallel Runway
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Third Parallel Runway (Under Const.)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 Alternate 4.2
2014 Alternate 1.2
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
October 1, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte·Douglas INTERNATIONAL AIRPORT
FIG. 10: 2014 Alt. 4.2 & 2014 Alt. 1.2
CLT FAR Part 150 Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

The only difference in runway use between Alternatives 1, 1.2, 2, 3, 4 and 4.2 is runway use during the middle of the night (2300 to 0600). This period has the least demand for capacity of any period. Only 3 percent of the operations occur between 2300 and 0600. Thus, runway capacity is not a major concern and all alternatives provide adequate capacity. However, runway usage during this period effects noise exposure significantly, because it is during the nighttime when residents are typically sleeping and night operations influence the areas of noise contours more than day operations. Furthermore, calculation of noise exposure for noise contours (DNL for Part 150 studies) treats noise from each flight operation between 2200 and 0700 as if it were 10 operations. The nighttime pattern of runway use places aircraft operations over less-populated areas to the southwest of the airport. For that reason, the alternatives that retain the existing nighttime restrictions from 2300 to 0600, the 2014 Base Case and 2014 Alternatives 1 and 1.2, have the lowest numbers of residences and residents in areas where DNL is 65 or greater. (This is also true for the numbers of residences and residents in areas where DNL is 60 or greater.)

Alternatives 1.2, 4 and 4.2 include increased numbers of departure routes from the three parallel runways. Increasing the number of departure routes from the parallel runways produces four changes relative to the conditions that prevail with the existing departure routes: (1) there is an increase in the overall airport capacity; (2) there is a slight increase in the number of residences and residents inside the DNL contours above 60 dB; (3) there is an increase in the dispersion of flight paths from departing aircraft; and (4) there are areas relatively close to the airport, particularly south of the airport, where the increase in departure routes places significant numbers of jet aircraft over areas that have not previously experienced frequent overflights such aircraft.

After review of the benefits and drawbacks associated with selection of the conditions provided by the 2014 Base Case and Alternatives 1 through 4.2, the City of Charlotte decided to adopt Alternative 1. This alternative will provide a beneficial improvement in airport capacity by making all 4 runways available in the optimum configuration from 0600 to 2300, the period when 97 percent of daily operations occur. The existing nighttime restrictions would remain in effect from 2300 to 0600. The nighttime restrictions allow fully adequate capacity for the 3 percent of daily operations that occur between 2300 and 0600. Departure routings will be unchanged on the existing 3 runways and the routings from runway 18R/36L will be parallel to routings from runway 18C/36C. As noted in the discussion of Alternative 1 above, the numbers of residences and residents exposed to DNL 65 and higher are smaller for 2014 Alternative 1 than for the 2009 Base Case and 6 percent larger than for the 2014 Base Case. The numbers of residences and residents exposed to levels of exposure between DNL 60 and DNL 65 is also 3 percent smaller for Alternative 1 than for 2009 and 3 percent larger than the 2014 Base Case. The number of residents and residences with Alternative 1 would be only about 2 percent of the number for the 1996 contours.

Alternative 1 would be implemented by changing the effective hours of nighttime procedures in Measure NA-5 from 11:00 p.m. to 7:00 a.m. to 11:00 p.m. into 6:00 a.m. to 11:00 p.m.

3.3.3 Proposed New Measures

Measures NM-3 and NM-7 provide for sound insulation residences, acquisition of residential property or acquisition of noise easements over residential property where the combined NCP/NEM for 1996 shows a DNL of 65 or greater. Between 1996 and 2009, the area within the DNL 65 contour has decreased significantly. The forecast contours for 2014 are also smaller in area than the 1996 contours. As a result of these decreases, updating Measures NM-3 and NM-7 to 2014 will keep the measures consistent with the changes in noise exposure, as required to retain the measures in the Updated NCP. However, when updated, the areas where Measures NM-3 and NM-5 would apply would be significantly reduced. While the Airport Overlay District would be protective of areas inside the 1996 DNL 65 contour, Measures NM-3 and NM-7 would not apply to large portions of the Airport Overlay District. Because the DNL 60 contour for 2014 with proposed revised measure NA-5 (incorporating the runway use from 2014 Alternative 1) is also similar in area to the 1996 NCP/NEM DNL 65 contour and the Airport Overlay Noise District, it is appropriate to add measures to the Updated NCP that apply the protection from Measures NM-3 and NM-7 to areas where the combined 2014 NCP/NEM is DNL 60 or greater. Such measures would retain protection of areas within the existing Airport Overlay District and would help to insure that the airport environs remain protected for possible noise exposure increases after 2014

Proposed Measure NM-10 (shown in Table 13) would apply the terms of Measure NM-3 to areas where the combined NCP/NEM for 2014 is DNL 60 or greater and Proposed Measure NM-11 (also in Table 13) would apply the terms of Measure NM-7 to areas where the combined NCP/NEM for 2014 is DNL 60 or greater.

3.3.4 Disposition of Existing Measures

This section contains detailed discussions of the proposed disposition of all 19 measures in the existing NCP and identifies any proposed changes in those measures.

Noise Abatement Measures

NA-1 – The existing measure involves quarterly noise measurements at numerous sites in the vicinity of the airport. Before the FAA ATCT ARTS system was replaced by STARS, Airport personnel used data recordings from the ATCT to analyze flight tracks and runway use. STARS data could not be processed by equipment owned by the City of Charlotte. Particularly because of the impending opening of runway 18R/36L, it is appropriate to add the capability to monitor flight tracks based on radar data from the FAA STARS system or from a passive radar system. This measure will be modified to be as shown below.

> NA-1 – Continue periodic monitoring procedures as initiated in the 1990 Part 150 NCP, within the Airport environs. Provide the capability to monitor flight tracks based on radar data from the FAA STARS system or from a passive radar system.

NA-2 & NA 3 – Measures not adopted. Numbers retained for continuity. No changes are proposed in these measures.

NA-4 – This measure mandated reporting late-night runway use to the FAA ATCT and frequent nighttime operators. It included follow-up with the FAA ATCT and carriers to enhance voluntary adherence to existing program. If the change in Measure NA-5 is approved by the FAA and adopted by the City of Charlotte, late-night runway use will not be a special concern. Nonetheless, Airport personnel should report monthly runway use to the FAA and comment on any variance from the assumptions in the NCP. If the change to measure NA-5 is approved and adopted, this measure is modified to be as shown below.

> NA-4 – Provide monthly reports on runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management and frequent nighttime operators. Conduct follow-up with FAA (ATCT) and carriers to enhance voluntary adherence to the runway use program.

NA-5 – This measure designated runways 18R and 18L is preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 7:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths. Runway Use Alternative 1, discussed in detail in Section 3.3.2, would be implemented by changing the effective hours of nighttime procedures in Measure NA-5 from 11:00 p.m. to 7:00 a.m. to 11:00 p.m. into 11:00 p.m. to 6:00 a.m. The proposed text of Measure NA-5 follows.

> NA-5 – Designate runways 18R and 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 6:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths.

NA-6 – This measure involves on-airport runup locations. It continues unchanged.

> NA-6 – Reaffirm airport user policy that designates locations and procedures for aircraft runups. Establish a runup position on the USAir ramp parallel to runway 5/23.

NA-7 – This measure addresses the DME for initial turns of runways 36C and 36R. This measure would be revise as shown below to reflect the new runway designations.

> NA-7 – Departing runways 36C and 36R, turbojet and large four-engine prop aircraft initiate turns at the 2.0 DME (36C) and 2.3 DME (36R) north of the CLT VOR/DME, respectively.

NA-8 – This measure addresses the initial departure turn for runway 18R. The approved text is as follows: "On construction of a third parallel runway west of Runway 18R/36L [future 18C/36C], establish an initial departure turn, as soon as practicable, by turbojets and four-engine prop aircraft to a heading of 195 degrees from Runway 17 [future 18R]." Based on input from personnel of the CLT ATCT during preparation of the proposed, Updated NCP, departures on runway 18R would follow the same procedure as departures on runway 18C. Furthermore, it is anticipated by personnel of the CLT ATCT that few aircraft will use runway 18R for departures unless one of the other parallel runways is out of service at the time. The proposed, revised departure procedure for 18R is as shown below.

> NA-8 – Departing runway 18R, turbojet and large four-engine prop aircraft initiate turns 2.0 NM from the departure end of the runway.

NA-9 – This measure addresses the initial departure turn for runway 18R. The approved text is as follows: "On construction of a third parallel runway west of Runway 18R/36L [future 18C/36C], establish an initial departure turn, as soon as practicable, by turbojets and four-engine prop aircraft to a heading of 315 degrees from Runway 35 [future 36L]." Based on input from personnel of the CLT ATCT during preparation of the proposed, Updated NCP, departures on this runway would follow the same procedure as departures on runway 36C. Furthermore, it is anticipated by personnel of the CLT ATCT that few aircraft will use runway 36R for departures unless one of the other parallel runways is out of service at the time. The proposed, revised departure procedure for 36L is as shown below.

> NA-9 – Departing runway 36L, turbojet and large four-engine prop aircraft initiate turns to 330 degrees at the 2.0 DME north of the CLT VOR/DME.

LU-1 – This measure addresses promotion of compatible land use planning. It will be updated to reflect the NEW NEM and NCP contours and proposed measures NM-10 and NM-11, measures that address areas where DNL is 60 and above.. This measure is modified to be as shown below.

> LU-1 – Promote compatible land use planning, within DNL 60 of combined 2009/2014 NEM and 2009/2014 NCP contours.

Land Use Measures

LU-2 through LU-6 – These Land Use Measures will continue unchanged, as shown below.

> LU-2 – Pursue zoning for compatible development.
>
> LU-3 –This measure was replaced by Measure LU-8.

LU-4 – Require dedication of avigation easement as a condition of approval for the development of property located in the Airport Environs.

LU- 5 and LU-6 – Measures not adopted. Numbers retained for continuity.

LU-7 – This measure, "to establish an Airport Overlay District that corresponds to the airport environs in which there will be special requirements relating to developing, rezoning, and transferring residential property", was partially adopted and consists of a map showing the affected area. The map is to be provided to potential buyers of residential property. Proposed changes to the measure would implement other aspects of the original measure. The proposed, revised measure is shown below.

LU-7 – Continue to support the existing Airport Overlay District and seek get adoption of special requirements relating to developing, rezoning, and transferring residential property within the Airport Overlay District.

LU-8 – This measure will continue unchanged, as shown below.

LU-8 – Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District.

LU-9 – This measure was approved as, "Provide a mechanism to notify potential purchasers of residences that they are in an area exposed to aircraft noise." The measure was implemented by the Airport Overlay District of Measure adopted under Measure LU-7. It should be supported by monitoring the extent that realtors are supplying information about the Airport Overlay District to potential buyers of residential property inside the district. The proposed, revised measure is shown below.

<u>Noise Mitigation Measures</u>

NM-1 – This measure continues unchanged, as shown below.

NM-1 – Continue the public information program to distribute noise and noise abatement information to the public.

NM-2 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

NM-2 – Continue sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour (land-use corrective Measure No. 2 of the 1990 NCP). The continuation of this measure is updated to include the 65 DNL for the combined 2009/2014 NCP/NEM contours and to provide for the voluntary participation of

noise-sensitive public buildings (e.g., schools and churches) in the recommended sound insulation program.

NM-3 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

> NM-3 – Sound insulate eligible houses located in the 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, which may be benefitted under FAA design criteria.

NM-4 – This measure is unchanged. The text is as below.

> NM-4 – This measure was replaced by the following current measures: NM-2, NM-3 and NM-6 through NM-9.

NM-5 – This measure is unchanged. The text is as below.

> NM-5 – This measure was completed through acquisition of properties where the use was not compatible with 75 DNL or greater.

NM-6 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

> NM-6 – Acquire mobile homes located in the 70 DNL contour of the 2009/2014 NCP/NEM, whichever is greater.

NM-7 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

> NM-7 – At the Airport's option, purchase avigation easements on, sound insulate, or acquire houses within the combined 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)

NM-8 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

> NM-8 – Sound insulate eligible houses within the 65 DNL contour of the 2009/2014 NCP/NEM (if any remain to be treated).

NM-9 – This measure continues. However, the reference noise contour is changed from 1996 to 2009/2014. The changed text is as shown below.

> NM-9 – Acquire mobile homes within the 65 DNL contour of the 2009/2014 NCP/NEM.

3.4 PROPOSED MEASURES IN UPDATED NCP

All proposed measures have been discussed fully in sections 3.3.2, 3.3.3 and 3.3.4. Section 3.4.1 contains the text of the proposed measures and Section 3.4.1 identifies implementation issues for the proposed measures.

3.4.1 Text of Measures for Proposed Updated NCP

Table 13 lists the measures that are recommended for inclusion in the Updated NCP. The recommended measures are in the three groups from the Existing NCP: (1) Noise Abatement Measures; (2) Land Use Measures; and (3) Noise Mitigation Measures. Notes indicate any changes from the Existing NCP.

Table 19

Measures for Proposed Updated NCP

	Noise Abatement Measures	
Measure	**Text**	**Notes**
NA-1	NA-1 – Continue periodic monitoring procedures as initiated in the 1990 Part 150 NCP, within the Airport environs. Provide the capability to monitor flight tracks based on radar data from the FAA STARS system or from a passive radar system.	Modified to provide capability to monitor flight tracks based on radar data acquisition from active or passive radar system.
NA-2 & NA 3	Measures not adopted. Numbers retained for continuity.	No change
NA-4	Provide monthly reports on runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management and frequent nighttime operators. Conduct follow-up with FAA (ATCT) and carriers to enhance voluntary adherence to existing program.	Modified to include all periods of the day.
NA-5	Designate runways 18R and 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 6:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths.	Modified to change the effective hours of this measure to reflect the conditions of Alternative 1.
NA-6	Reaffirm airport user policy that designates locations and procedures for aircraft runups. Establish a runup position on the USAir ramp parallel to runway 5/23.	No change
NA-7	Departing runways 36R and 36C, turbojet and large four-engine prop aircraft initiate turns at the 2.0 DME (36L) and 2.3 DME north of the CLT VOR/DME, respectively.	Identify runways as 36C and 36R.
NA-8	Departing runway 18R, turbojet and large four-engine prop aircraft initiate turns 2.0 NM from the departure end of the runway.	Modified to have aircraft remain on runway heading until 2 nautical miles from the end of the departure runway and identify runway as 18R.
NA-9	Departing runway 36L, turbojet and large four-engine prop aircraft initiate turns to 330 degrees at the 2.0 DME north of the CLT VOR/DME.	Modified heading to 330 degrees and identify new runway as 36L.

Table 19 (continued)

Measures for Proposed Updated NCP

	Land Use Measures	
Measure	**Description**	**Notes**
LU-1	Promote compatible land use planning, within 65 DNL of combined 2009/2014 NEM and 2009/2014 NCP contours.	Replaced "1996" with "2009/2014."
LU-2	Pursue zoning for compatible development.	No change
LU-3	Measure revoked. Number retained for continuity.	No change
LU-4	Require dedication of avigation easement as a condition of approval for the development of property located in the Airport Environs.	No change
LU-5 and LU-6	Measures not adopted. Numbers retained for continuity.	No change
LU-7	Continue to support the existing Airport Overlay District and seek get adoption of special requirements relating to developing, rezoning, and transferring residential property within the Airport Overlay District.	Changed to reflect adoption of Airport Overlay District.
LU-8	Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District.	No change
LU-9	Provide a mechanism to notify potential purchasers of residences that they are in an area exposed to aircraft noise.	No change . Implemented by Airport Overlay District of Measure LU-7.

Table 19 (continued)

Measures for Proposed Updated NCP

	Noise Mitigation Measures	
Measure	**Description**	**Notes**
NM-1	Continue the public information program to distribute noise and noise abatement information to the public.	No change
NM-2	Continue sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour (land-use corrective Measure No. 2 of the 1990 NCP). The continuation of this measure is updated to include the 65 DNL for the combined 2009/2014 NCP/NEM contours and to provide for the voluntary participation of noise-sensitive public buildings (e.g., schools and churches) in the recommended sound insulation program.	Replaced "1996" with "2009/2014."
NM-3	Sound insulate eligible houses located in the 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, which may be benefitted under FAA design criteria. Update area of consideration.	Replaced "1996" with "2009/2014."
NM-4	This measure was replaced by the following current measures: NM-2, NM-3 and NM-6 through NM-9.	No change
NM-5	This measure was completed through acquisition of properties where the use was not compatible with 75 DNL or greater.	No change
NM-6	Acquire mobile homes located in the 70 DNL contour of the 2009/2014 NCP/NEM, whichever is greater.	Replaced "1996" with "2009/2014."
NM-7	At the Airport's option, purchase avigation easements on, sound insulate, or acquire houses within the combined 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)	Replaced "1996" with "2009/2014."
NM-8	Sound insulate eligible houses within the 65 DNL contour of the 2009/2014 NCP/NEM (if any remain to be treated).	Replaced "1996" with "2009/2014."
NM-9	Acquire mobile homes within the 65 DNL contour of the 2009/2014 NCP/NEM.	Replaced "1996" with "2009/2014."

Table 19 (continued)

Measures for Proposed Updated NCP

	Noise Mitigation Measures (continued)	
Measure	**Description**	**Notes**
NM-10	Sound insulate eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM whichever is greater.	New measure. Expands the region for Measure NM-3 to area where DNL is 60 dB or above.
NM-11	At the Airport's option, purchase avigation easements on, sound insulate, or acquire eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)	New measure. Expands the region for Measure NM-7 to area where DNL is 60 dB or above.

3.4.2 Implementation of Measures for Proposed Updated NCP

This section provides information related to implementation of the measures in the proposed Updated NCP. The information addresses the following aspect for each measure:

- Responsible Party – The entity responsible for implementation of the measure
- Cost to the Airport – The estimated cost to the City of Charlotte for implementation of the measure
- Cost to Local Governments – The estimated cost to local governments other than the City of Charlotte for implementation of the measure
- Cost to Users – The estimated cost to users for implementation of the measure

Table 14 presents the implementation information.

TABLE 20 **IMPLEMENTATION OF MEASURES IN UPDATED NCP**

Measure	Responsible Party	Cost to Airport	Cost to Other Local Governments	Cost to Users	Implementation Target
NA-1 – Continue periodic monitoring procedures as initiated in the 1990 Part 150 NCP, within the Airport environs. Provide the capability to monitor flight tracks based on radar data from the FAA STARS system or from a passive radar system.	City of Charlotte Department of Aviation	Will be in final draft	None	None	Continuing Measure
NA-4 – Provide monthly reports on runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management and frequent nighttime operators. Conduct follow-up with FAA (ATCT) and carriers to enhance voluntary adherence to existing program.	City of Charlotte Department of Aviation	Will be in final draft	None		Continuing Measure
NA-5 – Designate runways 18R and 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 6:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths.	ATCT Management at CLT Tower	None	None	Minimal	Continuing Measure
NA-6 – Reaffirm airport user policy that designates locations and procedures for aircraft runups. Establish a runup position on the USAir ramp parallel to runway 5/23.	City of Charlotte Department of Aviation	None	None	None	Continuing Measure
NA-7 – Departing runways 36R and 36C, turbojet and large four-engine prop aircraft initiate turns at the 2.0 DME (36L) and 2.3 DME north of the CLT VOR/DME, respectively.	ATCT Management at CLT Tower	None	None	None	Continuing Measure

TABLE 20 **IMPLEMENTATION OF MEASURES IN UPDATED NCP**

Measure	Responsible Party	Cost to Airport	Cost to Other Local Governments	Cost to Users	Implementation Target
NA-8 – Departing runway 18R, turbojet and large four-engine prop aircraft initiate turns 2.0 NM from the departure end of the runway.	ATCT Management at CLT Tower	None	None	None	Upon opening of runway
NA-9 – Departing runway 36L, turbojet and large four-engine prop aircraft initiate turns to 330 degrees at the 2.0 DME north of the CLT VOR/DME.	ATCT Management at CLT Tower	None	None	None	runway
LU-1 – Promote compatible land use planning, within 65 DNL of combined 2009/2014 NEM and 2009/2014 NCP contours.	Charlotte City Council Charlotte-Mecklenburg Planning	Administrative Costs	Administrative Costs	None	Continuing Measure
LU-2 – Pursue zoning for compatible development.	Charlotte City Council Charlotte-Mecklenburg Planning	Administrative Costs	None	None	Continuing Measure
LU-4 – Require dedication of avigation easement as a condition of approval for the development of property located in the Airport Environs.	Charlotte City Council Department of Aviation Airport Attorney	Administrative Costs	None	None	Continuing Measure
LU-7 – Continue to support the existing Airport Overlay District and seek get adoption of special requirements relating to developing, rezoning, and transferring residential property within the Airport Overlay District.	Department of Aviation	Administrative Costs	None	None	Continuing Measure

TABLE 20 **IMPLEMENTATION OF MEASURES IN UPDATED NCP**

Measure	Responsible Party	Cost to Airport	Cost to Other Local Governments	Cost to Users	Implementation Target
LU-8 – Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District.	Charlotte City Council Charlotte-Mecklenburg Planning	Administrative Costs	None	None	Continuing Measure
LU-9 – Provide a mechanism to notify potential purchasers of residences that they are in an area exposed to aircraft noise.	Department of Aviation	Administrative Costs	None	None	Continuing Measure
NM-1 – Continue the public information program to distribute noise and noise abatement information to the public.	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-2 – Continue sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour (land-use corrective Measure No. 2 of the 1990 NCP). The continuation of this measure is updated to include the 65 DNL for the combined 2009/2014 NCP/NEM contours and to provide for the voluntary participation of noise-sensitive public buildings (e.g., schools and churches) in the recommended sound insulation program.	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-3 – Sound insulate eligible houses located in the 65 DNL contour of the 12009/2014 NCP/NEM, whichever is greater, which may be benefitted under FAA design criteria.	Department of Aviation	Will be in final draft	None	None	Continuing Measure

TABLE 20 **IMPLEMENTATION OF MEASURES IN UPDATED NCP**

Measure	Responsible Party	Cost to Airport	Cost to Other Local Governments	Cost to Users	Implementation Target
NM-6 – Acquire mobile homes located in the 70 DNL contour of the 2009/2014 NCP/NEM, whichever is greater.	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-7 – At the Airport's option, purchase avigation easements on, sound insulate, or acquire houses within the combined 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-8 – Sound insulate eligible houses within the 65 DNL contour of the 2009/2014 NCP/NEM (if any remain to be treated).	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-9 – Acquire mobile homes within the 65 DNL contour of the 2009/2014 NCP/NEM.	Department of Aviation	Will be in final draft	None	None	Continuing Measure
NM-10 – Sound insulate eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM whichever is greater.	Department of Aviation	Will be in final draft	None	None	When approved by FAA

TABLE 20 **IMPLEMENTATION OF MEASURES IN UPDATED NCP**

Measure	Responsible Party	Cost to Airport	Cost to Other Local Governments	Cost to Users	Implementation Target
NM-11 – At the Airport's option, purchase avigation easements on, sound insulate, or acquire eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.)	Department of Aviation	Will be in final draft	None	None	When approved by FAA

3.5 FINAL 2014 NOISE EXPOSURE MAP WITH NCP

The final Noise Exposure Map for 2014 is based on the updated operations forecast as shown in Table 15 and implementation of Alternative 1, as discussed fully in Section 3.3.2. Figure 10 shows the Final 2014 DNL contours for Alternative 1 (with the Updated NCP) in comparison with the Final 2014 DNL contours for the 2014 Base Case (without the Updated NCP). Figure 11 shows the final NEM for 2014 with the NCP. (i.e. the Alternative 1 contours by themselves, without the inclusion of the base case contours.) Table 16 shows the incompatible land uses for 2014 with the Updated NCP.

Table 15

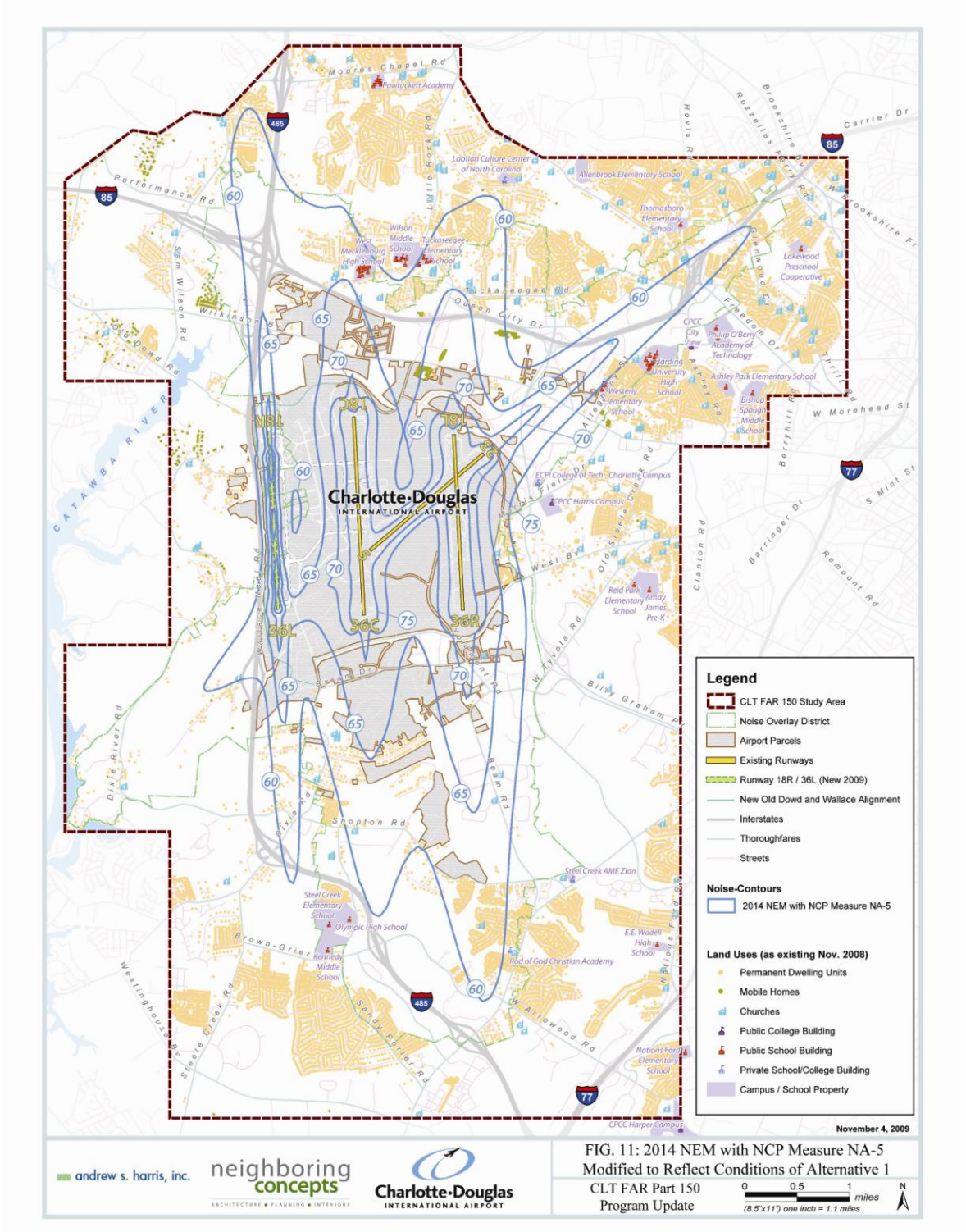
Future Condition (2014) Annual Average Daily Aircraft Operations
Charlotte-Douglas International Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	605.44	5.96	10.60	30.19	652.19	568.82	58.27	1.66	23.44	652.19
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.75	5.87	0.00	0.00	71.62
Cargo Jet	1.74	0.07	1.62	1.54	4.97	1.26	2.45	1.22	0.04	4.97
GA Jet	40.67	6.68	10.07	2.24	59.67	41.08	1.65	13.26	3.67	59.66
GA Prop	14.11	2.14	4.41	0.00	20.66	14.72	0.30	5.09	0.54	20.66
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	729.97	14.85	26.70	40.20	811.72	694.24	68.54	21.23	27.69	811.71

TABLE 16

Incompatible Land Uses
Future Conditions (2014) NEM with Updated NCP
Charlotte-Douglas International Airport

Incompatible Uses	DNL 60-65	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	7.61	1.64	0.13	0.01	9.38
Residents	5,942	186	0	0	6,128
Residences	2,191	81	0	0	2,272
Houses of Worship	27	4	0	0	31
Schools	3	0	0	0	3


Charlotte·Douglas
INTERNATIONAL AIRPORT
Legend
CLT FAR 150 Study Area
Noise Overlay District
Airport Parcels
Existing Runways
Runway 18R / 36L (New 2009)
New Old Dowd and Wallace Alignment
Interstates
Thoroughfares
Streets
Noise-Contours
2014 NEM with NCP Measure NA-5
Land Uses (as existing Nov. 2008)
Permanent Dwelling Units
Mobile Homes
Churches
Public College Building
Public School Building
Private School/College Building
Campus / School Property
November 4, 2009
andrew s. harris, inc.
neighboring concepts
Charlotte·Douglas
INTERNATIONAL AIRPORT
FIG. 11: 2014 NEM with NCP Measure NA-5
Modified to Reflect Conditions of Alternative 1
CLT FAR Part 150
Program Update
0 0.5 1 miles
(8.5"x11") one inch = 1.1 miles
N

APPENDIX A:

DESCRIPTION OF NOISE ANALYSES AND LAND USE ANALYSES

APPENDIX A

DESCRIPTION OF NOISE ANALYSES AND LAND USE ANALYSES

1 INTRODUCTION

This Appendix presents details from the Updated Operations Forecast and the other material used to develop the noise exposure maps and estimates of noise-sensitive land uses and populations within the noise contours that are shown on the maps. The material came from several sources, including records kept by the airport and analyses undertaken specifically for this study.

Section 2 contains basic information on the noise metric and the noise modeling in this study and also discusses the noise measurements that were made around the airport as a part of the study.

Section 3 contains detailed operations information for the NEM noise exposure contours for 2009 and 2014 base case conditions. Noise contours represent the noise exposure in terms of the Day-Night Average Sound Level for a yearly-average day. Contour lines identify the locations where the DNL value is 60, 65, 70 and 75 decibels (dB). FAR Part 150 requires information in the range from DNL 65 to DNL 75. The report also provides information for DNL 60, because two measures proposed in the NCP apply to areas where DNL is 60 and above. The base case contours for 2009 show conditions based on existing operations and procedures (2006) including the measures in the existing NCP.. The base case 2014 contours show the noise exposure projected for the future, five years after preparation of the study, without any changes in the existing NCP.

Section 4 provides detailed operations information used in developing the 2014 NEM noise exposure contours for the Proposed Updated Noise Compatibility Program and in the analysis of alternative operational scenarios for 2014.

Section.5 reviews the methods used to develop base maps and provides land use compatibility information.

2 NOISE METRIC, NOISE MODEL AND NOISE MEASUREMENTS

2.1 Noise Metric

FAR Part 150 requires that noise exposure maps be based on the Day-Night Average Sound Level (DNL) for a yearly average day. The U.S. Environmental Protection Agency developed DNL in response to the requirements of the Noise Control Act of 1972. DNL is defined as the average A-weighted sound level during a 24-hour period with a 10-dB penalty applied to events which occur at night 10:00 P.M. to 7:00 A.M. In conformity with the requirements of Part 150, this study has used DNL contours to measure noise exposure.

2.2 Noise Model

All noise contours in this study were prepared with the FAA's Integrated Noise Model (INM) Version 7.0a. The INM simulates the operation of an airport for the period of interest (typically a year). The primary output from the INM is DNL contours. The FAA office of environment and energy (AEE) approved aircraft substitutions for aircraft that do not individually appear in the INM database,. The approval letter is shown in Figure A-0.

2.3 Noise Measurements

2.3.1 Introduction

Part 150 does not require on-site measurements. However, Part 150 studies often include measurements of the noise environment in the vicinity of the airport. The Aviation Department has made quarterly measurements at a number of locations in the vicinity of the airport since 1989. The measurement period at each sited during each quarter is typically 2 weeks.

Part 150 does not permit use of on-site measurements to calibrate noise modeling at individual airports and the noise measurements reported here were not used to calibrate the modeling. Values in the noise model are based on large-scale measurement programs associated with aircraft certification. Nonetheless, longitudinal noise measurements such as those near Charlotte-Douglas International Airport provide useful information on the total noise environment from aircraft operations, highways and other community noise sources from year to year and over the twenty years since the measurement program began. Figure A-2 shows the 2009 NEM contours with measurement locations.

Figure A-0

FAA-AEE Letter Approving Aircraft Substitutions

U.S. Department of Transportation
Federal Aviation Administration

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

March 23, 2009

Dana Perkins
Federal Aviation Administration
Atlanta Airports District Office
1701 Columbia Avenue
Campus Building, Suite 2-260
College Park, Georgia 30337

Dear Ms. Perkins,

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard Integrated Noise Model (INM) aircraft substitutions for the FAR Part 150 Update for Charlotte-Douglas International Airport (CLT).

Harris Miller Miller & Hanson Inc. (HMMH), assisting Andrew S. Harris, Inc. and the City of Charlotte, North Carolina, has proposed substitutions for twelve aircraft types that currently do not have standard substitutions in the INM aircraft database. The proposed substitutions and the corresponding AEE recommendations are summarized in the table below.

Aircraft	HMMH Proposed Substitution	AEE Recommendation
Embraer 170 RJ	A319-131	Concur
Embraer 190 RJ	A319-131	Concur
Fairchild/Dornier 328 RJ	CL600 w/ spectral class 102	Concur
McDonnell Douglas DC-8-60 (Stage 3)	DC86QN w/DC870 NPD + 4 dB	Concur
Dassault Falcon 7X	F10062	Concur
Bombardier Challenger 300	CL601	CL600
Cessna Citation Sovereign 680	CL601	LEAR35
Eclipse 500	CNA510	Concur
Bombardier Global Express	GV	Concur
Gulfstream 150	LEAR35	Concur
IAI 1126 Galaxy/Gulfstream 200	CL601	Concur
Beechcraft 390 Premier I	CNA500	Concur

AEE concurs with all but two of the proposed aircraft substitutions. AEE recommends the Bombardier Challenger 300 be modeled with the INM CL600, rather than the proposed CL601. Although the CL601 appears to be a better match when comparing noise data at all three certification points, it should be noted that both the CL601 and CL600 noise certification data at the flyover point are for full power takeoff. The Bombardier Challenger 300 data at the flyover point is for a takeoff with cutback, making it difficult to compare the aircraft at the flyover point. The sideline certification value for the CL600 is higher than that of the Challenger 300, whereas the CL601 sideline value is lower than the Challenger 300. AEE prefers to model aircraft substitutions conservatively, therefore we recommend the CL600.

AEE also recommends that the Cessna Citation Sovereign 680 be modeled with the INM LEAR35, rather than the proposed CL601. The Lear 35 (with cutback on the flyover point) is a better match than the CL601 on all three noise certification points.

Please understand that this approval is limited to this particular Part 150 update for CLT. Any additional projects or non-standard INM input at CLT or any other site will require separate approval.

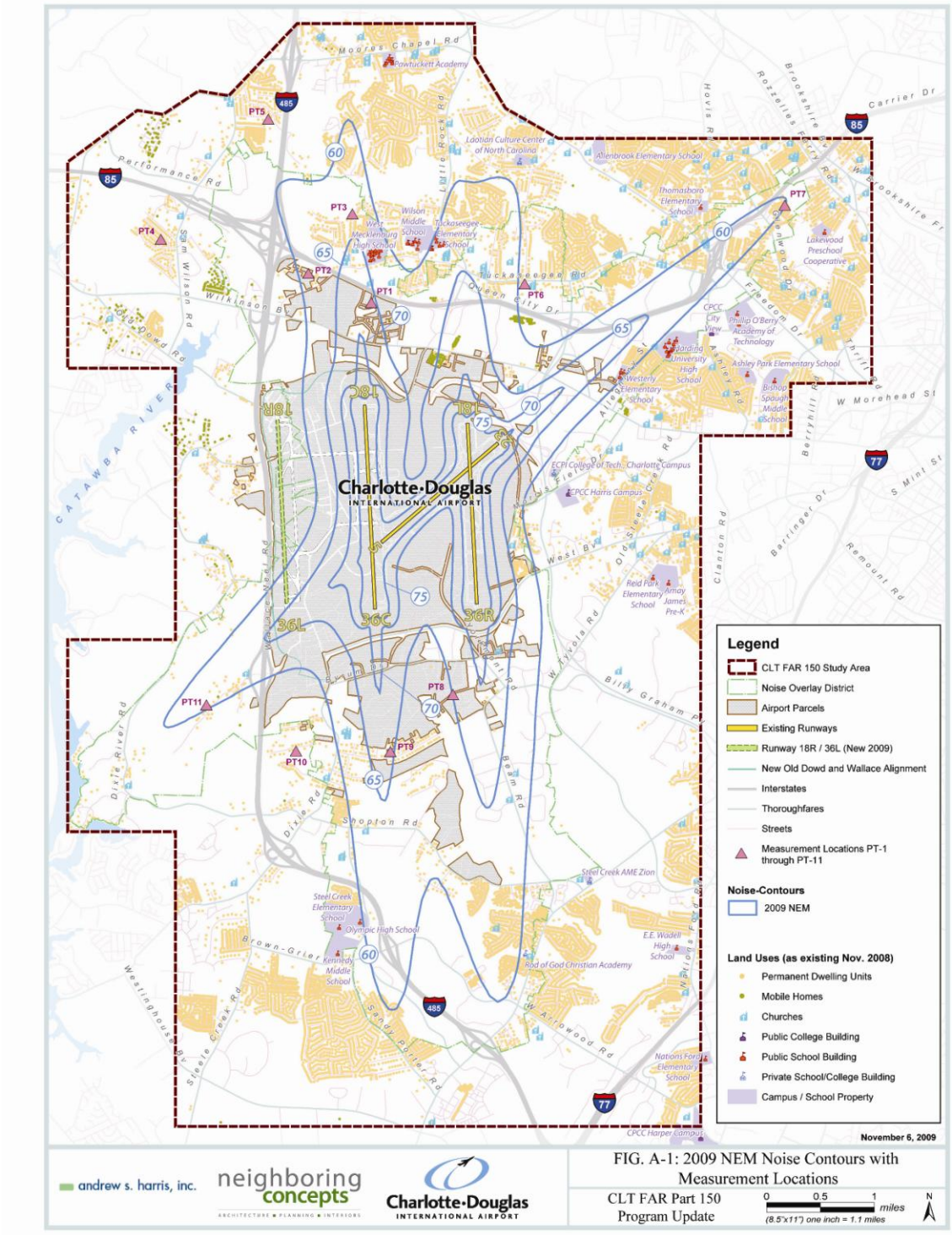
Sincerely,

Raquel Girvin, Ph.D.
Manager
AEE/Noise Division

cc: Jake Plante

Figure A-1

2009 NEM Noise Contours
with Measurement Locations



2.3.2 Measurement Results

Personnel of the Aviation Department measure for a week at each of the measurement sites four times a year, so that each season is represented. While most of the measurement sites have been used for nearly 20 years, some sites were added or deleted over the period Table A-1 shows the annual average values of DNL at each measurement site. Figures A-2 and A-3 present line graphs of the annual-average DNL values for each year of measurements. The noise exposure at the measurement sites has been decreasing over the two decades of measurements, even though there have been year-to-year increases during the period. Although many sites had DNL values between 70 dB and 75 dB at the beginning of the measurements, nearly al of the sites had DNL values below 65 dB in 2008.

Table A-1

Measurements in Airport Vicinity - 1987 – 2008
Charlotte-Douglas International Airport

Location	2001 Contour Values	2008 Measurements	2007 Measurements	2006 Measurements	2005 Measurements	2004 Measurements	2003 Measurements	2002 Measurements	2001 Measurements
Farrhill Road - PT-4	**<65**	**47.6**	41.1	54.7	51.7	50	57.8	59.6	59.7
Garrsion Road - PT-11	**70**				66.4	67.6	66.7	66.6	66.8
McAlpine Drive - PT-9	**68**	**67.2**	**66.4**	67	63.9	63.3	65.6	65.8	66.0
Moores Lake Drive - PT-1	**66**	**65.3**	**63.5**	62.2	62	62.9	66.6	68	69.0
Tillman Road	**<65**				63.5	59.7	66.6	66.2	67.5
Todd Road - PT-2	**68**			55.3	57.5	57.2	69.4	68.6	69.9
Tuckaseegee Road - PT-6	**<65**	**61.3**	58.6	59.7	58.5	60.6	64.9	63.9	64.6
Whippoorwill Drive - PT-8	**67**	**64.6**	**63.5**	64	64.7	64.3	65.4	64	65.7
Westerwood Lane - PT-3	**<65**	**64.1**	64.2	64.4	64.1	61.3	63.6	64.3	65.7
Wildwood - PT-5	**<65**	**59.9**	59.9	57.5	57.1	59.3	61.8	61.4	60.2
Snow Creek Lane	**<65**								
Markswood - PT- 10	**<65**	**53.2**	**59**	61.2	61.3				
Garrison Road (new)	**<65**	**62.3**	**63.1**						
Dewolfe Street - PT-7	-65	61.3	61.7	60.2					

Location	1997 Measurements	1996 Contour Values	1996 Measurements	1995 Measurements	1994 Contour Values	1994 Measurements	1993 Measurements	1992 Measurements	1991 Measurements
Farrhill Road - PT-4	61.4	***<65***	62.0	59.9	***<65***	60.6	61.5	61.9	62.4
Garrsion Road - PT-11	69.9	***71.0***	70.6	71.2	***72.5***	71.5	69.5	70.0	71.6
McAlpine Drive - PT-9	70.1	***73.5***	70.1	70.8	***72.1***	71.4	70.4	71.0	72.1
Moores Lake Drive - PT-1	69.0	***70.0***	69.0	69.0	***69.0***	68.3	68.1	67.9	69.1
Tillman Road	67.2	***65.0***	66.7	66.3	***72.0***	68.2	67.0	66.7	67.5
Todd Road - PT-2	69.7	***69.0***	69.4	69.8	***72.5***	69.9	69.2	70.8	71.5
Tuckaseegee Road - PT-6	69.6	***68.0***	68.7	67.8	***69.0***	67.3	67.7	67.9	70.1
Whippoorwill Drive - PT-8	68.9	***74.0***	68.5	69.5	***68.0***	69.2	69.1	69.0	70.0
Westerwood Lane - PT-3	65.8	***65.0***	64.6		***66.0***				
Wildwood - PT-5	60.2	***<65***			***67.0***				
Snow Creek Lane	66.5	***67.0***			***67.5***				
Markswood - PT- 10					***<65***				
Garrison Road (new)									
Dewolfe Street - PT-7									

Figure A-2

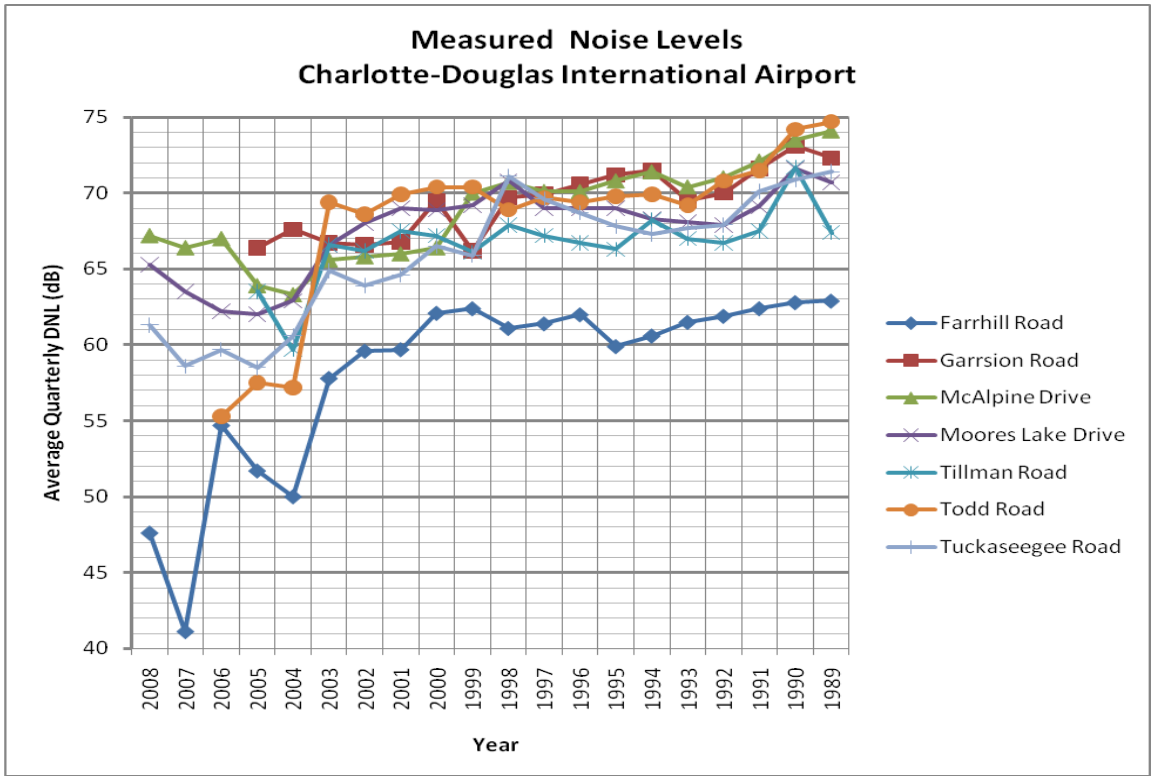
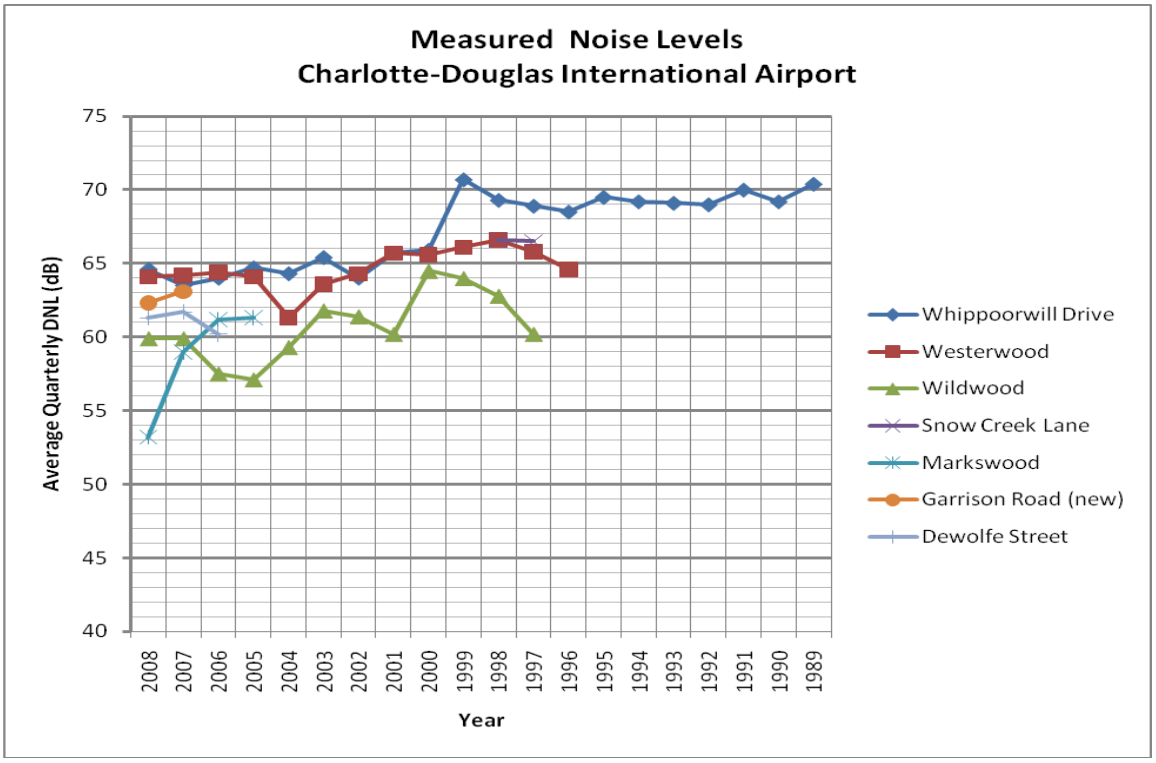


Figure A-3



3 INPUT FOR BASE CASE NOISE EXPOSURE MAPS FOR 2009 AND 2014

3.1 PERIODS OF STUDY

FAR Part 150 requires that contours presented with a study must include contours for the year of submission and contours for a future year. This study will be submitted for 2009. Contours are included for 2009. FAR Part 150 studies typically include future contours for five years after the year of submission. The future year for this study is 2014.

3.2 OPERATIONS INFORMATION FOR 2009

This section of the report contains detailed information from the updated operations forecast about numbers of operations in 2009, as well as information about runway use and flight corridors in that year. .

3.2.1 Flight Operations for 2009 Base Case

During 2009, the yearly average daily number of takeoffs and landings is forecast to be 1,457.92. Table A-3 presents the activity in 6 separate user groups. The number of operations and their distribution between the day and night hours was derived from forecasts that included review of existing conditions in 2008 and anticipated changes during 2009. Table A-4 contains detailed numbers of aircraft operations by aircraft type within each user group for 2009.

TABLE A-3

Base-year Condition (2009) Yearly Average Daily Aircraft Operations
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	533.46	6.35	8.92	23.43	572.17	497.12	50.12	1.49	23.43	572.17
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.76	5.87	0.00	0.00	71.62
Cargo Jet	1.96	0.08	1.70	1.61	5.35	1.46	2.56	1.28	0.04	5.35
Cargo Prop	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01
GA Jet	34.48	5.08	7.46	1.69	48.70	34.98	1.46	9.46	2.80	48.70
GA Prop	20.39	2.66	5.44	0.00	28.50	21.23	0.40	6.11	0.76	28.50
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	658.29	14.19	23.53	32.96	728.96	623.15	60.42	18.35	27.04	728.96

TABLE A-4

Base-year Condition (2009) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

TABLE A-4 (continued)

Existing Condition (2006) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

3.2.2 Runway Use Percentages for 2009 Base Case

The pattern of runway use during 2009 is assumed to be the same as occurred during recent years. Runway use data were developed for the seven groups of aircraft shown in the aircraft operations table, Table A-3. Detailed runway use for 2009 is shown in Tables A-5 (Departures) and A-6 (Arrivals).

TABLE A-5

Existing Condition (2009) Departure Runway Use
Charlotte-Douglas international Airport

Aircraft Group	Runway	Percentages of Departures			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.5	0.5	17.6	17.6
	18L	25.6	25.6	21.6	21.6
	18C	28.2	28.2	16.4	16.4
	23	<0.1	<0.1	17.7	17.7
	36C	26.5	26.5	13.7	13.7
	36R	19.2	19.2	13.0	13.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	1.1	1.1	8.4	8.4
	18L	28.3	28.3	34.6	34.6
	18C	24.1	24.1	24.0	24.0
	23	0.6	0.6	2.4	2.4
	36C	23.7	23.7	18.2	18.2
	36R	22.2	22.2	12.5	12.5
	Total	100.0	100.0	100.0	100.0
Cargo Jets	05	0.0	0.0	27.2	27.2
	18L	25.4	25.4	15.7	15.7
	18C	21.8	21.8	4.1	4.1
	23	0.6	0.6	35.7	35.7
	36C	22.9	22.9	4.7	4.7
	36R	29.3	29.3	12.7	12.7
	Total	100.0	100.0	100.0	100.0
Cargo Props	5	6.7	6.7	7.6	7.6
	18L	48.3	48.3	40.9	40.9
	18C	0.9	0.9	0.7	0.7
	23	1.4	1.4	14.4	14.4
	36C	2.1	2.1	0.2	0.2
	36R	40.7	40.7	36.2	36.2
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.8	0.8	32.9	32.9
	18L	42.1	42.1	8.2	8.2
	18C	6.2	6.2	0.8	0.8
	23	3.5	3.5	46.3	46.3
	36C	8.2	8.2	1.6	1.6
	36R	39.3	39.3	10.1	10.1
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	3.7	3.7	14.3	14.3
	18L	40.0	40.0	40.5	40.5
	18C	5.9	5.9	2.7	2.7
	23	5.2	5.2	9.3	9.3
	36C	8.2	8.2	1.9	1.9
	36R	37.1	37.1	31.2	31.2
	Total	100.0	100.0	100.0	100.0
Military Props	5	4.2	4.2	50.0	50.0
	18L	35.3	35.3	25.0	25.0
	18C	4.7	4.7	0.0	0.0
	23	3.7	3.7	12.5	12.5
	36C	9.5	9.5	0.0	0.0
	36R	42.6	42.6	12.5	12.5
	Total	100.0	100.0	100.0	100.0

TABLE A-6

Existing Condition (2009) Arrival Runway Use
Charlotte-Douglas international Airport

Aircraft Group	Runway	Percentages of Arrivals			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	<0.1	<0.1	25.5	25.5
	18L	1.5	1.5	0.8	0.8
	18C	27.5	27.5	16.8	16.8
	23	23.9	23.9	41.2	41.2
	36C	27.4	27.4	12.7	12.7
	36R	19.6	19.6	3.2	3.2
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	<0.1	<0.1	12.4	12.4
	18L	2.3	2.3	2.3	2.3
	18C	20.2	20.2	47.2	47.2
	23	29.3	29.3	15.1	15.1
	36C	18.3	18.3	10.5	10.5
	36R	29.9	29.9	12.4	12.4
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.2	0.2	45.9	45.9
	18L	15.3	15.3	2.9	2.9
	18C	27.3	27.3	2.1	2.1
	23	10.2	10.2	42.3	42.3
	36C	21.6	21.6	2.6	2.6
	36R	25.5	25.5	4.1	4.1
	Total	100.0	100.0	100.0	100.0
Cargo Props	5	0.2	0.2	11.8	11.8
	18L	24.8	24.8	31.9	31.9
	18C	2.6	2.6	1.0	1.0
	23	16.7	16.7	13.2	13.2
	36C	7.5	7.5	1.3	1.3
	36R	48.1	48.1	40.8	40.8
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	<0.1	<0.1	28.8	28.8
	18L	43.8	43.8	15.5	15.5
	18C	3.8	3.8	0.3	0.3
	23	4.7	4.7	35.7	35.7
	36C	4.5	4.5	0.8	0.8
	36R	43.1	43.1	18.8	18.8
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.1	0.1	7.8	7.8
	18L	38.3	38.3	33.0	33.0
	18C	7.6	7.6	9.0	9.0
	23	6.8	6.8	12.2	12.2
	36C	7.8	7.8	5.2	5.2
	36R	39.4	39.4	32.8	32.8
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	40.0	40.0
	18L	35.8	35.8	30.0	30.0
	18C	4.6	4.6	0.0	0.0
	23	13.1	13.1	10.0	10.0
	36C	3.1	3.1	0.0	0.0
	36R	43.5	43.5	20.0	20.0
	Total	100.0	100.0	100.0	100.0

3.2.3 Flight Tracks for 2009 Base Case

Flight tracks for 2009 are shown in Figures A-4 (departure tracks) and A-5 (arrival tracks). Flight track use is shown in Tables A-7 (departures) and A-8 (arrivals).

Figure A-4

This figure will be in the draft circulated for review before the Public Hearing.

Figure A-5

This figure will be in the draft circulated for review before the Public Hearing.

Table A-7

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	73.40	24.70	East
	5_D_JN	3.90	28.10	North
	5_D_JS	16.40	13.90	South
	5_D_JW	6.30	33.20	West
18L	18L_D_E	4.80	2.90	East
	18L_D_N	1.10	2.10	North
	18L_D_S	3.10	0.70	South
	18L_D_W	2.00	5.20	West
	18L_RNV_BSCA	54.10	72.40	East
	18L_RNVBSCB	35.00	16.70	South
18C	18C_D_E	2.30	1.30	East
	18C_D_N	3.30	1.10	North
	18C_D_S	1.00	36.40	South
	18C_D_W	4.50	1.40	West
	18C_RNV_BSCA	88.80	59.90	West
23	23_D_E	12.50	25.90	East
	23_D_N	37.50	27.30	North
	23_D_S	0.00	15.70	South
	23_D_W	50.00	31.20	West
36C	36C_D_JE	2.80	2.70	East
	36C_D_JN	3.30	1.10	North
	36C_D_JS1	1.70	14.80	South
	36C_D_JS2	1.70	14.80	South
	36C_D_JW	4.30	1.60	West
	36C_RNV_BSCA	37.40	26.00	West
	36C_RNV_BSCB	49.00	39.20	North
36R	36R_D_JE	4.90	3.20	East
	36R_D_JN	0.20	0.20	North
	36R_D_JS	3.10	0.70	South
	36R_D_JW	1.20	0.20	West
	36R_RNV_BSCA	55.70	78.50	East
	36R_RNV_BSCB	35.00	17.30	East

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	70.10	62.40	East
	5_D_JN	0.00	22.40	North
	5_D_JS	29.40	6.40	South
	5_D_JW	0.50	8.80	West
18L	18L_D_S	3.60	1.50	South
	18L_DPE1	46.60	54.80	East
	18L_DPE2	11.70	13.70	East
	18L_DPN	3.90	11.50	North
	18L_DPS1	32.10	13.10	South
	18L_DPW	2.20	5.50	West
18C	18C_DPN1	41.90	40.10	North
	18C_DPN2	10.50	10.00	North
	18C_DPW1	38.10	39.90	West
	18C_DPW2	9.50	10.00	West
	18C_DPN1	41.90	40.10	North
23	23_D_E	0.00	16.70	East
	23_D_N	51.50	66.70	North
	23_D_S	1.00	0.00	South
	23_D_W	47.50	16.70	West
36C	36C_DPN1	42.70	45.70	North
	36C_DPN2	10.70	11.40	North
	36C_DPW1	32.60	30.00	West
	36C_DPW2	4.70	4.30	West
	36C_DPW3	9.30	8.60	West
36R	36R_DPE1	19.30	23.70	East
	36R_DPE2	21.80	26.70	East
	36R_DPE3	21.20	26.00	East
	36R_DPS1	37.70	23.70	South
	36R_DPW1	0.10	0.00	West

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	0.00	21.90	East
	5_D_JN	0.00	54.90	North
	5_D_JS	0.00	0.50	South
	5_D_JW	0.00	22.80	West
18L	18L_D_E	44.40	32.50	East
	18L_D_N	4.80	65.90	North
	18L_D_S	36.50	0.80	South
	18L_D_W	14.30	0.80	West
18C	18C_D_E	7.00	0.00	East
	18C_D_N	1.40	33.30	North
	18C_D_S	1.40	0.00	South
	18C_D_W	90.10	66.70	West
23	23_D_E	0.00	19.20	East
	23_D_N	0.00	57.30	North
	23_D_W	100.00	23.40	West
36C	36C_D_JE	6.30	10.80	East
	36C_D_JN	1.30	46.00	North
	36C_D_JS1	0.60	0.00	South
	36C_D_JS2	0.60	0.00	South
	36C_D_JW	91.30	43.20	West
36R	36R_D_JE	48.50	25.50	East
	36R_D_JN	0.00	72.60	North
	36R_D_JS	36.40	0.00	South
	36R_D_JW	15.20	2.00	West

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

Cargo Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	86.20	71.80	East
	5_D_JS	6.90	18.00	South
	5_D_JW	6.90	10.30	West
18L	18L_D_S	0.50	3.20	South
	18L_DPE1	72.20	50.20	East
	18L_DPE2	18.10	12.60	East
	18L_DPS1	4.80	28.90	South
	18L_DPW	4.40	5.20	West
18C	18C_DPW1	80.00	80.00	West
	18C_DPW2	20.00	20.00	West
23	23_D_E	0.00	9.20	East
	23_D_S	0.00	15.80	South
	23_D_W	100.00	75.00	West
36C	36C_DPW1	70.00	70.00	West
	36C_DPW2	10.00	10.00	West
	36C_DPW3	20.00	20.00	West
36R	36R_DPE1	26.80	17.00	East
	36R_DPE2	30.20	19.20	East
	36R_DPE3	29.30	18.70	East
	36R_DPS1	5.10	21.20	South
	36R_DPW1	8.60	23.90	West

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	86.20	71.80	East
	5_D_JS	6.90	18.00	South
	5_D_JW	6.90	10.30	West
18L	18L_D_S	0.50	3.20	South
	18L_DPE1	72.20	50.20	East
	18L_DPE2	18.10	12.60	East
	18L_DPS1	4.80	28.90	South
	18L_DPW	4.40	5.20	West
18C	18C_DPW1	80.00	80.00	West
	18C_DPW2	20.00	20.00	West
23	23_D_E	0.00	9.20	East
	23_D_S	0.00	15.80	South
	23_D_W	100.00	75.00	West
36C	36C_DPW1	70.00	70.00	West
	36C_DPW2	10.00	10.00	West
	36C_DPW3	20.00	20.00	West
36R	36R_DPE1	26.80	17.00	East
	36R_DPE2	30.20	19.20	East
	36R_DPE3	29.30	18.70	East
	36R_DPS1	5.10	21.20	South
	36R_DPW1	8.60	23.90	West

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	66.70	46.90	East
	5_D_JN	1.30	0.00	North
	5_D_JS	24.00	28.60	South
	5_D_JW	8.00	24.50	West
18L	18L_D_S	1.70	4.10	South
	18L_DPE1	39.10	34.40	East
	18L_DPE2	9.80	8.60	East
	18L_DPN	6.10	1.60	North
	18L_DPS1	15.30	37.30	South
	18L_DPW	28.10	14.10	West
18C	18C_DPN1	8.20	0.00	North
	18C_DPN2	2.10	0.00	North
	18C_DPW1	71.80	80.00	West
	18C_DPW2	17.90	20.00	West
23	23_D_E	0.00	6.30	East
	23_D_N	11.60	12.50	North
	23_D_S	6.60	28.10	South
	23_D_W	81.80	53.10	West
36C	36C_DPN1	9.80	0.00	North
	36C_DPN2	2.50	0.00	North
	36C_DPW1	61.40	70.00	West
	36C_DPW2	8.80	10.00	West
	36C_DPW3	17.50	20.00	West
36R	36R_DPE1	15.50	14.80	East
	36R_DPE2	17.50	16.80	East
	36R_DPE3	17.00	16.30	East
	36R_DPS1	15.20	30.80	South
	36R_DPW1	34.80	21.30	West

Table A-7 (continued)

Departure Flight Track Use – 2009
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	85.70	100.00	East
	5_D_JS	14.30	0.00	South
18L	18L_D_S	2.60	10.00	South
	18L_DPE1	45.20	0.00	East
	18L_DPE2	11.30	0.00	East
	18L_DPN	6.50	0.00	North
	18L_DPS1	23.20	90.00	South
	18L_DPW	11.30	0.00	West
18C	18C_DPW1	80.00	0.00	West
	18C_DPW2	20.00	0.00	West
23	23_D_N	14.30	0.00	North
	23_D_W	85.70	0.00	West
36C	36C_DPN1	20.00	0.00	North
	36C_DPN2	5.00	0.00	North
	36C_DPW1	52.50	0.00	West
	36C_DPW2	7.50	0.00	West
	36C_DPW3	15.00	0.00	West
36R	36R_DPE1	19.00	0.00	East
	36R_DPE2	21.40	0.00	East
	36R_DPE3	20.80	0.00	East
	36R_DPS1	14.90	100.00	South
	36R_DPW1	23.90	0.00	West

Table A-8

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	20.00	20.00	Northeast
	5_A_NW	42.00	42.10	Northwest
	5_A_SE	28.00	14.10	Southeast
	5_A_SW	10.00	23.90	Southwest
18L	18L_A_NE	52.00	51.70	Northeast
	18L_A_NW	9.90	20.70	Northwest
	18L_A_SE	29.10	20.70	Southeast
	18L_A_SW1	7.20	5.50	Southwest
	18L_A_SW2	1.80	1.40	Southwest
18C	18C_A_NE	6.70	5.10	Northeast
	18C_A_NW	65.90	68.10	Northwest
	18C_A_SE1	2.00	0.70	Southeast
	18C_A_SE2	1.00	0.40	Southeast
	18C_A_SW	24.50	25.80	Southwest
23	23_A_NE	49.90	34.20	Northeast
	23_A_NW	3.40	36.10	Northwest
	23_A_SE	34.70	16.00	Southeast
	23_A_SW1	8.40	9.60	Southwest
	23_A_SW2	3.60	4.10	Southwest
36C	36C_A_NE1	6.70	3.70	Northeast
	36C_A_NE2	4.50	2.40	Northeast
	36C_A_NW	55.70	65.80	Northwest
	36C_A_SE	5.20	4.00	Southeast
	36C_A_SW	28.00	24.10	Southwest
36R	36R_A_NE	52.90	41.60	Northeast
	36R_A_NW1	6.20	6.20	Northwest
	36R_A_NW2	2.60	2.60	Northwest
	36R_A_SE	34.90	43.20	Southeast
	36R_A_SW	3.40	6.40	Southwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	20.00	19.60	Northeast
	5_A_NW	40.00	23.90	Northwest
	5_A_SE	20.00	25.00	Southeast
	5_A_SW	6.60	10.40	Southwest
	5_APSW	13.40	21.10	Southwest
18L	18L_APNE	37.00	46.70	Northeast
	18L_APNW	16.00	33.30	Northwest
	18L_APSE	35.30	6.70	Southeast
	18L_APSW1	4.20	4.70	Southwest
	18L_APSW2	1.80	2.00	Southwest
	18L_APSW3	5.80	6.70	Southwest
18C	18C_A_NE	2.60	32.50	Northeast
	18C_A_SE1	1.00	6.00	Southeast
	18C_A_SE2	1.90	12.30	Southeast
	18C_A_SW	33.30	16.10	Southwest
	18C_APNW	61.20	33.10	Northwest
23	23_A_NE	33.80	47.10	Northeast
	23_APNW	2.10	0.80	Northwest
	23_APSE	49.20	45.50	Southeast
	23_APSW1	11.90	5.30	Southwest
	23_APSW2	3.00	1.30	Southwest
36C	36C_A_NE1	2.30	9.00	Northeast
	36C_A_NE2	2.30	9.00	Northeast
	36C_A_NW	49.20	33.40	Northwest
	36C_A_SE	3.50	26.90	Southeast
	36C_A_SW	42.70	21.80	Southwest
36R	36R_A_NW2	2.40	1.80	Northwest
	36R_A_SE	46.20	57.70	Southeast
	36R_A_SW	8.00	7.10	Southwest
	36R_APNE	34.00	26.00	Northeast
	36R_APNW1	9.40	7.40	Northwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	7.40	Northeast
	5_A_NW	100.00	73.30	Northwest
	5_A_SE	0.00	6.90	Southeast
	5_A_SW	0.00	12.40	Southwest
18L	18L_A_NE	50.60	24.00	Northeast
	18L_A_NW	44.60	36.00	Northwest
	18L_A_SE	3.60	36.00	Southeast
	18L_A_SW1	1.00	3.20	Southwest
	18L_A_SW2	0.20	0.80	Southwest
18C	18C_A_NE	7.40	5.60	Northeast
	18C_A_NW	89.90	27.80	Northwest
	18C_A_SE1	0.00	40.90	Southeast
	18C_A_SE2	0.00	20.20	Southeast
	18C_A_SW	2.70	5.60	Southwest
23	23_A_NE	77.80	19.30	Northeast
	23_A_NW	18.50	64.30	Northwest
	23_A_SE	1.90	14.20	Southeast
	23_A_SW1	1.30	1.60	Southwest
	23_A_SW2	0.60	0.70	Southwest
36C	36C_A_NE1	6.20	3.20	Northeast
	36C_A_NE2	4.10	2.10	Northeast
	36C_A_NW	84.50	31.60	Northwest
	36C_A_SE	1.70	52.60	Southeast
	36C_A_SW	3.50	10.50	Southwest
36R	36R_A_NE	65.70	22.60	Northeast
	36R_A_NW1	20.50	47.40	Northwest
	36R_A_NW2	8.80	20.30	Northwest
	36R_A_SE	2.90	9.70	Southeast
	36R_A_SW	2.10	0.00	Southwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

Cargo Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	11.10	Northeast
	5_A_NW	0.00	40.00	Northwest
	5_A_SW	0.00	16.10	Southwest
	5_APSW	0.00	32.80	Southwest
18L	18L_APNE	17.80	61.20	Northeast
	18L_APNW	3.90	16.90	Northwest
	18L_APSE	72.10	9.20	Southeast
	18L_APSW1	4.70	10.40	Southwest
	18L_APSW2	0.40	0.50	Southwest
	18L_APSW3	1.20	1.70	Southwest
18C	18C_A_NE	0.00	28.60	Northeast
	18C_A_SW	41.70	0.00	Southwest
	18C_APNW	58.30	71.40	Northwest
23	23_A_NE	37.80	65.40	Northeast
	23_APNW	0.00	19.10	Northwest
	23_APSE	62.20	15.40	Southeast
36C	36C_A_NE1	23.70	25.00	Northeast
	36C_A_NE2	23.70	25.00	Northeast
	36C_A_NW	0.00	50.00	Northwest
	36C_A_SE	21.10	0.00	Southeast
	36C_A_SW	31.60	0.00	Southwest
36R	36R_A_NW2	0.20	1.50	Northwest
	36R_A_SE	66.30	26.90	Southeast
	36R_A_SW	8.40	19.20	Southwest
	36R_APNE	24.50	46.50	Northeast
	36R_APNW1	0.70	5.90	Northwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	29.60	Northeast
	5_A_NW	100.00	29.00	Northwest
	5_A_SE	0.00	8.00	Southeast
	5_A_SW	0.00	33.50	Southwest
18L	18L_A_NE	35.80	46.30	Northeast
	18L_A_NW	25.30	20.40	Northwest
	18L_A_SE	16.10	13.00	Southeast
	18L_A_SW1	18.30	16.30	Southwest
	18L_A_SW2	4.60	4.10	Southwest
18C	18C_A_NE	5.30	0.00	Northeast
	18C_A_NW	57.30	100.00	Northwest
	18C_A_SE1	1.60	0.00	Southeast
	18C_A_SE2	0.80	0.00	Southeast
	18C_A_SW	35.10	0.00	Southwest
23	23_A_NE	53.60	53.30	Northeast
	23_A_NW	2.90	15.90	Northwest
	23_A_SE	21.10	8.40	Southeast
	23_A_SW1	15.70	15.70	Southwest
	23_A_SW2	6.80	6.70	Southwest
36C	36C_A_NE1	4.40	60.00	Northeast
	36C_A_NE2	2.90	40.00	Northeast
	36C_A_NW	40.70	0.00	Northwest
	36C_A_SE	3.40	0.00	Southeast
	36C_A_SW	48.60	0.00	Southwest
36R	36R_A_NE	37.10	48.40	Northeast
	36R_A_NW1	17.60	18.60	Northwest
	36R_A_NW2	7.50	8.00	Northwest
	36R_A_SE	16.40	10.90	Southeast
	36R_A_SW	21.40	14.10	Southwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	13.30	Northeast
	5_A_NW	50.00	53.30	Northwest
	5_A_SW	16.50	11.00	Southwest
	5_APSW	33.50	22.30	Southwest
18L	18L_APNE	39.40	53.00	Northeast
	18L_APNW	15.50	18.20	Northwest
	18L_APSE	17.00	13.60	Southeast
	18L_APSW1	13.20	11.70	Southwest
	18L_APSW2	3.40	0.80	Southwest
	18L_APSW3	11.50	2.70	Southwest
18C	18C_A_NE	0.60	5.90	Northeast
	18C_A_SE1	0.20	0.00	Southeast
	18C_A_SE2	0.40	0.00	Southeast
	18C_A_SW	29.00	5.90	Southwest
	18C_APNW	69.90	88.20	Northwest
23	23_A_NE	58.20	78.30	Northeast
	23_APNW	3.10	10.00	Northwest
	23_APSE	26.90	5.00	Southeast
	23_APSW1	9.40	5.30	Southwest
	23_APSW2	2.40	1.30	Southwest
36C	36C_A_NE1	5.20	10.00	Northeast
	36C_A_NE2	5.20	10.00	Northeast
	36C_A_NW	44.00	66.70	Northwest
	36C_A_SE	3.00	6.70	Southeast
	36C_A_SW	42.50	6.70	Southwest
36R	36R_A_NW2	2.40	1.50	Northwest
	36R_A_SE	21.30	30.70	Southeast
	36R_A_SW	26.70	28.30	Southwest
	36R_APNE	40.00	33.40	Northeast
	36R_APNW1	9.60	6.10	Northwest

Table A-8 (continued)

Arrival Flight Track Use – 2009
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NW	0.00	66.70	Northwest
	5_A_SW	0.00	11.00	Southwest
	5_APSW	0.00	22.30	Southwest
18L	18L_APNE	48.60	0.00	Northeast
	18L_APNW	25.00	0.00	Northwest
	18L_APSE	10.40	0.00	Southeast
	18L_APSW1	6.00	0.00	Southwest
	18L_APSW2	2.30	0.00	Southwest
	18L_APSW3	7.60	0.00	Southwest
18C	18C_A_SE1	2.80	0.00	Southeast
	18C_A_SE2	5.60	0.00	Southeast
	18C_A_SW	41.70	0.00	Southwest
	18C_APNW	50.00	0.00	Northwest
23	23_A_NE	55.00	100.00	Northeast
	23_APSE	35.00	0.00	Southeast
	23_APSW1	8.00	0.00	Southwest
	23_APSW2	2.00	0.00	Southwest
36C	36C_A_NW	40.00	0.00	Northwest
	36C_A_SW	60.00	0.00	Southwest
36R	36R_A_NW2	1.90	0.00	Northwest
	36R_A_SE	31.80	0.00	Southeast
	36R_A_SW	17.10	0.00	Southwest
	36R_APNE	41.80	100.00	Northeast
	36R_APNW1	7.50	0.00	Northwest

3.3 OPERATIONS INFORMATION FOR FUTURE YEAR (2014)

This section of the report contains detailed information about numbers of operations, runway use and flight corridor use projected for the 2014 Base Case.

3.3.1 Flight Operations for Year 2014

During 2014, the yearly average daily number of takeoffs and landings is forecast to be 1,623.43. Table A-9 presents the activity in 6 separate user groups. As in the case of the information presented in section 3.2 of this Appendix, the number of operations, and their distribution between day and night hours is derived from the updated operations forecast. Table A-10 contains detailed numbers of aircraft operations by aircraft type within each user group for 2014.

TABLE A-9

Future Condition (2014) Annual Average Daily Aircraft Operations
Charlotte-Douglas International Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	605.44	5.96	10.60	30.19	652.19	568.82	58.27	1.66	23.44	652.19
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.75	5.87	0.00	0.00	71.62
Cargo Jet	1.74	0.07	1.62	1.54	4.97	1.26	2.45	1.22	0.04	4.97
GA Jet	40.67	6.68	10.07	2.24	59.67	41.08	1.65	13.26	3.67	59.66
GA Prop	14.11	2.14	4.41	0.00	20.66	14.72	0.30	5.09	0.54	20.66
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	729.97	14.85	26.70	40.20	811.72	694.24	68.54	21.23	27.69	811.71

TABLE A-10

Future Condition (2014) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

TABLE A-10 (continued)

Future Condition (2014) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

3.3.2 Runway Use Percentages for 2014 Base Case

As was the case for the 2009 Base Case, runway use data were developed for seven groups of aircraft, as shown in the aircraft operations of Tables A-9 and A-10. Noise modeling for this study included the appropriate runway use for all aircraft groups. Detailed runway use for the 2014 Base Case is shown in Tables A-11 (Departures) and A-12 (Arrivals).

3.3.1 Flight Tracks for Year 2014 Base Case

Flight tracks for the 2014 Base Case are shown in Figures A-6 (departure tracks) and A-7 (arrival tracks). Flight track use is shown in Tables A-13 (departures) and A-14 (arrivals).

In Tables A-13 and A-14, Shaded track use indicates that there are no operations for this aircraft group and time period because of the runway use. However, this is the track use that would be used if the runway use changes as a result of the proposed alternatives. Flight track use is presented in terms of percent operations per runway for the given time period. Due to rounding, the sum of the percentages for each runway and time period may not equal exactly 100%.

TABLE A-11

Future Condition (2014) Base Case Departure Runway Use
Charlotte-Douglas international Airport

Aircraft Group	Runway	Percentages of Departures			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	17.6	17.6
	18L	26.0	26.0	21.6	21.6
	18C	26.0	26.0	16.4	16.4
	23	0.0	0.0	17.7	17.7
	36C	25.0	25.0	13.7	13.7
	36R	22.0	22.0	13.0	13.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	8.4	8.4
	18L	26.0	26.0	34.6	34.6
	18C	26.0	26.0	24.0	24.0
	23	0.0	0.0	2.4	2.4
	36C	25.0	25.0	18.2	18.2
	36R	22.0	22.0	12.5	12.5
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	27.2	27.2
	18L	26.0	26.0	15.7	15.7
	18C	26.0	26.0	4.1	4.1
	23	0.0	0.0	35.7	35.7
	36C	25.0	25.0	4.7	4.7
	36R	22.0	22.0	12.7	12.7
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	32.9	32.9
	18L	26.0	26.0	8.2	8.2
	18C	26.0	26.0	0.8	0.8
	23	0.0	0.0	46.3	46.3
	36C	25.0	25.0	1.6	1.6
	36R	22.0	22.0	10.1	10.1
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	14.3	14.3
	18L	26.0	26.0	40.5	40.5
	18C	26.0	26.0	2.7	2.7
	23	0.0	0.0	9.3	9.3
	36C	25.0	25.0	1.9	1.9
	36R	22.0	22.0	31.2	31.2
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	50.0	50.0
	18L	26.0	26.0	25.0	25.0
	18C	26.0	26.0	0.0	0.0
	23	0.0	0.0	12.5	12.5
	36C	25.0	25.0	0.0	0.0
	36R	22.0	22.0	12.5	12.5
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0

TABLE A-12

Future Condition (2014) Base Case Arrival Runway Use
Charlotte-Douglas international Airport

Aircraft Group	Runway	Percentages of Arrivals			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	25.5	25.5
	18L	1.0	1.0	0.8	0.8
	18C	5.2	5.2	16.8	16.8
	23	25.0	25.0	41.2	41.2
	36C	4.8	4.8	12.7	12.7
	36R	21.6	21.6	3.2	3.2
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	12.4	12.4
	18L	1.0	1.0	2.3	2.3
	18C	5.2	5.2	47.2	47.2
	23	25.0	25.0	15.1	15.1
	36C	4.8	4.8	10.5	10.5
	36R	21.6	21.6	12.4	12.4
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	45.9	45.9
	18L	1.0	1.0	2.9	2.9
	18C	5.2	5.2	2.1	2.1
	23	25.0	25.0	42.3	42.3
	36C	4.8	4.8	2.6	2.6
	36R	21.6	21.6	4.1	4.1
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	28.8	28.8
	18L	1.0	1.0	15.5	15.5
	18C	5.2	5.2	0.3	0.3
	23	25.0	25.0	35.7	35.7
	36C	4.8	4.8	0.8	0.8
	36R	21.6	21.6	18.8	18.8
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	7.8	7.8
	18L	1.0	1.0	33.0	33.0
	18C	5.2	5.2	9.0	9.0
	23	25.0	25.0	12.2	12.2
	36C	4.8	4.8	5.2	5.2
	36R	21.6	21.6	32.8	32.8
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	40.0	40.0
	18L	1.0	1.0	30.0	30.0
	18C	5.2	5.2	0.0	0.0
	23	25.0	25.0	10.0	10.0
	36C	4.8	4.8	0.0	0.0
	36R	21.6	21.6	20.0	20.0
	18R	20.8	20.8	0.0	0.0
	36L	21.6	21.6	0.0	0.0
	Total	100.0	100.0	100.0	100.0

Figure A-6

This figure will be in the draft circulated for review before the Public Hearing.

Figure A-7

This figure will be in the draft circulated for review before the Public Hearing.

Table A-13

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	73.40	24.70	East
	5_D_JN	3.90	28.10	North
	5_D_JS	16.40	13.90	South
	5_D_JW	6.30	33.20	West
18L	18L_D_E	4.80	2.90	East
	18L_D_N	1.10	2.10	North
	18L_D_S	3.10	0.70	South
	18L_D_W	2.00	5.20	West
	18L_RNV_BSCA	54.10	72.40	East
	18L_RNVBSCB	35.00	16.70	South
18C	18C_D_E	2.30	1.30	East
	18C_D_N	3.30	1.10	North
	18C_D_S	1.00	36.40	South
	18C_D_W	4.50	1.40	West
	18C_RNV_BSCA	88.80	59.90	West
23	23_D_E	12.50	25.90	East
	23_D_N	37.50	27.30	North
	23_D_S	0.00	15.70	South
	23_D_W	50.00	31.20	West
36C	36C_D_JE	2.80	2.70	East
	36C_D_JN	3.30	1.10	North
	36C_D_JS1	1.70	14.80	South
	36C_D_JS2	1.70	14.80	South
	36C_D_JW	4.30	1.60	West
	36C_RNV_BSCA	37.40	26.00	West
	36C_RNV_BSCB	49.00	39.20	North
36R	36R_D_JE	4.90	3.20	East
	36R_D_JN	0.20	0.20	North
	36R_D_JS	3.10	0.70	South
	36R_D_JW	1.20	0.20	West
	36R_RNV_BSCA	55.70	78.50	East
	36R_RNV_BSCB	35.00	17.30	East
18R	18R_D_E	2.30	1.30	East
	18R_D_N	3.30	1.10	North
	18R_D_S	1.00	36.40	South
	18R_D_W	4.50	1.40	West
	18R_RNV_BSCA	88.80	59.90	West
36L	36L_D_JE	2.80	2.70	East
	36L_D_JN	3.30	1.10	North
	36L_D_JS1	1.70	14.80	South
	36L_D_JS2	1.70	14.80	South
	36L_D_JW	4.30	1.60	West
	36L_RNV_BSCA	37.40	26.00	West
	36L_RNV_BSCB	49.00	39.20	North

Table A-13 (continued)

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	70.10	62.40	East
	5_D_JN	0.00	22.40	North
	5_D_JS	29.40	6.40	South
	5_D_JW	0.50	8.80	West
18L	18L_D_S	3.60	1.50	South
	18L_DPE1	46.60	54.80	East
	18L_DPE2	11.70	13.70	East
	18L_DPN	3.90	11.50	North
	18L_DPS1	32.10	13.10	South
	18L_DPW	2.20	5.50	West
18C	18C_DPN1	41.90	40.10	North
	18C_DPN2	10.50	10.00	North
	18C_DPW1	38.10	39.90	West
	18C_DPW2	9.50	10.00	West
23	23_D_E	0.00	16.70	East
	23_D_N	51.50	66.70	North
	23_D_S	1.00	0.00	South
	23_D_W	47.50	16.70	West
36C	36C_DPN1	42.70	45.70	North
	36C_DPN2	10.70	11.40	North
	36C_DPW1	32.60	30.00	West
	36C_DPW2	4.70	4.30	West
	36C_DPW3	9.30	8.60	West
36R	36R_DPE1	19.30	23.70	East
	36R_DPE2	21.80	26.70	East
	36R_DPE3	21.20	26.00	East
	36R_DPS1	37.70	23.70	South
	36R_DPW1	0.10	0.00	West
18R	18R_DPN1	41.90	40.10	North
	18R_DPN2	10.50	10.00	North
	18R_DPW1	38.10	39.90	West
	18R_DPW2	9.50	10.00	West
36L	36L_DPN1	42.70	45.70	North
	36L_DPN2	10.70	11.40	North
	36L_DPW1	32.60	30.00	West
	36L_DPW2	4.70	4.30	West
	36L_DPW3	9.30	8.60	West

Table A-13 (continued)

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	0.00	21.90	East
	5_D_JN	0.00	54.90	North
	5_D_JS	0.00	0.50	South
	5_D_JW	0.00	22.80	West
18L	18L_D_E	44.40	32.50	East
	18L_D_N	4.80	65.90	North
	18L_D_S	36.50	0.80	South
	18L_D_W	14.30	0.80	West
18C	18C_D_E	7.00	0.00	East
	18C_D_N	1.40	33.30	North
	18C_D_S	1.40	0.00	South
	18C_D_W	90.10	66.70	West
23	23_D_E	0.00	19.20	East
	23_D_N	0.00	57.30	North
	23_D_W	100.00	23.40	West
36C	36C_D_JE	6.30	10.80	East
	36C_D_JN	1.30	46.00	North
	36C_D_JS1	0.60	0.00	South
	36C_D_JS2	0.60	0.00	South
	36C_D_JW	91.30	43.20	West
36R	36R_D_JE	48.50	25.50	East
	36R_D_JN	0.00	72.60	North
	36R_D_JS	36.40	0.00	South
	36R_D_JW	15.20	2.00	West
18R	18R_D_E	7.00	0.00	East
	18R_D_N	1.40	33.30	North
	18R_D_S	1.40	0.00	South
	18R_D_W	90.10	66.70	West
36L	36L_D_JE	6.30	10.80	East
	36L_D_JN	1.30	46.00	North
	36L_D_JS1	0.60	0.00	South
	36L_D_JS2	0.60	0.00	South
	36L_D_JW	91.30	43.20	West

Table A-13 (continued)

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	35.00	60.00	East
	5_D_JN	15.00	9.10	North
	5_D_JS	20.00	10.00	South
	5_D_JW	30.00	20.90	West
18L	18L_D_E	42.80	48.30	East
	18L_D_N	13.20	3.50	North
	18L_D_S	20.70	20.70	South
	18L_D_W	23.30	27.60	West
18C	18C_D_E	0.00	33.30	East
	18C_D_N	29.80	33.30	North
	18C_D_W	70.20	33.30	West
23	23_D_E	3.40	61.20	East
	23_D_N	27.40	12.70	North
	23_D_S	0.00	7.60	South
	23_D_W	69.20	18.50	West
36C	36C_D_JE	0.70	16.70	East
	36C_D_JN	26.80	16.70	North
	36C_D_JS1	0.40	0.00	South
	36C_D_JS2	0.40	0.00	South
	36C_D_JW	71.80	66.70	West
36R	36R_D_JE	42.00	32.30	East
	36R_D_JN	12.60	19.40	North
	36R_D_JS	22.50	16.10	South
	36R_D_JW	23.00	32.30	West
18R	18R_D_E	0.00	33.30	East
	18R_D_N	29.80	33.30	North
	18R_D_W	70.20	33.30	West
36L	36L_D_JE	0.70	16.70	East
	36L_D_JN	26.80	16.70	North
	36L_D_JS1	0.40	0.00	South
	36L_D_JS2	0.40	0.00	South
	36L_D_JW	71.80	66.70	West

Table A-13 (continued)

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	66.70	46.90	East
	5_D_JN	1.30	0.00	North
	5_D_JS	24.00	28.60	South
	5_D_JW	8.00	24.50	West
18L	18L_D_S	1.70	4.10	South
	18L_DPE1	39.10	34.40	East
	18L_DPE2	9.80	8.60	East
	18L_DPN	6.10	1.60	North
	18L_DPS1	15.30	37.30	South
	18L_DPW	28.10	14.10	West
18C	18C_DPN1	8.20	0.00	North
	18C_DPN2	2.10	0.00	North
	18C_DPW1	71.80	80.00	West
	18C_DPW2	17.90	20.00	West
23	23_D_E	0.00	6.30	East
	23_D_N	11.60	12.50	North
	23_D_S	6.60	28.10	South
	23_D_W	81.80	53.10	West
36C	36C_DPN1	9.80	0.00	North
	36C_DPN2	2.50	0.00	North
	36C_DPW1	61.40	70.00	West
	36C_DPW2	8.80	10.00	West
	36C_DPW3	17.50	20.00	West
36R	36R_DPE1	15.50	14.80	East
	36R_DPE2	17.50	16.80	East
	36R_DPE3	17.00	16.30	East
	36R_DPS1	15.20	30.80	South
	36R_DPW1	34.80	21.30	West
18R	18R_DPN1	8.20	0.00	North
	18R_DPN2	2.10	0.00	North
	18R_DPW1	71.80	80.00	West
	18R_DPW2	17.90	20.00	West
36L	36L_DPN1	9.80	0.00	North
	36L_DPN2	2.50	0.00	North
	36L_DPW1	61.40	70.00	West
	36L_DPW2	8.80	10.00	West
	36L_DPW3	17.50	20.00	West

Table A-13 (continued)

Departure Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	85.70	100.00	East
	5_D_JS	14.30	0.00	South
18L	18L_D_S	2.60	10.00	South
	18L_DPE1	45.20	0.00	East
	18L_DPE2	11.30	0.00	East
	18L_DPN	6.50	0.00	North
	18L_DPS1	23.20	90.00	South
	18L_DPW	11.30	0.00	West
18C	18C_DPW1	80.00	0.00	West
	18C_DPW2	20.00	0.00	West
23	23_D_N	14.30	0.00	North
	23_D_W	85.70	0.00	West
36C	36C_DPN1	20.00	0.00	North
	36C_DPN2	5.00	0.00	North
	36C_DPW1	52.50	0.00	West
	36C_DPW2	7.50	0.00	West
	36C_DPW3	15.00	0.00	West
36R	36R_DPE1	19.00	0.00	East
	36R_DPE2	21.40	0.00	East
	36R_DPE3	20.80	0.00	East
	36R_DPS1	14.90	100.00	South
	36R_DPW1	23.90	0.00	West
18R	18R_DPW1	80.00	0.00	West
	18R_DPW2	20.00	0.00	West
36L	36L_RW	20.00	0.00	West
	36L_DPN1	5.00	0.00	North
	36L_DPN2	52.50	0.00	North
	36L_DPW1	7.50	0.00	West
	36L_DPW2	15.00	0.00	West

Table A-14

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	20.00	20.00	Northeast
	5_A_NW	42.00	42.10	Northwest
	5_A_SE	28.00	14.10	Southeast
	5_A_SW	10.00	23.90	Southwest
18L	18L_A_NE	52.00	51.70	Northeast
	18L_A_NW	9.90	20.70	Northwest
	18L_A_SE	29.10	20.70	Southeast
	18L_A_SW1	7.20	5.50	Southwest
	18L_A_SW2	1.80	1.40	Southwest
18C	18C_A_NE	6.70	5.10	Northeast
	18C_A_NW	65.90	68.10	Northwest
	18C_A_SE1	2.00	0.70	Southeast
	18C_A_SE2	1.00	0.40	Southeast
	18C_A_SW	24.50	25.80	Southwest
23	23_A_NE	49.90	34.20	Northeast
	23_A_NW	3.40	36.10	Northwest
	23_A_SE	34.70	16.00	Southeast
	23_A_SW1	8.40	9.60	Southwest
	23_A_SW2	3.60	4.10	Southwest
36C	36C_A_NE1	6.70	3.70	Northeast
	36C_A_NE2	4.50	2.40	Northeast
	36C_A_NW	55.70	65.80	Northwest
	36C_A_SE	5.20	4.00	Southeast
	36C_A_SW	28.00	24.10	Southwest
36R	36R_A_NE	52.90	41.60	Northeast
	36R_A_NW1	6.20	6.20	Northwest
	36R_A_NW2	2.60	2.60	Northwest
	36R_A_SE	34.90	43.20	Southeast
	36R_A_SW	3.40	6.40	Southwest
18R	18R_A_NE	6.70	5.10	Northeast
	18R_A_NW	65.90	68.10	Northwest
	18R_A_SE1	2.00	0.70	Southeast
	18R_A_SE2	1.00	0.40	Southeast
	18R_A_SW	24.50	25.80	Southwest
36L	36L_A_NE1	6.70	3.70	Northeast
	36L_A_NE2	4.50	2.40	Northeast
	36L_A_NW	55.70	65.80	Northwest
	36L_A_SE	5.20	4.00	Southeast
	36L_A_SW	28.00	24.10	Southwest

Table A-14 (continued)

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	20.00	19.60	Northeast
	5_A_NW	40.00	23.90	Northwest
	5_A_SE	20.00	25.00	Southeast
	5_A_SW	6.60	10.40	Southwest
	5_APSW	13.40	21.10	Southwest
18L	18L_APNE	37.00	46.70	Northeast
	18L_APNW	16.00	33.30	Northwest
	18L_APSE	35.30	6.70	Southeast
	18L_APSW1	4.20	4.70	Southwest
	18L_APSW2	1.80	2.00	Southwest
	18L_APSW3	5.80	6.70	Southwest
18C	18C_A_NE	2.60	32.50	Northeast
	18C_A_SE1	1.00	6.00	Southeast
	18C_A_SE2	1.90	12.30	Southeast
	18C_A_SW	33.30	16.10	Southwest
	18C_APNW	61.20	33.10	Northwest
23	23_A_NE	33.80	47.10	Northeast
	23_APNW	2.10	0.80	Northwest
	23_APSE	49.20	45.50	Southeast
	23_APSW1	11.90	5.30	Southwest
	23_APSW2	3.00	1.30	Southwest
36C	36C_A_NE1	2.30	9.00	Northeast
	36C_A_NE2	2.30	9.00	Northeast
	36C_A_NW	49.20	33.40	Northwest
	36C_A_SE	3.50	26.90	Southeast
	36C_A_SW	42.70	21.80	Southwest
36R	36R_A_NW2	2.40	1.80	Northwest
	36R_A_SE	46.20	57.70	Southeast
	36R_A_SW	8.00	7.10	Southwest
	36R_APNE	34.00	26.00	Northeast
	36R_APNW1	9.40	7.40	Northwest
18R	18R_A_NE	2.60	32.50	Northeast
	18R_A_SE1	1.00	6.00	Southeast
	18R_A_SE2	1.90	12.30	Southeast
	18R_A_SW	33.30	16.10	Southwest
	18R_APNW	61.20	33.10	Northwest
36L	36L_A_NE1	2.30	9.00	Northeast
	36L_A_NE2	2.30	9.00	Northeast
	36L_A_NW	49.20	33.40	Northwest
	36L_A_SE	3.50	26.90	Southeast
	36L_A_SW	42.70	21.80	Southwest

Table A-14 (continued)

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	7.40	Northeast
	5_A_NW	100.00	73.30	Northwest
	5_A_SE	0.00	6.90	Southeast
	5_A_SW	0.00	12.40	Southwest
18L	18L_A_NE	50.60	24.00	Northeast
	18L_A_NW	44.60	36.00	Northwest
	18L_A_SE	3.60	36.00	Southeast
	18L_A_SW1	1.00	3.20	Southwest
	18L_A_SW2	0.20	0.80	Southwest
18C	18C_A_NE	7.40	5.60	Northeast
	18C_A_NW	89.90	27.80	Northwest
	18C_A_SE1	0.00	40.90	Southeast
	18C_A_SE2	0.00	20.20	Southeast
	18C_A_SW	2.70	5.60	Southwest
23	23_A_NE	77.80	19.30	Northeast
	23_A_NW	18.50	64.30	Northwest
	23_A_SE	1.90	14.20	Southeast
	23_A_SW1	1.30	1.60	Southwest
	23_A_SW2	0.60	0.70	Southwest
36C	36C_A_NE1	6.20	3.20	Northeast
	36C_A_NE2	4.10	2.10	Northeast
	36C_A_NW	84.50	31.60	Northwest
	36C_A_SE	1.70	52.60	Southeast
	36C_A_SW	3.50	10.50	Southwest
36R	36R_A_NE	65.70	22.60	Northeast
	36R_A_NW1	20.50	47.40	Northwest
	36R_A_NW2	8.80	20.30	Northwest
	36R_A_SE	2.90	9.70	Southeast
	36R_A_SW	2.10	0.00	Southwest
18R	18R_A_NE	7.40	5.60	Northeast
	18R_A_NW	89.90	27.80	Northwest
	18R_A_SE1	0.00	40.90	Southeast
	18R_A_SE2	0.00	20.20	Southeast
	18R_A_SW	2.70	5.60	Southwest
36L	36L_A_NE1	6.20	3.20	Northeast
	36L_A_NE2	4.10	2.10	Northeast
	36L_A_NW	84.50	31.60	Northwest
	36L_A_SE	1.70	52.60	Southeast
	36L_A_SW	3.50	10.50	Southwest

Table A-14 (continued)

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	29.60	Northeast
	5_A_NW	100.00	29.00	Northwest
	5_A_SE	0.00	8.00	Southeast
	5_A_SW	0.00	33.50	Southwest
18L	18L_A_NE	35.80	46.30	Northeast
	18L_A_NW	25.30	20.40	Northwest
	18L_A_SE	16.10	13.00	Southeast
	18L_A_SW1	18.30	16.30	Southwest
	18L_A_SW2	4.60	4.10	Southwest
18C	18C_A_NE	5.30	0.00	Northeast
	18C_A_NW	57.30	100.00	Northwest
	18C_A_SE1	1.60	0.00	Southeast
	18C_A_SE2	0.80	0.00	Southeast
	18C_A_SW	35.10	0.00	Southwest
23	23_A_NE	53.60	53.30	Northeast
	23_A_NW	2.90	15.90	Northwest
	23_A_SE	21.10	8.40	Southeast
	23_A_SW1	15.70	15.70	Southwest
	23_A_SW2	6.80	6.70	Southwest
36C	36C_A_NE1	4.40	60.00	Northeast
	36C_A_NE2	2.90	40.00	Northeast
	36C_A_NW	40.70	0.00	Northwest
	36C_A_SE	3.40	0.00	Southeast
	36C_A_SW	48.60	0.00	Southwest
36R	36R_A_NE	37.10	48.40	Northeast
	36R_A_NW1	17.60	18.60	Northwest
	36R_A_NW2	7.50	8.00	Northwest
	36R_A_SE	16.40	10.90	Southeast
	36R_A_SW	21.40	14.10	Southwest
18R	18R_A_NE	5.30	0.00	Northeast
	18R_A_NW	57.30	100.00	Northwest
	18R_A_SE1	1.60	0.00	Southeast
	18R_A_SE2	0.80	0.00	Southeast
	18R_A_SW	35.10	0.00	Southwest
36L	36L_A_NE1	4.40	60.00	Northeast
	36L_A_NE2	2.90	40.00	Northeast
	36L_A_NW	40.70	0.00	Northwest
	36L_A_SE	3.40	0.00	Southeast
	36L_A_SW	48.60	0.00	Southwest

Table A-14 (continued)

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NE	0.00	13.30	Northeast
	5_A_NW	50.00	53.30	Northwest
	5_A_SW	16.50	11.00	Southwest
	5_APSW	33.50	22.30	Southwest
18L	18L_APNE	39.40	53.00	Northeast
	18L_APNW	15.50	18.20	Northwest
	18L_APSE	17.00	13.60	Southeast
	18L_APSW1	13.20	11.70	Southwest
	18L_APSW2	3.40	0.80	Southwest
	18L_APSW3	11.50	2.70	Southwest
18C	18C_A_NE	0.60	5.90	Northeast
	18C_A_SE1	0.20	0.00	Southeast
	18C_A_SE2	0.40	0.00	Southeast
	18C_A_SW	29.00	5.90	Southwest
	18C_APNW	69.90	88.20	Northwest
23	23_A_NE	58.20	78.30	Northeast
	23_APNW	3.10	10.00	Northwest
	23_APSE	26.90	5.00	Southeast
	23_APSW1	9.40	5.30	Southwest
	23_APSW2	2.40	1.30	Southwest
36C	36C_A_NE1	5.20	10.00	Northeast
	36C_A_NE2	5.20	10.00	Northeast
	36C_A_NW	44.00	66.70	Northwest
	36C_A_SE	3.00	6.70	Southeast
	36C_A_SW	42.50	6.70	Southwest
36R	36R_A_NW2	2.40	1.50	Northwest
	36R_A_SE	21.30	30.70	Southeast
	36R_A_SW	26.70	28.30	Southwest
	36R_APNE	40.00	33.40	Northeast
	36R_APNW1	9.60	6.10	Northwest
18R	18R_A_NE	0.60	5.90	Northeast
	18R_A_SE1	0.20	0.00	Southeast
	18R_A_SE2	0.40	0.00	Southeast
	18R_A_SW	29.00	5.90	Southwest
	18R_APNW	69.90	88.20	Northwest
36L	36L_A_NE1	5.20	10.00	Northeast
	36L_A_NE2	5.20	10.00	Northeast
	36L_A_NW	44.00	66.70	Northwest
	36L_A_SE	3.00	6.70	Southeast
	36L_A_SW	42.50	6.70	Southwest

Table A-14 (continued)

Arrival Flight Track Use – 2014 Base Case
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Arriving direction relative to CLT
5	5_A_NW	0.00	66.70	Northwest
	5_A_SW	0.00	11.00	Southwest
	5_APSW	0.00	22.30	Southwest
18L	18L_APNE	48.60	0.00	Northeast
	18L_APNW	25.00	0.00	Northwest
	18L_APSE	10.40	0.00	Southeast
	18L_APSW1	6.00	0.00	Southwest
	18L_APSW2	2.30	0.00	Southwest
	18L_APSW3	7.60	0.00	Southwest
18C	18C_A_SE1	2.80	0.00	Southeast
	18C_A_SE2	5.60	0.00	Southeast
	18C_A_SW	41.70	0.00	Southwest
	18C_APNW	50.00	0.00	Northwest
23	23_A_NE	55.00	100.00	Northeast
	23_APSE	35.00	0.00	Southeast
	23_APSW1	8.00	0.00	Southwest
	23_APSW2	2.00	0.00	Southwest
36C	36C_A_NW	40.00	0.00	Northwest
	36C_A_SW	60.00	0.00	Southwest
36R	36R_A_NW2	1.90	0.00	Northwest
	36R_A_SE	31.80	0.00	Southeast
	36R_A_SW	17.10	0.00	Southwest
	36R_APNE	41.80	100.00	Northeast
	36R_APNW1	7.50	0.00	Northwest
18R	18R_A_SE1	2.80	0.00	Southeast
	18R_A_SE2	5.60	0.00	Southeast
	18R_A_SW	41.70	0.00	Southwest
	18R_APNW	50.00	0.00	Northwest
36L	36L_A_NW	40.00	0.00	Northwest
	36L_A_SW	60.00	0.00	Southwest

4 OPERATIONS INFORMATION FOR THE 2014 NEM WITH THE UPDATED NOISE COMPATIBILITY PROGRAM (NCP) AND FOR ANALYSES OF ALTERNATIVE SCENARIOS IN 2014

4.1 OPERATIONS INFORMATION FOR 2014

This section of the report contains detailed information about numbers of operations, runway use and flight corridor use projected for 2014 for the Noise Compatibility Program (Alternative 1) and for alternative scenarios that were considered during development of the NCP. Operations numbers in Tables A-11 and A-12 below are identical to numbers used to develop the base case noise exposure map for 2014 (Tables A-7 and A-8) in the previous section.

4.1.1 Flight Operations for 2014

During 2014, the yearly average daily number of takeoffs and landings is forecast to be 477.96. Table A-15 presents the activity in 6 separate user groups. As in the case of the information presented in section 3.2 of this Appendix, the number of operations, and their distribution between day and night hours is derived from the updated operations forecast. Table A-16 contains detailed numbers of aircraft operations by aircraft type within each user group for 2014.

TABLE A-15

Future Year (2014) Annual Average Daily Aircraft Operations
Charlotte-Douglas International Airport
Based on Approved 2008 Operations Forecast

User Group	Arrivals					Departures				
	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total	Day 0700-2200	Early Night 2200-2300	Middle Night 2300-0600	Late Night 0600-0700	Total
Passenger Jet	605.44	5.96	10.60	30.19	652.19	568.82	58.27	1.66	23.44	652.19
Passenger Prop	65.40	0.00	0.00	6.23	71.62	65.75	5.87	0.00	0.00	71.62
Cargo Jet	1.74	0.07	1.62	1.54	4.97	1.26	2.45	1.22	0.04	4.97
GA Jet	40.67	6.68	10.07	2.24	59.67	41.08	1.65	13.26	3.67	59.66
GA Prop	14.11	2.14	4.41	0.00	20.66	14.72	0.30	5.09	0.54	20.66
Military	2.61	0.00	0.00	0.00	2.61	2.61	0.00	0.00	0.00	2.61
Total	729.97	14.85	26.70	40.20	811.72	694.24	68.54	21.23	27.69	811.71

TABLE A-16

Future Year (2014) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

TABLE A-16 (continued)

Future Year (2014) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Charlotte-Douglas international Airport
Based on Approved 2008 Operations Forecast

This table will be in the draft circulated for review before the Public Hearing. A copy of the table will be send to the Aviation Department and the FAA Atlanta ADO as soon as it is available.

4.1.2 Operational Alternatives Considered for 2014

During this study, several operational alternatives were studied for 2014. Section 3.3.2 contains a detailed analysis of six possible operational alternatives. The current section presents details runway use, flight tracks and flight track use for each of the operational alternatives. Table A-17 identifies the tables and figures for each of the six alternatives.

Table 17

Tables and Figures for 2014 Operational Alternatives
Charlotte-Douglas International Airport

Alternative	Aircraft Operations Table	Runway Use Table	Flight Track Figures	Flight Track Use Tables
1	A-15 and A-16	A-18 and A-19	A-4 and A-5	A-13 and A-14
1.2			A-7 and A-5	A-25 and A-14
2		A-20 and A-21	A-4 and A-5	A-13 and A-14
3		A-22 and A-23		
4			A-6 and A-5	A-24 and A-14
4.2			A-7 and A-5	A-25 and A-14

4.1.3 Runway Use for Year 2014 NEM with the NCP (Alternative 1)

Alternative 1 uses the four runways for maximum-capacity operations from 0600 to 2300. It uses the existing, three-runway nighttime runway use pattern from 2300 to 0600. Tables A-18 (departures) and A-19 (arrivals) show the runway use for the 2014 NEM with the NCP (Alternative 1).

4.1.4 Runway Use for Year 2014 with Alternative 1.2

Alternative 1.2 has the same runway use as Alternative 1. However, Alternative 1.2 uses the revised departure routes of Alternative 4.2. Tables A-18 (departures) and A-19 (arrivals) show the runway use for the year 2014 with Alternative 1.2.

Table A-18

Future Condition (2014) NEM with NCP (Alternative 1) Departure Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Departures			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	17.6	0.0
	18L	26.0	26.0	21.6	26.0
	18C	26.0	26.0	16.4	26.0
	23	0.0	0.0	17.7	0.0
	36C	25.0	25.0	13.7	25.0
	36R	22.0	22.0	13.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	8.4	0.0
	18L	26.0	26.0	34.6	26.0
	18C	26.0	26.0	24.0	26.0
	23	0.0	0.0	2.4	0.0
	36C	25.0	25.0	18.2	25.0
	36R	22.0	22.0	12.5	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	27.2	0.0
	18L	26.0	26.0	15.7	26.0
	18C	26.0	26.0	4.1	26.0
	23	0.0	0.0	35.7	0.0
	36C	25.0	25.0	4.7	25.0
	36R	22.0	22.0	12.7	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	32.9	0.0
	18L	26.0	26.0	8.2	26.0
	18C	26.0	26.0	0.8	26.0
	23	0.0	0.0	46.3	0.0
	36C	25.0	25.0	1.6	25.0
	36R	22.0	22.0	10.1	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	14.3	0.0
	18L	26.0	26.0	40.5	26.0
	18C	26.0	26.0	2.7	26.0
	23	0.0	0.0	9.3	0.0
	36C	25.0	25.0	1.9	25.0
	36R	22.0	22.0	31.2	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	50.0	0.0
	18L	26.0	26.0	25.0	26.0
	18C	26.0	26.0	0.0	26.0
	23	0.0	0.0	12.5	0.0
	36C	25.0	25.0	0.0	25.0
	36R	22.0	22.0	12.5	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0

Table A-19

Future Condition (2014) NEM with NCP (Alternative 1) Arrival Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Arrivals			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	25.5	0.0
	18L	1.0	1.0	0.8	1.0
	18C	5.2	5.2	16.8	5.2
	23	25.0	25.0	41.2	25.0
	36C	4.8	4.8	12.7	4.8
	36R	21.6	21.6	3.2	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	12.4	0.0
	18L	1.0	1.0	2.3	1.0
	18C	5.2	5.2	47.2	5.2
	23	25.0	25.0	15.1	25.0
	36C	4.8	4.8	10.5	4.8
	36R	21.6	21.6	12.4	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	45.9	0.0
	18L	1.0	1.0	2.9	1.0
	18C	5.2	5.2	2.1	5.2
	23	25.0	25.0	42.3	25.0
	36C	4.8	4.8	2.6	4.8
	36R	21.6	21.6	4.1	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	28.8	0.0
	18L	1.0	1.0	15.5	1.0
	18C	5.2	5.2	0.3	5.2
	23	25.0	25.0	35.7	25.0
	36C	4.8	4.8	0.8	4.8
	36R	21.6	21.6	18.8	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	7.8	0.0
	18L	1.0	1.0	33.0	1.0
	18C	5.2	5.2	9.0	5.2
	23	25.0	25.0	12.2	25.0
	36C	4.8	4.8	5.2	4.8
	36R	21.6	21.6	32.8	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	40.0	0.0
	18L	1.0	1.0	30.0	1.0
	18C	5.2	5.2	0.0	5.2
	23	25.0	25.0	10.0	25.0
	36C	4.8	4.8	0.0	4.8
	36R	21.6	21.6	20.0	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0

4.1.5 Runway Use for Year 2014 with Alternative 2

Alternative 2 uses the four runways for maximum-capacity operations from 24 hours a day. It does not have any restrictions on runway use any time of the day. Tables A-20 (departures) and A-21 (arrivals) show the runway use for the year 2014 with Alternative 2. Departure routes for Alternative 2 are the same as for Alternative 1.

4.1.6 Runway Use for Year 2014 with Alternative 3

Alternative 3 uses the four runways for maximum-capacity operations from 0600 to 2300. It uses the original 3 runways in the pattern used during the daytime in 2009 from 2300 to 0600. Tables A-22 (departures) and A-23 (arrivals) show the runway use for the year 2014 with Alternative 3.

4.1.7 Runway Use for Year 2014 with Alternative 4

Alternative 4 uses the same runway use as Alternative 3 (four runways for maximum-capacity operations from 0600 to 2300 and the original 3 runways in the pattern used during the daytime in 2009 from 2300 to 0600). Tables A-22 (departures) and A-23 (arrivals) show the runway use for the year 2014 with Alternative 4.

4.1.8 Runway Use for Year 2014 with Alternative 4.2

Alternative 4.2 uses the same runway use as Alternatives 3 and 4 (four runways for maximum-capacity operations from 0600 to 2300 and the original 3 runways in the pattern used during the daytime in 2009 from 2300 to 0600). Tables A-21 (departures) and A-22 (arrivals) show the runway use for the year 2014 with Alternative 4.2.

Table A-20

Future Condition (2014) Alternative 2 Departure Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Departures			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	26.0	26.0
	18C	26.0	26.0	26.0	26.0
	23	0.0	0.0	0.0	0.0
	36C	25.0	25.0	25.0	25.0
	36R	22.0	22.0	22.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	1.0	1.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	26.0	26.0
	18C	26.0	26.0	26.0	26.0
	23	0.0	0.0	0.0	0.0
	36C	25.0	25.0	25.0	25.0
	36R	22.0	22.0	22.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	1.0	1.0
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	26.0	26.0
	18C	26.0	26.0	26.0	26.0
	23	0.0	0.0	0.0	0.0
	36C	25.0	25.0	25.0	25.0
	36R	22.0	22.0	22.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	1.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	26.0	26.0
	18C	26.0	26.0	26.0	26.0
	23	0.0	0.0	0.0	0.0
	36C	25.0	25.0	25.0	25.0
	36R	22.0	22.0	22.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	1.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	26.0	26.0
	18C	26.0	26.0	26.0	26.0
	23	0.0	0.0	0.0	0.0
	36C	25.0	25.0	25.0	25.0
	36R	22.0	22.0	22.0	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	1.0	1.0
	Total	0.0	0.0	0.0	0.0
Military Props	5	26.0	26.0	26.0	26.0
	18L	26.0	26.0	26.0	26.0
	18C	0.0	0.0	0.0	0.0
	23	25.0	25.0	25.0	25.0
	36C	22.0	22.0	22.0	22.0
	36R	0.0	0.0	0.0	0.0
	18R	1.0	1.0	1.0	1.0
	36L	100.0	100.0	100.0	100.0
	Total	0.0	0.0	0.0	0.0

Table A-21

Future Condition (2014) Alternative 2 Arrival Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Arrivals			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	1.0	1.0
	18C	5.2	5.2	5.2	5.2
	23	25.0	25.0	25.0	25.0
	36C	4.8	4.8	4.8	4.8
	36R	21.6	21.6	21.6	21.6
	18R	20.8	20.8	20.8	20.8
	36L	21.6	21.6	21.6	21.6
	Total	100.0	100.0	100.0	100.0

Table A-22

Future Condition (2014) Alternative 3 Departure Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Departures			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	0.5	0.0
	18L	26.0	26.0	25.6	26.0
	18C	26.0	26.0	28.2	26.0
	23	0.0	0.0	<0.1	0.0
	36C	25.0	25.0	26.5	25.0
	36R	22.0	22.0	19.2	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	1.1	0.0
	18L	26.0	26.0	28.3	26.0
	18C	26.0	26.0	24.1	26.0
	23	0.0	0.0	0.6	0.0
	36C	25.0	25.0	23.7	25.0
	36R	22.0	22.0	22.2	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	0.0	0.0
	18L	26.0	26.0	25.4	26.0
	18C	26.0	26.0	21.8	26.0
	23	0.0	0.0	0.6	0.0
	36C	25.0	25.0	22.9	25.0
	36R	22.0	22.0	29.3	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	0.8	0.0
	18L	26.0	26.0	42.1	26.0
	18C	26.0	26.0	6.2	26.0
	23	0.0	0.0	3.5	0.0
	36C	25.0	25.0	8.2	25.0
	36R	22.0	22.0	39.3	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	3.7	0.0
	18L	26.0	26.0	40.0	26.0
	18C	26.0	26.0	5.9	26.0
	23	0.0	0.0	5.2	0.0
	36C	25.0	25.0	8.2	25.0
	36R	22.0	22.0	37.1	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	4.2	0.0
	18L	26.0	26.0	35.3	26.0
	18C	26.0	26.0	4.7	26.0
	23	0.0	0.0	3.7	0.0
	36C	25.0	25.0	9.5	25.0
	36R	22.0	22.0	42.6	22.0
	18R	0.0	0.0	0.0	0.0
	36L	1.0	1.0	0.0	1.0
	Total	100.0	100.0	100.0	100.0

Table A-23

Future Condition (2014) Alternative 3 Arrival Runway Use
Charlotte-Douglas International Airport

Aircraft Group	Runway	Percentages of Arrivals			
		DAY (0700-2159)	EARLY NIGHT (2200-2259)	MIDDLE NIGHT (2300-0559)	LATE NIGHT (0600-0659)
Passenger Jets	5	0.0	0.0	<0.1	0.0
	18L	1.0	1.0	1.5	1.0
	18C	5.2	5.2	27.5	5.2
	23	25.0	25.0	23.9	25.0
	36C	4.8	4.8	27.4	4.8
	36R	21.6	21.6	19.6	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Passenger Props	5	0.0	0.0	<0.1	0.0
	18L	1.0	1.0	2.3	1.0
	18C	5.2	5.2	20.2	5.2
	23	25.0	25.0	29.3	25.0
	36C	4.8	4.8	18.3	4.8
	36R	21.6	21.6	29.9	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Cargo Jets	5	0.0	0.0	0.2	0.0
	18L	1.0	1.0	15.3	1.0
	18C	5.2	5.2	27.3	5.2
	23	25.0	25.0	10.2	25.0
	36C	4.8	4.8	21.6	4.8
	36R	21.6	21.6	25.5	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Jets	5	0.0	0.0	<0.1	0.0
	18L	1.0	1.0	43.8	1.0
	18C	5.2	5.2	3.8	5.2
	23	25.0	25.0	4.7	25.0
	36C	4.8	4.8	4.5	4.8
	36R	21.6	21.6	43.1	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
General Aviation Props	5	0.0	0.0	0.1	0.0
	18L	1.0	1.0	38.3	1.0
	18C	5.2	5.2	7.6	5.2
	23	25.0	25.0	6.8	25.0
	36C	4.8	4.8	7.8	4.8
	36R	21.6	21.6	39.4	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0
Military Props	5	0.0	0.0	0.0	0.0
	18L	1.0	1.0	35.8	1.0
	18C	5.2	5.2	4.6	5.2
	23	25.0	25.0	13.1	25.0
	36C	4.8	4.8	3.1	4.8
	36R	21.6	21.6	43.5	21.6
	18R	20.8	20.8	0.0	20.8
	36L	21.6	21.6	0.0	21.6
	Total	100.0	100.0	100.0	100.0

4.1.9 Flight Tracks and Flight Track Use for Alternative 1 (NEM with Updated NCP), Alternative 2 and Alternative 3

Departure and arrival flight tracks and flight track usage for Alternatives 1, 2 and 3 are unchanged from the 2014 Base Case.

4.1.10 Flight Tracks and Flight Track Use for Alternative 4

Alternative 4 uses the first set of alternative departure routes with headings shown in Table 11. Figure A-6 shows the departure tracks and Table A-24 shows the departure flight track usage. Arrival tracks and arrival track usage are unchanged from the 2014 Base Case.

In Table 23, Shaded track use indicates that there are no operations for this aircraft group and time period because of the runway use. However, this is the track use that would be used if the runway use changes as a result of the proposed alternatives. Flight track use is presented in terms of percent operations per runway for the given time period. Due to rounding, the sum of the percentages for each runway and time period may not equal exactly 100%.

4.1.11 Flight Tracks and Flight Track Use for Alternatives 4.2 and 1.2

Alternatives 4.2 and 1.2 use the second set of alternative departure routes with headings shown in Table 11. Figure A-7 shows the departure tracks and Table A-25 shows the depart flight track usage. Arrival tracks and arrival track usage are unchanged from the 2014 Base Case.

In Table A-24, Shaded track use indicates that there are no operations for this aircraft group and time period because of the runway use. However, this is the track use that would be used if the runway use changes as a result of the proposed alternatives. Flight track use is presented in terms of percent operations per runway for the given time period. Due to rounding, the sum of the percentages for each runway and time period may not equal exactly 100%.

Figure A-8

Departure Flight Tracks for 2014 Alternative 4

This figure will be in the draft circulated for review before the Public Hearing.

Figure A-9

Departure Flight Tracks for 2014 Alternatives 4.2 and 1.2

This figure will be in the draft circulated for review before the Public Hearing.

Table A-24
Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport
Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	73.40	24.70	East
	5_D_JN	3.90	28.10	North
	5_D_JS	16.40	13.90	South
	5_D_JW	6.30	33.20	West
18L	18L_D_180E	29.45	37.65	East
	18L_D_165E	29.45	37.65	East
	18L_D_N	1.10	2.10	North
	18L_D_180S	19.05	8.70	South
	18L_D_165S	19.05	8.70	South
	18L_D_W	2.00	5.20	West
18C	18C_D_E	2.30	1.30	East
	18C_D_210W	32.20	20.80	West
	18C_D_195W	32.20	20.80	West
	18C_D_180W	32.20	20.80	West
	18C_D_180S	0.33	12.13	South
	18C_D_195S	0.33	12.13	South
	18C_D_210S	0.33	12.13	South
23	23_D_E	12.50	25.90	East
	23_D_N	37.50	27.30	North
	23_D_S	0.00	15.70	South
	23_D_W	50.00	31.20	West
36C	36C_D_JE	2.80	2.70	East
	36C_D_340JN	26.15	20.15	North
	36C_D_320JN	26.15	20.15	North
	36C_D_320JW	22.55	28.60	West
	36C_RNV_BSCB	49.00	39.20	North
36R	36R_D_J010E	49.35	49.85	East
	36R_D_J030E	49.35	49.85	East
	36R_D_J010N	0.10	0.10	North
	36R_D_J030N	0.10	0.10	North
	36R_D_JW	1.20	0.20	West
18R	18R_D_E	2.30	1.30	East
	18R_D_210W	32.20	20.80	West
	18R_D_195W	32.20	20.80	West
	18R_D_180W	32.20	20.80	West
	18R_D_180S	0.33	12.13	South
	18R_D_195S	0.33	12.13	South
	18R_D_210S	0.33	12.13	South
36L	36L_D_JE	2.80	2.70	East
	36L_D_340JN	26.15	20.15	North
	36L_D_320JN	26.15	20.15	North
	36L_D_320JW	22.55	28.60	West
	36L_D_340JW	22.55	28.60	West

Table A-24 (continued)

Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	70.10	62.40	East
	5_D_JN	0.00	22.40	North
	5_D_JS	29.40	6.40	South
	5_D_JW	0.50	8.80	West
18L	18L_D_180S	1.80	0.75	South
	18L_D_165S	1.80	0.75	South
	18L_DPE1	46.60	54.80	East
	18L_DPE2	11.70	13.70	East
	18L_DPN	3.90	11.50	North
	18L_DPS1	32.10	13.10	South
	18L_DPW	2.20	5.50	West
18C	18C_DPN1	41.90	40.10	North
	18C_DPN2	10.50	10.00	North
	18C_DPW1	38.10	39.90	West
	18C_DPW2	9.50	10.00	West
23	23_D_E	0.00	16.70	East
	23_D_N	51.50	66.70	North
	23_D_S	1.00	0.00	South
	23_D_W	47.50	16.70	West
36C	36C_DPN1	42.70	45.70	North
	36C_DPN2	10.70	11.40	North
	36C_DPW1	32.60	30.00	West
	36C_DPW2	4.70	4.30	West
	36C_DPW3	9.30	8.60	West
36R	36R_DPE1	19.30	23.70	East
	36R_DPE2	21.80	26.70	East
	36R_DPE3	21.20	26.00	East
	36R_DPS1	37.70	23.70	South
	36R_DPW1	0.10	0.00	West
18R	18R_DPN1	41.90	40.10	North
	18R_DPN2	10.50	10.00	North
	18R_DPW1	38.10	39.90	West
	18R_DPW2	9.50	10.00	West
36L	36L_DPN1	42.70	45.70	North
	36L_DPN2	10.70	11.40	North
	36L_DPW1	32.60	30.00	West
	36L_DPW2	4.70	4.30	West
	36L_DPW3	9.30	8.60	West

Table A-24 (continued)

Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport
Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	0.00	21.90	East
	5_D_JN	0.00	54.90	North
	5_D_JS	0.00	0.50	South
	5_D_JW	0.00	22.80	West
18L	18L_D_180E	22.20	16.25	East
	18L_D_165E	22.20	16.25	East
	18L_D_N	4.80	65.90	North
	18L_D_180S	18.25	0.40	South
	18L_D_165S	18.25	0.40	South
	18L_D_W	14.30	0.80	West
18C	18C_D_E	7.00	0.00	East
	18C_D_210W	30.50	33.33	West
	18C_D_195W	30.50	33.33	West
	18C_D_180W	30.50	33.33	West
	18C_D_180S	0.47	0.00	South
	18C_D_195S	0.47	0.00	South
	18C_D_210S	0.47	0.00	South
23	23_D_E	0.00	19.20	East
	23_D_N	0.00	57.30	North
	23_D_W	100.00	23.40	West
36C	36C_D_JE	6.30	10.80	East
	36C_D_340JN	0.65	23.00	North
	36C_D_320JN	0.65	23.00	North
	36C_D_320JW	46.25	21.60	West
	36C_D_340JW	46.25	21.60	West
36R	36R_D_J010E	42.45	12.75	East
	36R_D_J030E	42.45	12.75	East
	36R_D_J010N	0.00	36.30	North
	36R_D_J030N	0.00	36.30	North
	36R_D_JW	15.20	2.00	West
18R	18R_D_E	7.00	0.00	East
	18R_D_210W	30.50	33.33	West
	18R_D_195W	30.50	33.33	West
	18R_D_180W	30.50	33.33	West
	18R_D_180S	0.47	0.00	South
	18R_D_195S	0.47	0.00	South
	18R_D_210S	0.47	0.00	South
36L	36L_D_JE	6.30	10.80	East
	36L_D_340JN	0.65	23.00	North
	36L_D_320JN	0.65	23.00	North
	36L_D_320JW	46.25	21.60	West
	36L_D_340JW	46.25	21.60	West

Table A-24 (continued)

Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	35.00	60.00	East
	5_D_JN	15.00	9.10	North
	5_D_JS	20.00	10.00	South
	5_D_JW	30.00	20.90	West
18L	18L_D_180E	21.40	24.15	East
	18L_D_165E	21.40	24.15	East
	18L_D_N	13.20	3.50	North
	18L_D_180S	10.35	10.35	South
	18L_D_165S	10.35	10.35	South
	18L_D_W	23.30	27.60	West
18C	18C_D_E	0.00	33.30	East
	18C_D_210W	33.33	22.20	West
	18C_D_195W	33.33	22.20	West
	18C_D_180W	33.33	22.20	West
23	23_D_E	3.40	61.20	East
	23_D_N	27.40	12.70	North
	23_D_S	0.00	7.60	South
	23_D_W	69.20	18.50	West
36C	36C_D_JE	0.70	16.70	East
	36C_D_340JN	13.40	8.35	North
	36C_D_320JN	13.40	8.35	North
	36C_D_320JW	36.30	33.35	West
	36C_D_340JW	36.30	33.35	West
36R	36R_D_J010E	32.25	24.20	East
	36R_D_J030E	32.25	24.20	East
	36R_D_J010N	6.30	9.70	North
	36R_D_J030N	6.30	9.70	North
	36R_D_JW	23.00	32.30	West
18R	18R_D_E	0.00	33.30	East
	18R_D_210W	33.33	22.20	West
	18R_D_195W	33.33	22.20	West
	18R_D_180W	33.33	22.20	West
36L	36L_D_JE	0.70	16.70	East
	36L_D_340JN	13.40	8.35	North
	36L_D_320JN	13.40	8.35	North
	36L_D_320JW	36.30	33.35	West
	36L_D_340JW	36.30	33.35	West

Table A-24 (continued)

Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	66.70	46.90	East
	5_D_JN	1.30	0.00	North
	5_D_JS	24.00	28.60	South
	5_D_JW	8.00	24.50	West
18L	18L_D_180S	0.85	2.05	South
	18L_D_165S	0.85	2.05	South
	18L_DPE1	39.10	34.40	East
	18L_DPE2	9.80	8.60	East
	18L_DPN	6.10	1.60	North
	18L_DPS1	15.30	37.30	South
	18L_DPW	28.10	14.10	West
18C	18C_DPN1	8.20	0.00	North
	18C_DPN2	2.10	0.00	North
	18C_DPW1	71.80	80.00	West
	18C_DPW2	17.90	20.00	West
23	23_D_E	0.00	6.30	East
	23_D_N	11.60	12.50	North
	23_D_S	6.60	28.10	South
	23_D_W	81.80	53.10	West
36C	36C_DPN1	9.80	0.00	North
	36C_DPN2	2.50	0.00	North
	36C_DPW1	61.40	70.00	West
	36C_DPW2	8.80	10.00	West
	36C_DPW3	17.50	20.00	West
36R	36R_DPE1	15.50	14.80	East
	36R_DPE2	17.50	16.80	East
	36R_DPE3	17.00	16.30	East
	36R_DPS1	15.20	30.80	South
	36R_DPW1	34.80	21.30	West
18R	18R_DPN1	8.20	0.00	North
	18R_DPN2	2.10	0.00	North
	18R_DPW1	71.80	80.00	West
	18R_DPW2	17.90	20.00	West
36L	36L_DPN1	9.80	0.00	North
	36L_DPN2	2.50	0.00	North
	36L_DPW1	61.40	70.00	West
	36L_DPW2	8.80	10.00	West
	36L_DPW3	17.50	20.00	West

Table A-24 (continued)

Departure Flight Track Use – 2014 Alternative 4
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	85.70	100.00	East
	5_D_JS	14.30	0.00	South
18L	18L_D_180S	1.30	5.00	South
	18L_D_165S	1.30	5.00	South
	18L_DPE1	45.20	0.00	East
	18L_DPE2	11.30	0.00	East
	18L_DPN	6.50	0.00	North
	18L_DPS1	23.20	90.00	South
	18L_DPW	11.30	0.00	West
18C	18C_DPW1	80.00	0.00	West
	18C_DPW2	20.00	0.00	West
23	23_D_N	14.30	0.00	North
	23_D_W	85.70	0.00	West
36C	36C_DPN1	20.00	0.00	North
	36C_DPN2	5.00	0.00	North
	36C_DPW1	52.50	0.00	West
	36C_DPW2	7.50	0.00	West
	36C_DPW3	15.00	0.00	West
36R	36R_DPE1	19.00	0.00	East
	36R_DPE2	21.40	0.00	East
	36R_DPE3	20.80	0.00	East
	36R_DPS1	14.90	100.00	South
	36R_DPW1	23.90	0.00	West
18R	18R_DPW1	80.00	0.00	West
	18R_DPW2	20.00	0.00	West
36L	36L_RW	20.00	0.00	West
	36L_DPN1	5.00	0.00	North
	36L_DPN2	52.50	0.00	North
	36L_DPW1	7.50	0.00	West
	36L_DPW2	15.00	0.00	West

Table A-25

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport
Passenger Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	73.40	24.70	East
	5_D_JN	3.90	28.10	North
	5_D_JS	16.40	13.90	South
	5_D_JW	6.30	33.20	West
18L	18L_D_180E	29.45	37.65	East
	18L_D_165E	29.45	37.65	East
	18L_D_N	1.10	2.10	North
	18L_D_180S	19.05	8.70	South
	18L_D_165S	19.05	8.70	South
	18L_D_W	2.00	5.20	West
18C	18C_D_E	2.30	1.30	East
	18C_D_210W	32.20	20.80	West
	18C_D_195W	32.20	20.80	West
	18C_D_180W	32.20	20.80	West
	18C_D_180S	0.33	12.13	South
	18C_D_195S	0.33	12.13	South
	18C_D_210S	0.33	12.13	South
23	23_D_E	12.50	25.90	East
	23_D_N	37.50	27.30	North
	23_D_S	0.00	15.70	South
	23_D_W	50.00	31.20	West
36C	36C_D_JE	2.80	2.70	East
	36C_D_330JN	26.15	20.15	North
	36C_D_315JN	26.15	20.15	North
	36C_D_315JW	22.55	28.60	West
	36C_D_330JW	22.55	28.60	West
36R	36R_D_J025E	49.35	49.85	East
	36R_D_J040E	49.35	49.85	East
	36R_D_J025N	0.10	0.10	North
	36R_D_J040N	0.10	0.10	North
	36R_D_JW	1.20	0.20	West
18R	18R_D_E	2.30	1.30	East
	18R_D_210W	32.20	20.80	West
	18R_D_195W	32.20	20.80	West
	18R_D_180W	32.20	20.80	West
	18R_D_180S	0.33	12.13	South
	18R_D_195S	0.33	12.13	South
	18R_D_210S	0.33	12.13	South
36L	36L_D_JE	2.80	2.70	East
	36L_D_330JN	26.15	20.15	North
	36L_D_315JN	26.15	20.15	North
	36L_D_315JW	22.55	28.60	West
	36L_D_330JW	22.55	28.60	West

Table A-25 (continued)

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport

Passenger Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	70.10	62.40	East
	5_D_JN	0.00	22.40	North
	5_D_JS	29.40	6.40	South
	5_D_JW	0.50	8.80	West
18L	18L_D_180S	1.80	0.75	South
	18L_D_165S	1.80	0.75	South
	18L_DPE1	46.60	54.80	East
	18L_DPE2	11.70	13.70	East
	18L_DPN	3.90	11.50	North
	18L_DPS1	32.10	13.10	South
	18L_DPW	2.20	5.50	West
18C	18C_DPN1	41.90	40.10	North
	18C_DPN2	10.50	10.00	North
	18C_DPW1	38.10	39.90	West
	18C_DPW2	9.50	10.00	West
23	23_D_E	0.00	16.70	East
	23_D_N	51.50	66.70	North
	23_D_S	1.00	0.00	South
	23_D_W	47.50	16.70	West
36C	36C_DPN1	42.70	45.70	North
	36C_DPN2	10.70	11.40	North
	36C_DPW1	32.60	30.00	West
	36C_DPW2	4.70	4.30	West
	36C_DPW3	9.30	8.60	West
36R	36R_DPE1	19.30	23.70	East
	36R_DPE2	21.80	26.70	East
	36R_DPE3	21.20	26.00	East
	36R_DPS1	37.70	23.70	South
	36R_DPW1	0.10	0.00	West
18R	18R_DPN1	41.90	40.10	North
	18R_DPN2	10.50	10.00	North
	18R_DPW1	38.10	39.90	West
	18R_DPW2	9.50	10.00	West
36L	36L_DPN1	42.70	45.70	North
	36L_DPN2	10.70	11.40	North
	36L_DPW1	32.60	30.00	West
	36L_DPW2	4.70	4.30	West
	36L_DPW3	9.30	8.60	West

Table A-25 (continued)

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport
Cargo Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	0.00	21.90	East
	5_D_JN	0.00	54.90	North
	5_D_JS	0.00	0.50	South
	5_D_JW	0.00	22.80	West
18L	18L_D_180E	22.20	16.25	East
	18L_D_165E	22.20	16.25	East
	18L_D_N	4.80	65.90	North
	18L_D_180S	18.25	0.40	South
	18L_D_165S	18.25	0.40	South
	18L_D_W	14.30	0.80	West
18C	18C_D_E	7.00	0.00	East
	18C_D_210W	30.50	33.33	West
	18C_D_195W	30.50	33.33	West
	18C_D_180W	30.50	33.33	West
	18C_D_180S	0.47	0.00	South
	18C_D_195S	0.47	0.00	South
	18C_D_210S	0.47	0.00	South
23	23_D_E	0.00	19.20	East
	23_D_N	0.00	57.30	North
	23_D_W	100.00	23.40	West
36C	36C_D_JE	6.30	10.80	East
	36C_D_330JN	0.65	23.00	North
	36C_D_315JN	0.65	23.00	North
	36C_D_315JW	46.25	21.60	West
	36C_D_330JW	46.25	21.60	West
36R	36R_D_J025E	42.45	12.75	East
	36R_D_J040E	42.45	12.75	East
	36R_D_J025N	0.00	36.30	North
	36R_D_J040N	0.00	36.30	North
	36R_D_JW	15.20	2.00	West
18R	18R_D_E	7.00	0.00	East
	18R_D_210W	30.50	33.33	West
	18R_D_195W	30.50	33.33	West
	18R_D_180W	30.50	33.33	West
	18R_D_180S	0.47	0.00	South
	18R_D_195S	0.47	0.00	South
	18R_D_210S	0.47	0.00	South
36L	36L_D_JE	6.30	10.80	East
	36L_D_330JN	0.65	23.00	North
	36L_D_315JN	0.65	23.00	North
	36L_D_315JW	46.25	21.60	West
	36L_D_330JW	46.25	21.60	West

Table A-25 (continued)

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport

General Aviation Jets

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	35.00	60.00	East
	5_D_JN	15.00	9.10	North
	5_D_JS	20.00	10.00	South
	5_D_JW	30.00	20.90	West
18L	18L_D_180E	21.40	24.15	East
	18L_D_165E	21.40	24.15	East
	18L_D_N	13.20	3.50	North
	18L_D_180S	10.35	10.35	South
	18L_D_165S	10.35	10.35	South
	18L_D_W	23.30	27.60	West
18C	18C_D_E	0.00	33.30	East
	18C_D_210W	33.33	22.20	West
	18C_D_195W	33.33	22.20	West
	18C_D_180W	33.33	22.20	West
23	23_D_E	3.40	61.20	East
	23_D_N	27.40	12.70	North
	23_D_S	0.00	7.60	South
	23_D_W	69.20	18.50	West
36C	36C_D_JE	0.70	16.70	East
	36C_D_330JN	13.40	8.35	North
	36C_D_315JN	13.40	8.35	North
	36C_D_315JW	36.10	33.55	West
	36C_D_330JW	36.10	33.55	West
36R	36R_D_J025E	32.25	24.20	East
	36R_D_J040E	32.25	24.20	East
	36R_D_J025N	6.30	9.70	North
	36R_D_J040N	6.30	9.70	North
	36R_D_JW	23.00	32.30	West
18R	18R_D_E	0.00	33.30	East
	18R_D_210W	33.33	22.20	West
	18R_D_195W	33.33	22.20	West
	18R_D_180W	33.33	22.20	West
36L	36L_D_JE	0.70	16.70	East
	36L_D_330JN	13.40	8.35	North
	36L_D_315JN	13.40	8.35	North
	36L_D_315JW	36.30	33.35	West
	36L_D_330JW	36.30	33.35	West

Table A-25 (continued)

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport

General Aviation Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	66.70	46.90	East
	5_D_JN	1.30	0.00	North
	5_D_JS	24.00	28.60	South
	5_D_JW	8.00	24.50	West
18L	18L_D_180S	0.85	2.05	South
	18L_D_165S	0.85	2.05	South
	18L_DPE1	39.10	34.40	East
	18L_DPE2	9.80	8.60	East
	18L_DPN	6.10	1.60	North
	18L_DPS1	15.30	37.30	South
	18L_DPW	28.10	14.10	West
18C	18C_DPN1	8.20	0.00	North
	18C_DPN2	2.10	0.00	North
	18C_DPW1	71.80	80.00	West
	18C_DPW2	17.90	20.00	West
23	23_D_E	0.00	6.30	East
	23_D_N	11.60	12.50	North
	23_D_S	6.60	28.10	South
	23_D_W	81.80	53.10	West
36C	36C_DPN1	9.80	0.00	North
	36C_DPN2	2.50	0.00	North
	36C_DPW1	61.40	70.00	West
	36C_DPW2	8.80	10.00	West
	36C_DPW3	17.50	20.00	West
36R	36R_DPE1	15.50	14.80	East
	36R_DPE2	17.50	16.80	East
	36R_DPE3	17.00	16.30	East
	36R_DPS1	15.20	30.80	South
	36R_DPW1	34.80	21.30	West
18R	18R_DPN1	8.20	0.00	North
	18R_DPN2	2.10	0.00	North
	18R_DPW1	71.80	80.00	West
	18R_DPW2	17.90	20.00	West
36L	36L_DPN1	9.80	0.00	North
	36L_DPN2	2.50	0.00	North
	36L_DPW1	61.40	70.00	West
	36L_DPW2	8.80	10.00	West
	36L_DPW3	17.50	20.00	West

Table A-25 (continued)

Departure Flight Track Use – 2014 Alternatives 4.2 and 1.2
Charlotte-Douglas international Airport

Military Props

Runway	Flight Track	Day and Early Night (0700-2259)	Middle Night and Late Night (2300-0659)	Direction departing from CLT environs
5	5_D_JE	85.70	100.00	East
	5_D_JS	14.30	0.00	South
18L	18L_D_180S	1.30	5.00	South
	18L_D_165S	1.30	5.00	South
	18L_DPE1	45.20	0.00	East
	18L_DPE2	11.30	0.00	East
	18L_DPN	6.50	0.00	North
	18L_DPS1	23.20	90.00	South
	18L_DPW	11.30	0.00	West
18C	18C_DPW1	80.00	0.00	West
	18C_DPW2	20.00	0.00	West
23	23_D_N	14.30	0.00	North
	23_D_W	85.70	0.00	West
36C	36C_DPN1	20.00	0.00	North
	36C_DPN2	5.00	0.00	North
	36C_DPW1	52.50	0.00	West
	36C_DPW2	7.50	0.00	West
	36C_DPW3	15.00	0.00	West
36R	36R_DPE1	19.00	0.00	East
	36R_DPE2	21.40	0.00	East
	36R_DPE3	20.80	0.00	East
	36R_DPS1	14.90	100.00	South
	36R_DPW1	23.90	0.00	West
18R	18R_DPW1	80.00	0.00	West
	18R_DPW2	20.00	0.00	West
36L	36L_RW	20.00	0.00	West
	36L_DPN1	5.00	0.00	North
	36L_DPN2	52.50	0.00	North
	36L_DPW1	7.50	0.00	West
	36L_DPW2	15.00	0.00	West

5 LAND USE ANALYSES

FAR Part 150 requires development of detailed information about land uses in areas where DNL exceeds 65 dB. The base map for this study depicts a study area around PTIA that is significantly larger than the DNL 65 for any condition considered. This section contains descriptions of the land use in the study area and the process used to develop this information. It also contains noise compatibility information provided by the FAA for use in Part 150 studies. The NEMs of Figures 5, 6 and 15 use the detailed land use base map developed during this study. Noise-sensitive land uses are shown throughout the study area and all off-airport land uses are shown where the DNL exceeds 65.

5.1 Land Use Methodology

Zoning is one of the primary tools available to local communities to promote land use compatibility. The study area includes is in Mecklenburg County.

The statistics of incompatible land uses were developed by calculating land areas and specific buildings contained within noise contours. Numbers of residents were developed by assigning numbers of residents to individual residences according to population information from the 2000 census.

5.2 FAR Part 150 Land Use Guidelines

Identifying and evaluating land uses in the study area is an important step in the Part 150 process. This evaluation is necessary to identify residential and other noise sensitive land uses around PTIA. The FAA has identified land use compatibility guidelines relating types of land use to noise exposure levels. These guidelines are defined in Table 1 of Appendix A in FAR Part 150 (14 CFR Part 150), called *Land Use Compatibility with Yearly Day-Night Average Sound Levels*, and reproduced here in Table A-26. The guidelines show compatibility information for residential, public (schools, houses of worship, nursing homes, hospitals), commercial, manufacturing, production, and recreational land uses. All land uses are generally considered compatible with aircraft noise below a DNL of 65 dB.

Table A-26
LAND USE COMPATIBILITY GUIDELINES
Yearly Day-Night Average Sound Level (DNL) in Decibels

LAND USE	**Below 65**	**65-70**	**70-75**	**75-80**	**80-85**	**Over 85**
RESIDENTIAL						
Residential, other than mobile Homes and transient lodgings	Y	N[1]	N[1]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient Lodgings	Y	N[1]	N[1]	N[1]	N	N
PUBLIC BUILDINGS						
Schools, hospitals, nursing homes	Y	25	30	N	N	N
Houses of worship[7], auditoriums and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[2]	Y[3]	Y[4]	Y[4]
Parking	Y	Y	Y[2]	Y[3]	Y[4]	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail – building materials, hardware and farm equipment	Y	Y	Y[2]	Y[3]	Y[4]	N
Retail trade, general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[2]	Y[3]	Y[4]	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y[2]	Y[3]	Y[4]	N
Photographic and optical	Y	Y	25	30	Y	N
Agricultural (except livestock) and forestry	Y	Y[6]	Y[7]	Y[8]	Y[8]	Y[8]
Livestock, farming and breeding	Y	Y[6]	Y[7]	N	N	N
production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y	Y[5]	Y[5]	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusement parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

[7] The FAA uses the term "churches" rather than "houses of worship" as used elsewhere in this document.

Table A-26 (continued)
LAND USE COMPATIBILITY GUIDELINES

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable under Federal, State or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

Key to Table A-26

Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, 35	Land Use and related structures generally compatible; measures to achieve an NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.

Notes for Table A-26

1. Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to an NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over normal construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

2. Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

3. Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

4. Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

5. Land use compatible provided special sound reinforcement systems are installed

6. Residential buildings require an NLR of 25.

7. Residential buildings require an NLR of 25.

8. Residential buildings not permitted.

Source: *FAR Part 150b*

Airport Noise Compatibility Planning, Appendix A, Table 1.

APPENDIX B:

MEASURES NOT RECOMMENDED FOR INCLUSION IN THE NCP

THE FINAL DRAFT WILL INCLUDE A DISCUSSION OF ANY MEASURES THAT WERE STUDIED, BUT NOT INCLUDED IN THE PROPOSED UPDATED NCP:

The only such measure was a measure to increase the number of departure routes and thereby reduce the concentration of overflights due to RNAV procedures.

APPENDIX C:

RECORD OF PUBLIC INVOLVEMENT PROGRAM

FINAL DRAFT DOCUMENT WILL INCLUDE DESCRIPTIONS OF THE FOLLOWING:

OVERVIEW OF PUBLIC INVOLVEMENT PROGRAM

PUBLIC MEETINGS

First Public Meeting

Introduction

Sign-Up Lists

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
John AHRENS	2409 Fraserburg Drive Matthews N.C. 28105	704 847-7732	
Robert T. Cole III	P.O. Box 668073 Charlotte, N.C. 28266	704 587-9565	
Richard Wolny	13932 WILD HEATHER CT. CHAR. NC 28273	704 583-9926	
Ernest C Todd	10510 Moores Chapel Rd. 28214	704 392 1060	
Ralph + Joyce Stiwalt	8041 Walkers ferry Rd 28214	704-399-5153	
JANET JORDAN	4108 Rockwood Rd 28214	704-394-4969	
GREG SCHWARZ	9301 WALKERS FERRY RD	704 264 1205	
NANCY Porter	12137 Tarragate Dr.	704-588-3330	
Larry / Linda Covington	2938 Sadler Rd. 28278	704 392-5749	
Dale + Leslie Smith	9125 Markswood Rd, 28278	704-588-1479	

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
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William J. Porter	12137 Tarragate Dr. 28273	704-588-3330	
RANDY BAUGHT	10210 WALKERS FERRY RD. 28278	704-697-0740	RLBAUGHT_9@MSN.com
Randy Higgins	10424 Quiet Bay Ct. 28278	704-504-0688	randy@blueskyblinds.net
MICHELE JONES	13014 BLACK OAK 28273	980-722-8063	MEJBCAC@AOL.COM

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
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Bob + Lynn Pusks	8038 Lanier Dr Charlotte NC 28219	704-393-7200	LPusKas@carolina.rr.com

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
Eugene Moore	3804 Margaret Ln.	704-392-0997	
ERIC OROZCO	NEIGHBORING CONCEPTS 1230 W MOREHEAD 28208	704 374 0916x234	eric@neighboringconcepts.com
Wayne and Judy Cooper	8932 Dixie River Rd 28278	704-392-5877	wpcooper@arcoamfg.com
Archie L. Haggett	5200 Wilkinson Blvd Charlotte NC 28208	704-392-3416	N A

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
Maurice Webber	7316 Old Watt Ln. Charlotte		
Michael Smith			michael2845@hotmail.com

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
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DEAN HASKETT	7801 LAINE RD CHARLOTTE NC 28214	7043948657	
Betty Gilbert	9413 Markswood Rd Charlotte 28278	7045880865	
Betty W. Gilbert	9413 MARKSWOOD Rd CHARLOTTE N.C. 28278	704-588-0865	

Charlotte Douglas International Airport
Public Meeting, December 16, 2008

Name	Address	Phone	Email
Ashleigh Simpson	8307 McAlpine Drive	704 588 1447	alsimpson@novanthealth.org
Darrell & Lynn Wolcott	3819 Margarita Ln.		wants copies of maps
James Sosebee	9111 Steele Creek Rd.	704 5883544	jim_sosebee@ramoore.com
Robert Lindop	4324 Rockwood Rd.	704-763-9292	rjlindop@bellsouth.net

Slide Presentation

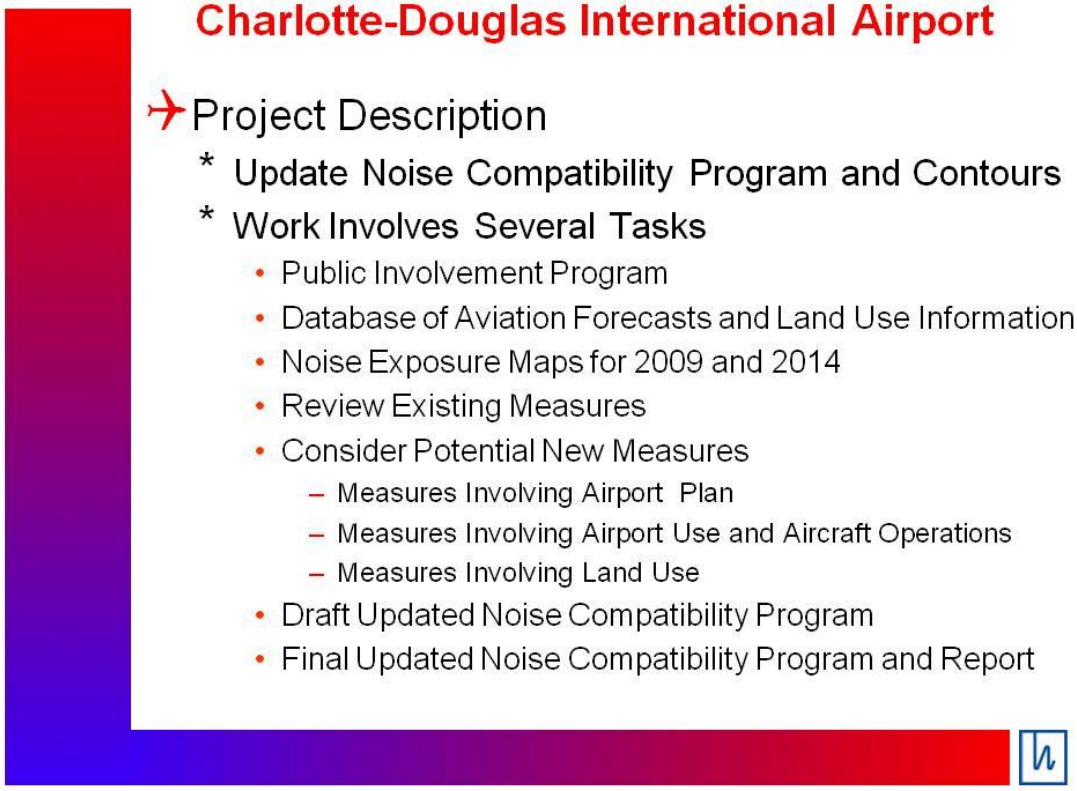
Charlotte-Douglas International Airport

Charlotte-Douglas International Airport

Meeting Agenda

* Introductory Remarks, T.J. Orr, Aviation Director
* Project Description, Andrew S. Harris, Consultant
* Land Use Overview, Chris Ogunrinde, Consultant
* Current Aircraft Noise Environment, A.S. Harris
* Public Comments
* Next Steps in Study, A.S. Harris

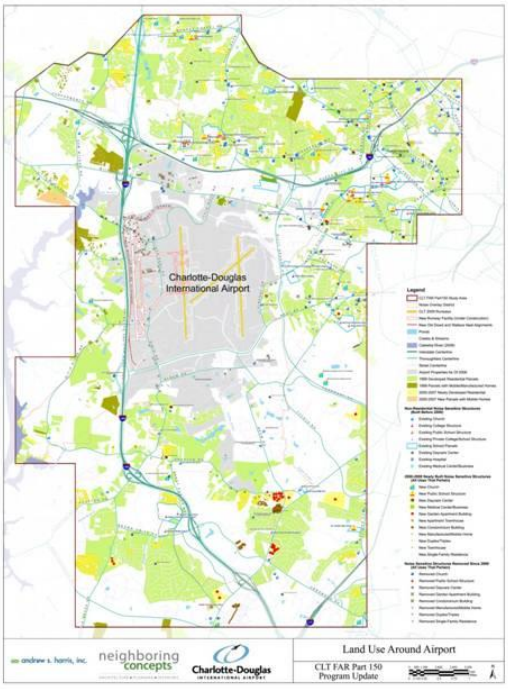

Charlotte-Douglas International Airport
Introductory Remarks
* T.J. Orr – Aviation Director


Charlotte-Douglas International Airport
Project Description
* Update Noise Compatibility Program and Contours
* Work Involves Several Tasks
• Public Involvement Program
• Database of Aviation Forecasts and Land Use Information
• Noise Exposure Maps for 2009 and 2014
• Review Existing Measures
• Consider Potential New Measures
– Measures Involving Airport Plan
– Measures Involving Airport Use and Aircraft Operations
– Measures Involving Land Use
• Draft Updated Noise Compatibility Program
• Final Updated Noise Compatibility Program and Report

Charlotte-Douglas International Airport

- Land Use Overview

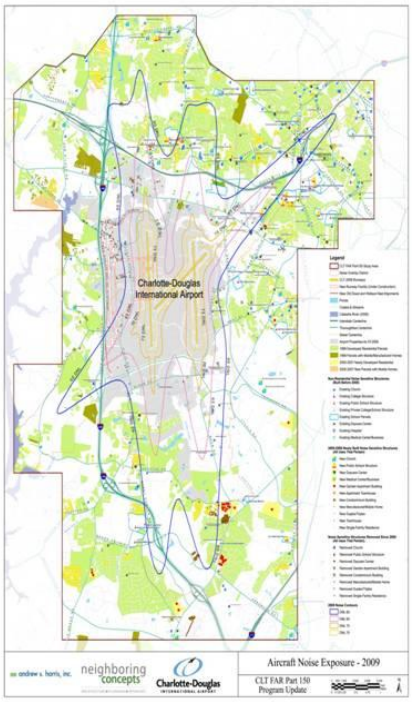
* Chris Ogunrinde, Neighboring Concepts

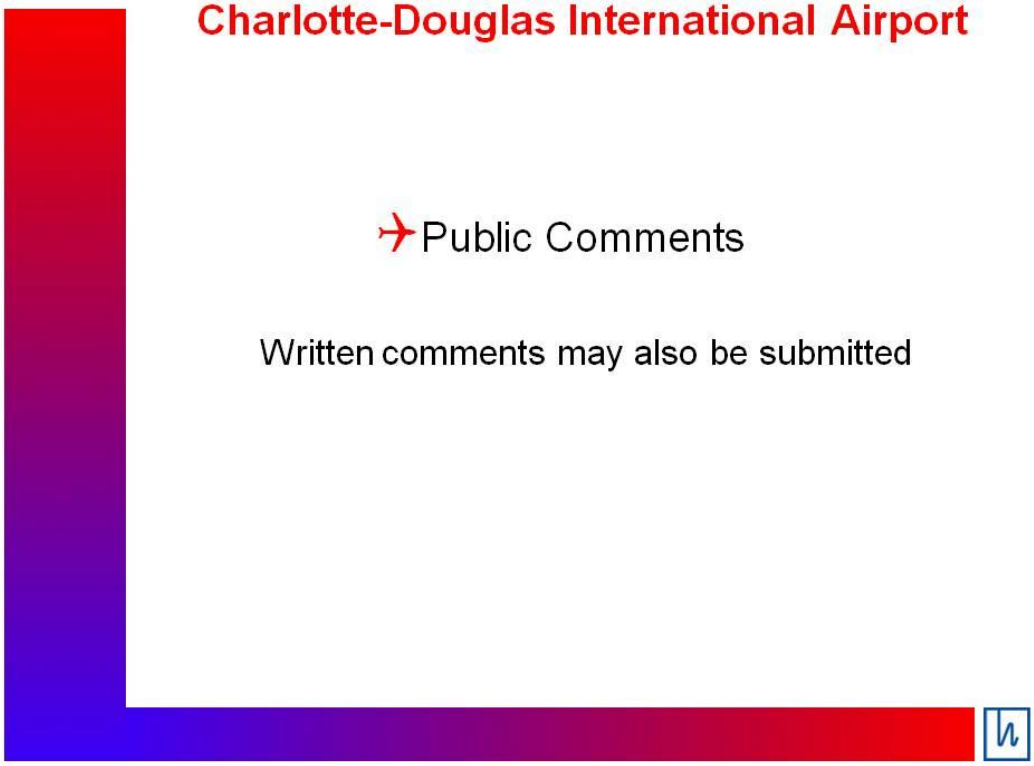


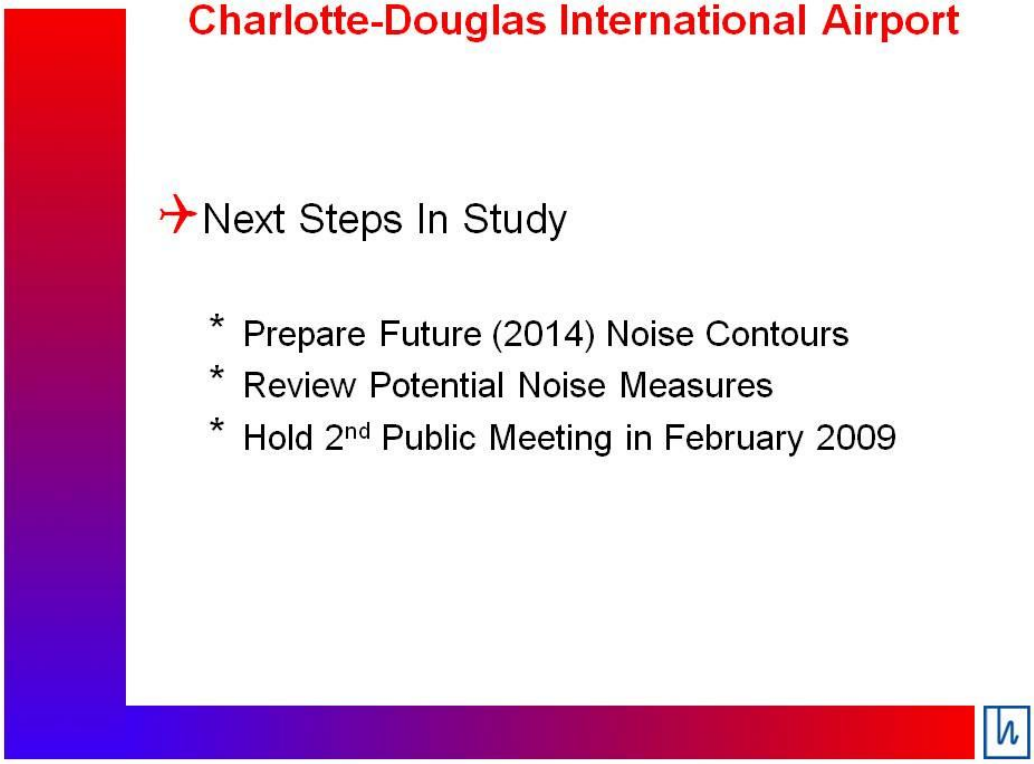
Charlotte-Douglas International Airport

- Current Aircraft Noise Environment

* Andrew S. Harris




Charlotte-Douglas International Airport
Public Comments
Written comments may also be submitted


Charlotte-Douglas International Airport
Next Steps In Study
* Prepare Future (2014) Noise Contours
* Review Potential Noise Measures
* Hold 2nd Public Meeting in February 2009


Charlotte-Douglas International Airport
FAR Part 150 Study
2nd Public Meeting
February 2009
Date and location to be announced later

Transcript of First Public Meeting

Part 150 Program
First Public Meeting
December 16, 2008

T. J. Orr –

This is the first public meeting for the new Part 150 program. In a few short words the Part 150 program is, that's the program that we started back 20 years ago, it's the program under which we bought out some homes; we renovated some residents, insulted some homes, including this church and several others. You maybe remember that we started this program seven years ago, and when we started this program is was a bad time in the airline industry, not that there is a good time. Then 9-11 came along and U.S. Airways went through two successive bankruptcies, a fleet change, and we kept running into road blocks while we tried to define what our present situation really was and where we were headed. We decided it was time for a do-over. So we want to chuck what we had, start from square one and have a do-over.
Andy Harris is our consultant. He's going to tell you about starting the program, what we are going to do and how we will go about it. Then we will be available to answer any questions you may have. If you all want to just ask questions while we are making the presentation, that's fine with us. Andy.

Andy Harris –
Thank you Jerry. Good evening everybody. As Jerry said, we began seven years ago. The FAA really wants us to have a study that's current, but when you have a moving target, it made it really difficult to figure out what the current was. So we're beginning again and what we are going to do is describe to you what the steps are. There are two figures available for you to take a look at if you didn't get a chance to when you first came in. A landing chart showing the current land use surrounding the airport. Then there is a noise contour map which shows the base case, the existing conditions for the study which, because the study needs to have very current forecasts, will be based on the year 2009 and that's why the contours say 2009, but they're talking about the existing noise program.
Now the Part 150 process has a great deal of emphasis making sure that everything we are doing is explaining to the public and we do so by a series of meetings during the study and then at the end of the study there is a public hearing so keep your eyes open for the publicized of meetings. This is the first public meeting. The second will be in late February the third will be in late April.
At this first meeting, the purpose is to set up where it is that we are going. How the steps are that we will follow and get your comments and questions about the process. You can also make comments about what noises you have or what is important to you at this time. If you prefer to not say anything, you can write it down too. It would be good, when you say something, to not only give your name, but also your address and we can look around to see what areas are represented in the meeting. Jerry and others probably know most of

you and your address, but I don't and it would be helpful for me to look up the addresses later.

So that's the public involvement program, the meetings during the process and the public hearing at the end. The next thing we need to realize is our starting point. What is the land use, what are the physical conditions around the Airport? Where are churches, where are schools, where are houses. When were the houses built? Information like that. Also, we need to have a set of forecasts. The base year for the submission to the FAA will be the year 2009. The future is five years after that so we'll have noise contour exposure lines for the year 2014. One of the effects that will occur between now and 2014 is the third parallel runway will open. Not only is the base case for the 2014 measure as if nothing were to be changed in the plan, in the noise compatibility program. And for the case that is after, measures in the noise compatibility program as its updated are implemented and those will be done in the 2014 bases. Now the measures that occurred before the new runway is in place those will be show on a map based on 2009. We have forecasts of aviation activity that was just completed and updated and the FAA has compared them with their forecasts for the region and said they are consistent with that and they approved our forecasts. Which is always good news for us.

We will have more contour maps for 2009 and 2013. We will show on the maps what the effect in terms of noise exposure is from the noise compatibility program. For example, when we were just starting out at the time of the second parallel runway was put in place. One of the issues was to have the aircraft taking off from the North, from the left runway, to go to the left and the aircraft taking off from the right runway, to go right in order to avoid the schools. Those procedures are still in place. We will be looking in this update at whether there are any adjustments needed in those procedures and how those procedures will be adapted with the new runway. And those will be shown on noise exposure maps that show particular actions, benefits, and the benefits will be determined by how many houses, churches and schools and other noise sensitive land uses are exposed to various levels of noise.

One of the things that this study includes is noise contours levels below which the FAA says there is no noise impact. The FAA says that there is noise impact if the noise exposure, described by the measure of the EPA, is at 65dnl. The properties inside the contours for dnl of 65, the FAA says there is a possibility of noise impact. If this study, and also the study that we did for Greensboro, we also show the contours for dnl 60 contour. Because sometimes when we are doing work on study like this, the noise doesn't stop at 65, there's noise outside. We want to quantify where that lower level noise is at dnl 60. So that's why it's on the maps. Not because the FAA will let us do anything or let an airport sponsor use FAA money for sound insult, but rather to show where the noise is. Now one of the things we need to think about in terms of the history of noise around this airport is that the 2009 dnl 60 contours is in about the same location that the 1996 dnl 65 noise contour is. Because the vast majority of older aircrafts, such as the 727 and the older 737 and DC-9s, are out of the fleet, even though there are more aircrafts the noise exposures have come down and the newer aircrafts are much quieter. Now one of the changes in the commercial fleet of this airport and airports around the country is that RJs,

which are much smaller and look like a DC-9, are much quieter. They are quieter because of new technology and lower thrust and so those planes are much quieter. That is one of the major changes from the fleet at this airport. It's one of the reasons that despite the growth in numbers of operations, the contours are showing about 5 decibels less.
We will also review all the existing measures such as the preferential runway program, which says which runway to use during the daytime and at night. Together we measure the existing the existing programs to refine them. Then we look at the plan of the airport. There's a huge list of plans we have to look at. We have to look at each one, see if it's a candidate, if it is a candidate, how it can be used. Some involve the airport plan; others involve airport use and aircraft operations. We will look at how the new runway must be used to meet the goals of providing capacity at the airport, but also the goal of minimizing the noise impact of the airport. We'll be looking at measures involving land use. Are there areas under existing criteria where we can insulate houses that haven't had insulation yet? Questions such as that. A fourth category is the noise program management. For many years before the FAA changed the radar system at the airport, it was possible to get information from every aircraft landing and taking off at the airport. The FAA changed the radar and made the existing runway use system at the airport obsolete. It made sense to get a new system that works with the FAA new radar because the best tool to tell us where the aircraft noise is the radar data. If there is an issue of where planes are flying, the radar can tell us exactly where that is. It's the best tool for flight tracking at any airport. After the review of possible measures, we'll look at the effects of individual measures and put together a draft operating noise compatibility program. That will be the on the third public meeting. Based on comments from the airlines, FAA, airport staff, and the public, that will be defined and turned into a final operating noise compatibly program. The new report will be published and there will be a public hearing, and based on all the input from the public hearing, whether it's at the meeting or written in, that will be taken to city council for approval and then to the FAA. Then, the FAA looks at the noise contour maps and determines if the program is in compliance with the federal regulations. After they do that, they have six months to repute and act on the noise compatibility program. We plan to have at document submitted to the FAA before the end of 2009. So, it's probably going to be about September 2010 when the FAA will approve the document. After that the City can begin to implement the new program.

So, the process will go through until the end of 2009 and then the FAA can refute it and nine months later it can be completed. Now, one thing that I mentioned was the land use. An official from Neighboring Concepts here in Charlotte will explain what they did.

Neighboring Concepts Representative – Chris Ogunrinde
Thanks Andy. Thanks all for coming tonight. With me tonight is Eric Arouso, one of our planners at the office. As Andy mentioned we've been assisting in updating the existing land use map. We've attempted to do this, by relying on various degrees of accounting TI's. We also rely on some internet information. The goal tonight is show you the maps, and since you all are experts in your communities, if you see anything on there that we've missed, please feel free to call us or write us and let us know. Also if you want to accurately depict what's happening on the maps and identify noise sensitive structures including housing and day care centers, elderly centers and other noise sensitive structures.

Then, Andy will take your information and recommend some measures to solve the problems. Then, I can take some questions. Eric and I will be around to answer your questions. Again, if you notice anything I have missed on that map, please feel free to let us know about that. Any questions?

T. J. Orr –
Questions about anything? Yes ma'am.

Community Member –
What I'm not clear about is the land use survey for 2009, does that only cover exactly as they are now at the airport, or is that supposed to consider what's going to happen with the new runway that will obviously be done way before 2014?

T. J. Orr –
The 2009 contours at the base line will be things the way they are right now. The 2014 map will show the impacts when the runway is open. That doesn't mean they should have to wait until 2014 to recognize those impacts, obviously they will occur as soon as the runway is open.

Community Member –
So even though you only have two dates, 2009 and 2014, the runway is completed in 2010 and if you're in those spots where you're going to have significantly increased noise that will be looked at before (?)

T. J. Orr –
That will be shown on the 2014 map. The 2014 map will be available as soon as the project is over, in 2009.

Community Member (Mathews Area) –
I have a few questions you may be able to address or you may not. With the new runway coming into service in early 2010 I would like to know if projections have been made on how the additional runway will affect the arrivals and departures over the charlotte metropolitan area. I would assume you've done some studies on that and where those aircrafts would be going, to be having an extra venue to bringing aircrafts in and out. Second, specific to my situation about where I'm in living in Mathews, I've lived in my house for the past 19 years until the last two months I don't think I've ever noticed a plane, and now anywhere from 12 to 16 hours a day I have25 planes going over me at very little altitude. Your letter indicated to me that RNAV is the reason for the increased traffic over my area. That seems like a pretty good explanation at first, until I looked at my plane logs I've been keeping for the past two months. I noticed about five days a week I have this very heavy traffic where as the other two days a week, typically Thursday s and Fridays I have little traffic over me. So, I'm asking about the RNAV and GPS, if pilots are selecting to do that and picking their own paths that would be happening seven days a week instead of five. I would like an answer to that if possible. Thank you.

T. J. Orr –
That is a very big, complex question. Let me begin by saying, if you put it in terms of two issues, two circumstances with respect to aircraft noise. One is kind of in the airport environment, that's where they make all the noise; it's within five miles of the end of the runway. Obviously the planes don't stop there, and then they go on and continue to climb and go where they go. That's the situation that this gentleman is questioning. Now, you don't see planes all the time because planes always fly into the wind. So, the wind is either blowing to the South or it's blowing to the North. If the wind is blowing to the South than the airplanes are taking off to the South. So the planes that you see, in your particular case, are the ones that are departing Charlotte. So if the winds are blowing to the South, they are taking off to the South and turning down that way. So that's why you only see them half the time, and it's the day and time because the winds don't change quickly.

RNAV is, RNAV stands for something, I don't really know. What it means is, the airplanes fly on a GIS bases and they are getting directions by the computer flying the airplane, and it fly's a very precise route. And this is something that has evolved and the FAA has put this into effect back in August. We're meeting with the FAA and meeting with the airlines to try to understand what this means and what we can do to make it better. So that's what that is. We'll keep you plugged in as we go forward and figure this out. It does mean where the controller used to tell them to take off and fly this compass heading, they now can fly with GIS equipment a very precise track.

Community Member –
What about the third runway?

T. J. Orr –
The third runway really doesn't have any impact on it, it will on the East side, within five miles, but it doesn't have any impact on it within that. Having more runway capability doesn't mean more growth, having the economy get back on track could. That's what causes more growth.
Community Member –

Yes, I've noticed about a dozen planes flying over my house, and the past few years they keep getting lower and lower. My house has been shaking more and more even to the point where my glass has been rattling on my chandelier and my windows shaking. What can be done as far as that, are there any changes that will affect that more?

T. J. Orr –
Actually the airplanes fly higher now than they did five years ago, and they are quieter.

Community Member –
Well, my house shakes more and more now.

T. J. Orr –
Did you want to speak to that Andy?

Andy Harris –
Did you say they are arriving, landing?

Community Member –
Yes.

Andy Harris –
Because I don't think, I'm not aware of anything, that although aircrafts are much quieter at take-off, the larger aircrafts do make a bit more noise at landing. So landing noise is not accrued as much by the change in the aircrafts. So I'll have to take a look to see what the mix in larger aircrafts is as opposed to regional jets. I know they haven't changed the angle at which they come in, that hasn't changed. If there are bigger jets now, on that particular path, than they do make more noise on landing and cause more low frequency energy. Low frequency energy causes the rumble and rattle. So I'll take a look at the mix of aircrafts.

T. J. Orr –
Yes ma'am.

Community Member –
I've lived in my house for over 19 years when planes were horrendous coming over. I've called and never got a letter. I had noise measured at my home and during that time no planes flew over. I feel like when you tell me, that as far as insulating my house, I don't feel like you can insulate my yard too. Just insulating my house and windows, doesn't help a person wanting to be outside. Right now, the planes are coming over my house. Everything dictates where I've been right now. I can sit outside, in my yard and I have to stop and wait a while for the planes to go over before talking. They are loud. I had planes fly over that I could smell the fumes. This is all departing in my neighborhood. So for you to say you can insulate my house, I don't just live just inside my house, I live outside my house. I feel the airport is dictating how I live. I can't leave my windows open, I like my windows open. I think the bottom line is, these planes are loud. You can tell me from now until doomsday they are quieter or higher up, but they are loud. And for people living in that house and trying to enjoy a glass of tea that day and you can't go out, can't have your windows open, or listen to TV. So the airport is dictating my way of life, which is almost sometimes maddening. I have kept a log also, and it's almost every two minutes they will come over. It used to be sometimes at a cut off, but now it's sometimes after eleven o'clock at night also. So it's a very frustrating thing to know it's your property, you've been living there for so many years, and just you're just living there trying to enjoy your home. It's not happening. When you stand there, it's like you have no answers for me, you're just giving me all this run down, that no one can really understand. I'm giving you my bottom line. So insulating my house and windows isn't going to do it for me. I like to enjoy my outdoors as you do Mr. Orr, but I can't.

T. J. Orr –
Okay.

Community Member –
I bought a house in 2001 out on Walkers Ferry road. I didn't know anything about the third parallel runway. Didn't hear anything, didn't hear planes when I bought it. Since the three years and since you guys started clearing all the trees out I hear them all the time. I can only imagine what it's going to be like when the third runway is completed. The helicopters, up until the last couple of years, used to go out around us, slowly now, they've been coming straight across my house. I don't know if that's the police, the hospital, whatever. When I first moved in, there wasn't a problem, now it's like they are right on top of my house. I don't know if you have anything to do with that.

T. J. Orr –
The FAA determines where the helicopter flies. They fly over my house too and I live in Southpark.

Community Member –
They just kind of worked their way in, until they got right over top my house. I can imagine what the third runway will be like, since you cut all the trees down. I can hear the planes all taking off now, in my own living room, watching TV.

T. J. Orr –
Now, if you want us to monitor the noise, we can come over to monitor the noise. We monitored for about a week didn't we?

Community Member –
I think it was four days, and those four days there were no planes. As soon as you took them off though, the planes started up again.

T. J. Orr –
We'll be happy to monitor again if you'd like. We do monitor for seven days. It was seven days. We've been doing it for a long time the same way.

Community Member –
I would see the planes lined up for miles over my home; I can smell fuel from these planes.

Community Member –
We've been seeing some major changes at the airport. These planes have come quite frequently, and it seems as they come in its not noisy, just when they take-off. When the thrust is there. Like I said, we had our house insulated, sidings, double windows, and we can't sit outside at certain times during the day. I've noticed when they come over, it didn't happen too much at night, but when we come home from church, and we cross over, West bound to turn left on 74, when you cross over the bridge, as far as the eye can see there are two lines of planes. We have a lot of…fuel from the planes, the house stays dirty. Our car has this black residue on it. What can we do about that?
T. J. Orr –

We've had that complaint before and we've taken samples analyzed. Most of the time it's from trees.

Community Member –
We don't have many trees. This is black.

T. J. Orr –
We can have that analyzed if you'd like.

Community Member –
Another question I have is do the planes release any kind of water when they land.

T. J. Orr –
We did a very extensive, very elaborate soot deposit study sometime ago at the end of the runway and further out. That study showed there is no residue coming from the planes. I'll be glad to show you that.

Community Member –
What about fuel? I heard that planes had to use most of their fuel. How do they land with that fuel? I read that planes had to burn off fuel before landing. How do they burn that fuel?

T. J. Orr –
Planes try not to burn fuel, fuel is expensive. The only time a plane will burn off fuel, is if something happens on take-off and they need to come back. They will fly around a while to burn it off, but they are flying very high there.

Community Member –
Could you tell me how when the microphones work? For four days the planes were out there and for the seven you came out they stop. It couldn't have been just the changes in the wind. How often can you come out there?

T. J. Orr –
We come out there for seven days at a time. If the wind blows the other direction for a whole seven days, we can do it again other week.

Community Member –
How many microphones do you have?

T. J. Orr –
How many do you have Bob?

Robert Andress –

Six.

Community Member –
Under an emergency, if a plane went up and had to return immediately, does a plane not dump its fuel?

T. J. Orr –
Very, very, very rarely. And if so, they dump on the airport.

Community Member –
If the planes come and the wind shifts, I don't know that, I'm not supposed to come to that conclusion. I want to know what the airport will do in these neighborhoods, not what the airport is telling me is going to happen. Telling me I can get a microphone out, I've done that before, and nothing happened. These planes are horrendous. How will I know how fast or how loud they are?

T. J. Orr –
You don't have to know that. The monitor, monitors twenty four hours a day, so we caught every aircraft. All you need to do is tell Bob and we'll come out and set it up for you.

Community Member –
Okay, but I can go weeks without hearing anything, but when it does start again, it's horrendous.

T. J. Orr –
You don't need to monitor that; we'll catch that on the tape.

Community Member –
And when you get that back you'll calculate the decibels, you'll make that decision of whether it's bothersome to me?

T. J. Orr –
No ma'am, the government does that. We'll show you the data, how many flights there were and how loud they were. If you want to know how high they were, we can tell you that.

Community Member –
I'm Janet Jordan; my concern is that at 2:30am I woke up by what I'm told is maintenance on the airplane. It used to be only once a month, now it seems like it was every night for the past couple weeks. Can you give us the telephone number to get the monitor?

T. J. Orr –
What's your number Bob?

Robert Andress –
4008.

T. J. Orr –

(704) 359-4008. Or you can e-mail, we can handle that too. tjorr@charlotteairport.com.

Community Member –
When was the last noise study you did again?

T. J. Orr –
The last study we did started in 1997.

Community Member –
Now that you've cleared all that land, I live in Walkers Ferry as well; you can hear all that noise. Now it's getting loud at 5:30, 6:00 at night. When will this new study begin?

T. J. Orr –
We will be doing it in 2009, right after the first of the year.

Community Member –
And that buffer on Wallace Neal Road, I don't see what good it'll do. Set that runway down where the planes are taking off. Is that where it's going to stop? Right there where you can see it off the road, see the hill off the road. Will there be any kind of buffer there?

T. J. Orr –
Yes, it will be planted.

Community Member –
I don't see how it will help. You can see the runway from the road.

T. J. Orr –
When we're done, you won't be able to see it.

Community Member –
Are there specific thing that happens at 65 decibels and another thing that happens at 70? Depending on what contour you're in, are you given an option depending on where your house is?

T. J. Orr –
It's always up to you, as to what you want to do.

Community Member –
At what level are you at when the option is to sell your house, or when you buy the house?

T. J. Orr –
We will never buy the house because the level is too high. There is an option for you to sell us the house because the noise is too high. And that's at 75 dnl. Everything now at 75ldn is now totally airport property. There are no more houses eligible to be bought because of noise.

Community Member –
Last time, you bought all the way up to my property.

T. J. Orr –
Yes, we bought that for the road.

Community Member –
For what road?

T. J. Orr –
For the road that passes through that area out there. No, 65 ldn has never, and does not go across I-485.

Community Member –
I also don't understand, I'm in a business, if we're over a certain noise level we can't work before 7 in the morning. You say the FAA has no noise level in the air. The city ordinance has a law now for a certain noise decimal.

T. J. Orr –
Which is a single event. Yes. It's just one event, one thing making the noise. Around the airport, there is a whole series of events; the city ordinance does not address that point.

Community Member –
I live North end of the N-S runway. That I'm assuming going to continue to be the instrument landing runway, right? How much traffic will the new runway take way from that runway?

T. J. Orr –
A little bit, but probably not a noticeable amount. We're a little over 600 flights a day at the airport. If we take away 100 of those from a runway, it probably won't be noticeable.

Community Member –
How many scheduled flights fly out of there at night?

T. J. Orr –
The only scheduled ones are fares, and there are about 16 or 17 of those. Those are big jets. There are also some private aircrafts that fly out at night.

Community Member –
There was one that went out in the morning and had I not been in bed, I would have gone out to see if it wasn't by the house. It woke me up and I was scared because it was so loud and so low. I called the airport and filed a complaint on it.

T. J. Orr –
Ok, that's what I was going to suggest.

Community Member –
Do you know if cargo planes take-off on different runways, at night?

T. J. Orr –
Depends, they could use various runways. In the middle of the night, they would normally use that night runway.

Community Member –
Who can I call to verify that?

T. J. Orr –
You may call the FAA.

Community Member –
Are there any other ways to measure noise that the government would accept? Like measuring how much homes rattle due to the noise. Are decibels the only measure?

Andy Harris –
The FAA has yet to accept any measure of rattle or low frequency noise. There are various proposals that have been given to the FAA, but nothing has been adopted yet. I'm not sure, nothing will happen this year, but maybe some new things from the EPA and the FAA will change the measurements. Right now, nobody has made any attempt to increase regulations, to identify ways of describing aircraft noise. The FAA has, for a number of years, looked at supplemental measures, ways of describing noise to supplement dnl. But so far they have adopted nothing. There are many people who have the same concerns of rattle. There are things that are there, but are not adopted. The federal government has preempted the control of noise at the source, the individual aircraft. Many years ago, up in New York, they did have regulations about how much noise a single aircraft could make at specific spots around the airport. About a decade ago, the airlines were successful at getting the FAA to change that. Now, in order to prohibit anything, any particular operation, you have to do a study that is so complicated that no one has ever been successful at getting the FAA to say that they have done a good enough job. So they have set the barrier this high and no one has been able to get any higher than that. I understand your issue, but there is nothing that is offered right now. The only thing we have is dnl, which lumps everything together.

Community Member –
So 65 is the limit, I'm in a neighborhood that is about five miles from the airport and I'm never under 65.

Andy Harris –
Well, you might have a lot of planes, but you don't have that much noise that far away, at any airport now.

Community Member –
So 65dnl is the beginning limit that they say is unacceptable, but then it's less than that to be disturbed by the noise.

Andy Harris –
Plenty of people are annoyed below 65.

Community Member –
What you're saying sounds like; my time is decided by this standard, by how much these planes are flying over us.

Andy Harris –
If they adopt a compatibility standard, the airport would be allowed to undertake the measures or plan measures based on that. Mathews couldn't attempt to use police power, to control the noise. If there were a standard in Mathews that could cover it, it would allow the airport to plan and try to help them. The difficulty is that, I think, the exposure levels at Mathews would also be too low to withstand a challenge from the FAA. That doesn't mean that you aren't annoyed by frequent over flights. It just means that there's nothing we can do about it, based on the FAA system.

We are going to be looking to see what can be done with the RNAV procedures to go back to the conditions that existed before RNAV. Where flights would take-off and you would work hard to keep them close together near the airport, where noise exposure is very high, minimize the area over flown by loud airplanes. Then take the benefit of the navigation system to spread them out so everybody at that distance gets some planes, but nobody was suddenly placed under a railroad track and stuck. It's a new challenge and this isn't the only airport facing that challenge.

Community Member –
Because of the noise, has the airport decreased my property value? It's something I'll have to deal with.

Andy Harris –
Most studies show, that many factors affect the valuation, and sometimes property near an airport has greater value for non-residential use. So, you shouldn't be looking at your property losing value.

Community Member –
My wife and I live in Southwest Charlotte, six miles from the airport. We obviously don't live in the 65dnl. I do share the same concerns that the lady on my far right expressed, that Mr. Harris expressed. It seems like since August, based on a letter I have from Mr. Perkins at the Atlanta district office, that this new RNAV procedure has caused a lot of discomfort to residence. I think that, and I wanted to compliment, that you're going to look at this RNAV and return to a more scattered plane route that is more acceptable. You have more

than 600 flights a day, and they have to go somewhere obviously, but I think, I want to compliment you if you're going to try to scatter them a little bit over the sky.

T. J. Orr –
We'll keep you advised as we move ahead with that. I appreciate your input tonight. We'll be here for a while if you have any further questions.

Andy Harris –
I just wanted to go to the slide. What do we do next? We'll prepare contours based on the 2014 forecasts. As Jerry said, those contours will be used for planning for the time when the new runway is open through 2014 when they will be replaced. So although the operations will not be there for 2014, we'll be looking for new procedures that will go in effect with the new runway. We will be reviewing potential noise measures in preparation for coming to the next meeting. We will be focusing on issues such as the negative side of RNAV; concentrated over flights at distance we don't want concentration. We don't want to keep them on "railroad tracks" for the next twenty five miles.
We will hold the second public meeting in February, near the end of the month. We'll set a date pretty soon and location and time. We'll be looking forward to seeing you again. We'll have more to show you and hope we'll have more ideas about our friend RNAV, and we'll go from there. Thank you very much; I hope you have a wonderful holiday and Christmas and that the economy does something nice for a while. Thank you very much.

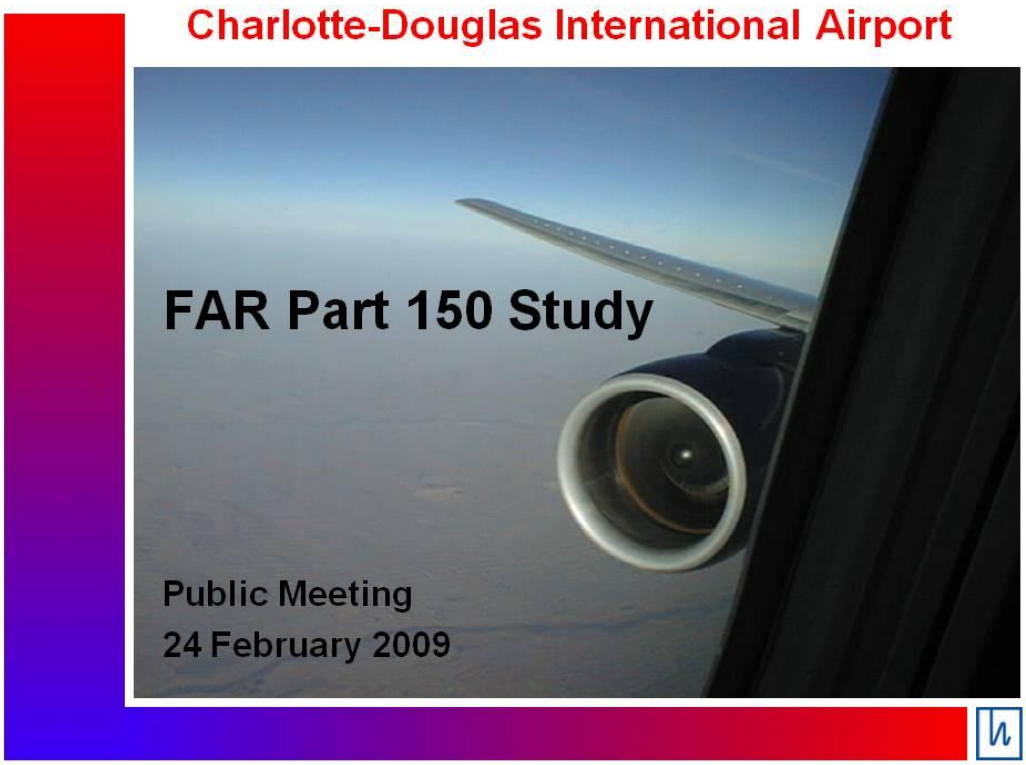
End of Transcript of First Public Meeting

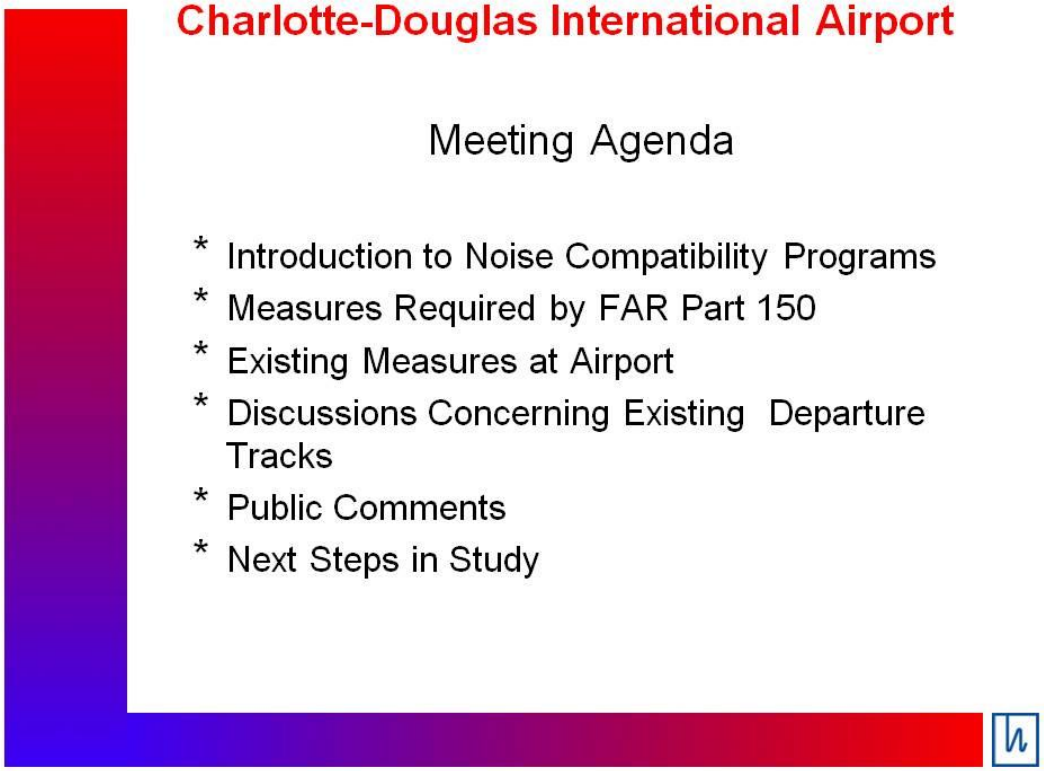
Second Public Meeting

Introduction

Sign-Up Lists

Slide Presentation





Charlotte-Douglas International Airport

- Noise Compatibility Program
  - * FAR Part 150 Programs Are Voluntary
  - * A Range of Measures Must be Considered
  - * Charlotte Updates Program Regularly

Charlotte-Douglas International Airport

- Range of Measures that Must be Considered:
  Requirements of FAR Part 150
  - * Land Use Measures
    - Acquire land or development rights
    - Acquire Easements
  - * Barriers, Acoustical Shielding, Sound Insulation of Public Buildings (schools or churches)
  - * Preferential Runway System
  - * Restrictions on Aircraft Operations
  - * Other Actions with Beneficial Impact
  - * Other FAA Recommendations

Charlotte-Douglas International Airport

Existing Measures by Category

- Land Use Measures
  - * LU-1 Promote compatible land use planning
  - * LU-2 Pursue zoning for compatible development
  - * LU-3 (Now in measure LU-8)
  - * LU-4 Require avigation easement as a condition of approval for developments in Airport Environs.
  - * LU-5 and LU-6 (Measures no longer in program)
  - * LU-7 Pursue adoption of Airport Overlay District
  - * LU-8 Pursue changes in state Building Code to require improved sound insulation.

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

- Barriers, Acoustical Shielding, Sound Insulation of Public Buildings (schools or churches)
  - * NM-2 Sound insulate public buildings inside 65 DNL for the combined 1996 NEM/NCP contours
  - * Barriers were previously considered, but no barriers considered beneficial.

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

Preferential Runway System

* Preferential Runway System was adopted as part of the EIS for Runway 18C/36C (Before FAR Part 150 existed)
* NA-5 Specifies use of Runways 18L and 18C for takeoffs by turbojet and large four-engine prop aircraft when crosswind runway (5/23) cannot be used.

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

Flight Procedures

* NA-7 Designates locations for aircraft departing from runways 36C and 36R to initiate initial departure turns
* NA-8 Designates location for aircraft departing from runway 18R to initiate initial departure turn
* NA-9 Designates location for aircraft departing from runway 36L to initiate initial departure turn

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

- Restrictions on Aircraft Operations
  - An earlier proposed measure would have restricted operations at the Airport by a class of noisy, earlier-production jet aircraft. The FAA disapproved that measure.
  - This Study will consider possible restriction of classes of operations at the Airport based on the noisiness of the aircraft. However, implementation of such a restriction would require a separate study of costs and benefits under FAR Part 161.

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

- Other Actions with Beneficial Impact
  - NA-1 Periodic noise measurements in airport environs
  - NA-4 Monthly reports on late night (11 PM to 7 AM) runway utilization
  - NA-6 Designated location for aircraft runups
  - NM-1 Continue public information program
  - NM-3 Sound insulate eligible houses located in the 65 DNL contour of the 1996 NCP/NEM whichever is greater
  - NM-5 Acquire properties where the use was not compatible with 75 DNL or greater (Completed)

Charlotte-Douglas International Airport

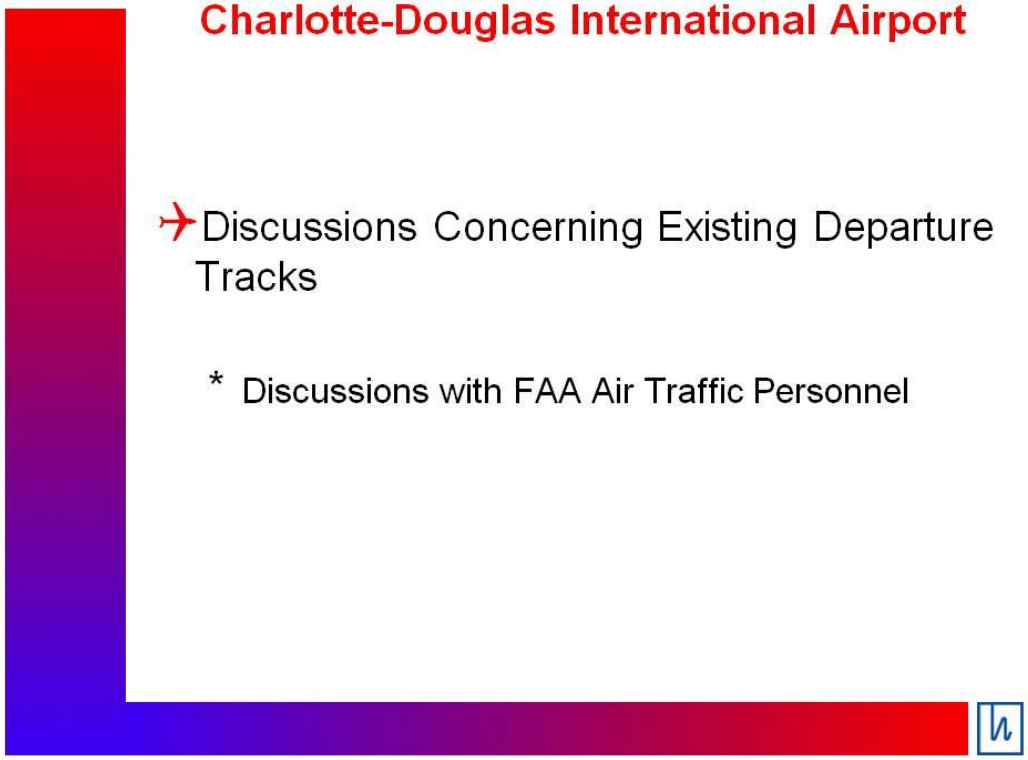
Existing Measures by Category - Continued

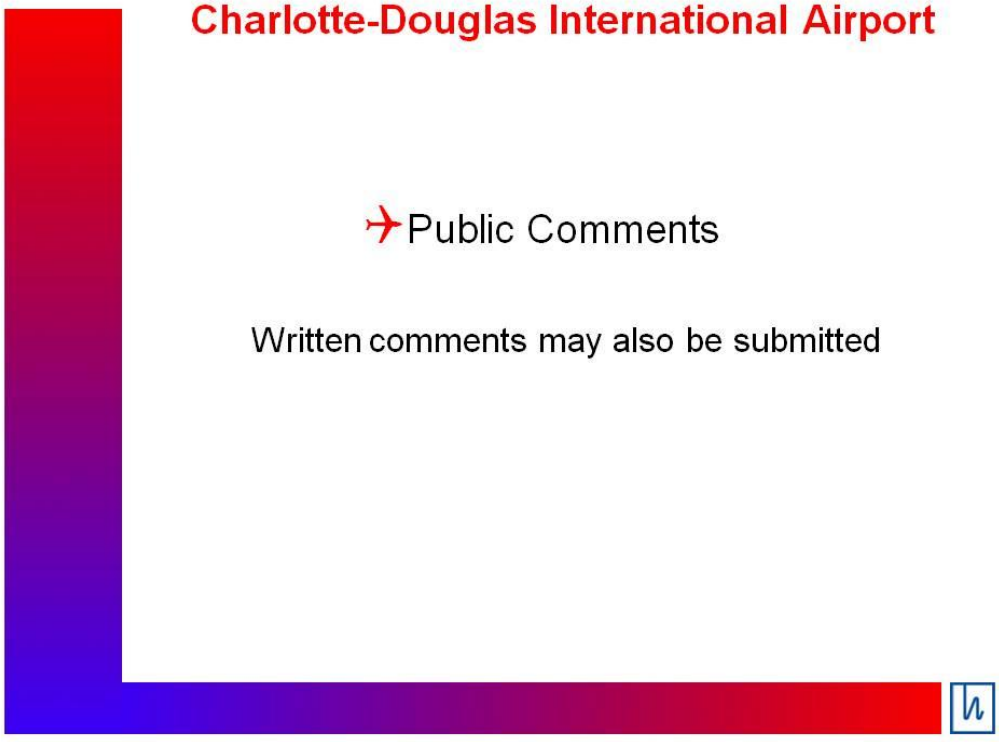
- Other Actions with Beneficial Impact – Continued
  - NA-6 Acquire mobile homes located in the 70 DNL contour of the 1996 NCP/NEM whichever is greater
  - NM-7 At the Airport's option, purchase avigation easements, sound insulate or acquire houses not meeting Building Code in the combined 65 DNL contour of the 1996 NCP/NEM, whichever is greater
  - NM-8 Sound insulate houses within the 65 contour of the 2001 NCP/NEM
  - NM-9 Acquire mobile homes within the 65 contour of the 2001 NCP/NEM

Charlotte-Douglas International Airport

Existing Measures by Category - Continued

- Other FAA Recommendations
  - The FAA has not recommended any measures during FAR Part 150 studies at the Airport.
  - Any future FAA recommendations will be discussed at a later Public Meeting.


Charlotte-Douglas International Airport
Discussions Concerning Existing Departure Tracks
* Discussions with FAA Air Traffic Personnel


Charlotte-Douglas International Airport
Public Comments
Written comments may also be submitted

Charlotte-Douglas International Airport

Next Steps In Study

* Complete Future (2014) Noise Contours
* Identify Potential New or Revised Measures
* Develop Draft of Updated Noise Compatibility Program
* Hold 3rd Public Meeting in April 2009

Charlotte-Douglas International Airport

Transcript of Second Public Meeting

Public Meeting 02/24/2009

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PUBLIC MEETING
CHARLOTTE DOUGLAS AIRPORT
PART 150 STUDY

The proceedings were conducted in the above-styled matter at Steele Creek Presbyterian Church, 7407 Steele Creek Road, Charlotte, North Carolina on the 24th day of February, 2009, at 6:06 p.m.

Reported By: Meredith Johnson
Court Reporter
Notary Public

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P R O C E E D I N G S

MR. HARRIS: Good evening. Is that working now? Okay. Good evening. My name is Andy Harris and I'm the project manager for the Part 150 Study. I welcome you all to the second public meeting of the Part 150 Study and appreciate your coming here tonight.

We won't keep you here too late but we would like to have your input. You could make comments by filling out a form and that will go on the record or you can ask questions virtually any time. Just raise your hand if you've got a question, particularly when I'm going to move from one question to another.

We are keeping a complete record of this meeting so that we can look back and see what people have said. And our aim is to be sure that we address all the concerns that you raise. I'll try to answer any questions you raise. But if I can't answer, then we'll get back to you at a later meeting.

Now, I'll give a brief introduction to the whole planning process under Part 150 which is a federal aviation regulation. I'll tell you what kinds of noise mitigation measures are required

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that we look at under Part 150; I'll describe the existing measures at the airport; then we'll talk about the existing departure tracks and some recent changes in the way the FAA is handling departures at the airport, that is, planes taking off; we'll have a period for public comments, and then I'll describe where we go next and what we'll be looking at at the next public meeting.

So, first is, you know, what is noise compatibility planning? The first point is that although it's a federal regulation, it's an airport's voluntary action to enter into a Part 150 Study. The regulations say how you do it, but there's no regulation saying that you must. Nonetheless, for almost 30 years, this airport has done noise mitigation ranking and for about 25 years, which was the beginning of Part 150 program, there has been a Part 150 Study and program at this airport.

There's a range of measures that we must consider, for example, how to use the runways to minimize the noise impacts on the community. And there's a requirement under Part 150 to update the study, update the program on a regular basis, particularly if there's some change at the

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airport. And this, at the moment, is a good time to be doing it because as you're aware, there's a new runway being built and that will be coming into service. And so one of the things we're going to be looking at is how that runway is best used to minimize the noise impact on the community.

Now, first is the range of measures that Part 150 requires you to look at. There's a series of measures that involve land use. One type of measure is acquiring land. If, for example, there were houses very close to the airport, particularly in the earlier years when the older aircraft were operating, the noise levels were such that they were really incompatible with residential use. So Part 150 allows you to acquire houses.

In other cases, you may acquire an easement, that is, basically, buy permission to make noise over the house.

Another set of measures you need to look at is barriers, that is walls, or sound insulation of public buildings or sound insulation of residential structures.

Now the public buildings that we look at

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as you see here, are typically schools or churches, places where people gather and where noise can be an impediment to the proper use.

Then we look at a preferential runway system. Now, preferential runway system is based on what runways you use to provide the minimum impact, and you may have a daytime set of runways because you have to balance the noise mitigation with the basic reason for having an airport, that is planes have to take off and land. And you may have a nighttime component which says at night when you don't need as much capacity, there's a runway that can reduce the impact on the overall community, you use that.

Then you can have restrictions on aircraft operations. Now this measure is part of Part 150, but there are also other regulations that you have to comply with to restrict the use of a particular aircraft at the airport.

And then we get to two final categories, which is other actions with beneficial impact. Now, for instance, it's useful to have information on how the planes are using the airport by keeping records from the radar data of what runways are being used and what planes are flying over the

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community. And also it can be beneficial to make noise measurements so you have a record of how much noise is being made around the community.

And there's the final category, which is if there's anything that the FAA, who's responsible for monitoring Part 150, thinks needs to be done that we haven't covered otherwise. That's sort of catch-all. If we haven't looked at something that they want us to look at, they'll suggest it.

Now, the next few minutes, I'll be looking at exactly what the measures are that are in the existing program that was approved by the FAA in the mid 90s. Some of these measures have been around since Part 150 first came to the airport, but these are the ones that are in force right now.

The first is to work with the planning authorities to promote compatible land use planning. What's that mean? That means don't zone for residential use where the noise is not where you should be having new residential use.

And that, in the second measure, can be done through zoning. Now, sometimes the airport will acquire property that's too close in and that

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way you convert to a compatible use.

The third measure which is shown here is actually now built into a later one and you just keep all the numbers so that you don't think there are any blanks in the process.

The fourth measure is to require avigation easements as a condition for approval of a development. The logic here is that if somebody is getting a permit for development in an area you think is marginal, you should have an easement so that the people recognize that they are moving into a noisier area than they may think and that the airport has the right to make the noise. Sometimes, people, you know, obviously move in and they don't realize it's noisy until they've been there and that's not the kind of surprise that you want.

Numbers five and six are old measures that used to be in the program; they're not there anymore.

Measure seven is an airport overlay district. Now, there is an airport overlay district at this airport based on noise. So that measure has been turned into a local regulation and not just recommendation.

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Then, number eight, is to pursue changes in the state building code to require improved sound insulation. That's a measure that, so far, has not been fully implemented.

Then we look at barriers. For the most part, barriers, like a wall, don't work except if the aircraft is on the ground. For example, for maintenance, you may have an aircraft running outside of a building and you run the engines up as part of a maintenance procedure. You can put barriers around that location to reduce the amount of noise that goes into the community.

We, in previous studies, have looked at locations where barriers might be beneficial, not found that there were any that would. So there are no barriers in the current program. On the other hand, the second measure and two, to sound insulate public buildings, schools and churches have been sound insulated in the vicinity of the airport to make the inside environments better for the teaching and for listening to the spoken word and places of worship.

The preferential runway system at this airport was actually adopted in the late 70s before Part 150 came into use, but it was part of

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the environmental impact statement for the runway that was being built at that time which is the westernmost runway that is currently in use at the airport.

And then, as part of the -- one of the earliest of the Part 150 Studies, the use of southbound parallel runways, eighteen left and eighteen center, for takeoffs when the cross-wind runway, runway 523, couldn't be used, if you can't use 523, you use the southbound runways at night for those operations.

And then we get into the third category of flight procedures, where measure seven indicates when aircraft are taking off northbound on parallel runways, where they are meant to start the turn, to turn away from the schools to the north of the airport.

Similarly, number eight is for the southbound runway -- excuse me, the western parallel runway for turns away from the runway heading.

Number nine is in anticipation of the new runway. And it indicates where the initial turn from that runway, when takeoffs are occurring on the runway, where that turn occurs. So that's

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sort of the catching up. We've got a new runway coming, make sure there are procedures for how the planes are to turn away from the runway heading.

Now, the next category is one that I mentioned a little while ago, restrictions on aircraft operations. At one point, there was a proposal that the older aircraft like the old 727s, the old DC-9s would have a restriction on them and would reduce the amount of time that they get operated. At that point in time, when the FAA was reviewing the proposed restrictions, the FAA disapproved that measure. We will, in this study, I can take a look to see if there are any aircraft that are operating at the airport that make sufficient amount of noise to suggest that they should be restricted in operation.

There aren't very many older technology aircraft operating at the airport now, so there's not much opportunity for looking at that. And also, the FAA has a regulation that was introduced after Part 150 called FAR Part 161, which makes it very, very difficult to restrict the use of any aircraft type at the airport. So, I'm not going to suggest that there's going to be any restriction on specific aircraft, but we do have

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to look through the possible candidates before we reject that out of hand.

Now, remember when I was talking about the regulations or the measures that you have to look at, the actions with beneficial impact, there are a number of actions that are part of the existing program that aren't listed in specific required things but are in this general category. For instance, the airport for many, many years has measured four times a year for two weeks at a time at a whole bunch of locations around the airport, which means there's now a good record of what the noise exposure is at these locations over many years.

There's a second measure, number four, which is monthly reports on late-night runway use. That is, at the moment, not feasible because we don't have, at the airport, a way of reporting all of the runway use and all of the flight tracks and all of the operations and, basically, all the radar data. During the present study, we will recommend that there be a new system for acquiring the radar data. The old system that was here was a very good one, but the FAA changed the radar system it uses and the old system can't work with

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the new radar data. When new systems can, one will be proposed.

In measure six, there is a designated location for runoffs, that is, for the places for maintenance or just basic checks, the aircraft are run on the ground.

It's a measure, NM1, continued public information program. Well, for instance the neighborhood update provides not only information on noise but on other issues and that is just part of trying to let people know what's going on. And for example, there was going to be a meeting night, the Part 150 Study's underway.

The NM3 is sound insulation. I'm sure most of you are familiar with the sound insulation program. And basically what they're saying is that any house that hasn't been sound insulated that would benefit from it and is inside the 65 DNL contour can be sound insulated. The 65 contour is the contour that shows the lowest noise level that the FAA allows federal money to be used for sound insulation. That's why that contour is significant.

UNIDENTIFIED MALE: Is there like a map of that data?

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MR. HARRIS: There will be maps. You'll have maps. At the first meeting, we showed a map of the existing one.. At the next meeting, we'll have maps of the existing noise and the future noise of the new runway proposed.

UNIDENTIFIED MALE: Projected?

MR. HARRIS: Forecasted future noise and the existing noise. And either of those -- anything that is within 65 -- the DNL 65, of either of those maps is eligible..

UNIDENTIFIED MALE: Depending on how close it is, more money's available for closer?

MR. HARRIS: Correct. It's basically the same amount of money, but the closer in, the higher the level, the sooner you get it done.

UNIDENTIFIED MALE: Is there an online location for that map now if we want to look that up?

MR. HARRIS: No, we don't have the first map. We will, before too long, have the existing map available on the website and then as soon as we get some more information from the FAA about how they're going to use the new runway, we'll have the other map.

UNIDENTIFIED MALE: What's the website? Can

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I have that?
MR. HARRIS: What's the website?
Charlotteairport.com.
UNIDENTIFIED FEMALE: Is there sound insulation for mobile homes?
MR. HARRIS: There is no program that is effected with mobile homes, unfortunately.
UNIDENTIFIED FEMALE: We can't hear the question.
MR. HARRIS: I'm sorry. Is there sound insulation for mobile homes? And the answer is no because there's no effective way to do it, unfortunately.
UNIDENTIFIED FEMALE: Excuse me, the projected runway is not on this map either. Is there a map for that with the new runway going in?
UNIDENTIFIED MALE: It's there, it's just a lot lighter. It's on the left. This map right here. It's a lot dimmer than the other runway to show it's not there yet.
MR. HARRIS: It's on the west side.
UNIDENTIFIED FEMALE: On the left side?
MR. HARRIS: West side. West is left.
And then the final measure on this page is NM5, which is to acquire properties where the

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use was not compatible with DNL 75 or greater. And this program, this measured every property that was inside those contours has been acquired.
Now, there's some more in this final category of other actions with beneficial impact. If DNL is 70 or above, the city can acquire mobile homes and that is at the moment on the 1996 map.
Then there's a measure seven, which is to purchase avigation easements, sound insulate, or acquire houses not meeting the building code. And it combines in the 65 contour.
At one point, previously, houses all had to meet the building code in order to be treated. This allows you to go to houses that don't meet it.
Now, the measures eight and nine are for sound insulating houses within the new contour, this 2001 contour, or for acquiring mobile homes within that same contour. That's still in effect, but that map, the 2001 map, is going to be superseded by the 2014 map.
And then the final category is anything else that the FAA recommends. Well, the FAA has, to date, on none of the studies recommended anything. And if there are any future

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recommendations from the FAA during this particular study, we'll describe those at the public meeting after they have been proposed to the city by the FAA.

So those are all the measures that are in the existing noise compatibility program and in effect now. Some of those measures actually were designed for the period when the new runway was already in place because it was anticipated that runway would be in place sooner than, in fact, it will. Those are still in effect and we're looking at it to see how they should be modified.

Now, at the last public meeting and in some letters to the city, there was discussion about the fact that there have been some changes in the procedures that aircraft are following when they leave the airport because there are relatively new procedures and changes that occurred last year. The procedures are associated with the latest departure methods that the FAA has that are based on global positioning systems. They have allowed the departures to follow -- and the arrivals to follow much more precise paths away from the airport. In the past when an aircraft took off let's say on 36 right, the

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eastern parallel runway, taking off to the north and turning right, the aircraft would take off and the pilots would start a turn. When it was consistent with the takeoff and what the departure clearance had been, they would turn to a heading east of north. And then they would continue on out and they would make some other turns.

Well, because these were all turns that could vary a little bit from flight to flight and were not following global positioning systems which you probably know are a very accurate path, there was a lot of dispersion, so that the planes when they got 5 miles away were not all over one path. And in fact, at times, in meetings like this, people would say why can't you get them to fly in one place? Well, because the procedures weren't that accurate. Well, now they all fly in one place and some folks suddenly find that instead of having a few departures a day or a moderate number spread out through the day, one after the other they're going by as if there were a railroad track. Well, we used to say there isn't a railroad track, now it's sort of as if there were.

Now there have been discussions with the

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FAA and the airlines about that. And Jerry Orr, the aviation director, is going to explain where those are right now.

MR. ORR: As Andy said, we have engaged the FAA and the airlines, trying to understand exactly what changes were made and what opportunities we have to make it more like it was. We're confident we'll get there. The FAA took seven or eight years to put these procedures in place and it won't take us that long to undo them, but it will take a while. We are working on it and we're confident we'll fix that. It's not a problem just here in Charlotte; it's a problem in a number of airports around the country.

MR. HARRIS: Thank you, Jerry. I didn't mean to say too much. But I wanted people to have the opportunity to hear from you, who speaks for the airport, what is going on with the FAA and with the carriers and the fact we are working with them.

Now, the next is, sort of, the formal opportunity for you to make your comments and I encourage you, even if I've covered something that you want to talk about, like the current -- the recent change in departure procedures, mention it

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anyway because it's good for us to get a good sense of how many people are being affected by something. And if I haven't mentioned it at all, bring it out. It's your turn. What I'm going to do is ask you to raise your hand and I'll recognize you and then if you feel you'd be comfortable coming up and using the microphone so that everybody hears you clearly, do that. Just try to speak up because we've got people a good distance from you. So have it at.

UNIDENTIFIED MALE: This question's really for him. Regarding the flight departures and the railroad track in the sky, are you finding in your discussions with FAA and the airlines, are they receptive to, at least in part, going back to the way it was or are you meeting a lot of resistance there?

MR. ORR: The question was, are we encountering resistance from the FAA or the airlines with respect to the dispersal of flights or the concentration of flights. And the answer is no, we are not. Keeping in mind, the FAA's a federal agency, so they are resistant to any change, anytime, anywhere. But other than that, no. We've had a couple of meetings. We've got

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one on the schedule next week and we'll continue to press that point until we get it fixed.
UNIDENTIFIED MALE: Do you see something happening in the next couple of years?
MR. ORR: Less than that. More than a couple weeks, but certainly less than a couple of years.
MR. HARRIS: Next?
UNIDENTIFIED MALE: At NA1, you said they did periodic measurements on the noise and they've been doing it for years now. Have you done any since all the trees have been cut down near the airport?
MR. HARRIS: Yes.
UNIDENTIFIED MALE: You have been?
MR. HARRIS: Yes. The question is, have we done measurements since a lot of trees were cut down. The answer is yes. They're being done every three months at each of the locations.
UNIDENTIFIED MALE: On these contours, are there decibel readings? I mean is there, on these contour maps, are there certain decibel levels that you can see on the map?
MR. HARRIS: Well, what the maps show, it's called a day/night average sound level. And the unit of those is decibels. But, it's not

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something that you can go out and measure when one plane goes by, but rather it's what you measure at the end of the day.
UNIDENTIFIED MALE: Average of?
MR. HARRIS: It's an average over 24 hours. Now, the thing about this average is that it's an energy average, not a simple arithmetic average. So the loudest -- it's much more related to the loudest events than it is to the quiet events. But the basic interpretation of DNL, is that if DNL is 65 or above, there shouldn't be any residents inside. If it's below 65, it should work fine for residents. If it's in between, you want to do some sound insulation on older houses, although newer houses may have enough sound insulation that it works. And we have to recognize and accept that sound insulation changes with the noises inside the house. It does nothing about the outside. The only thing that does anything about the outside is how much noise the planes make.
And I think the greatest change -- and I first started doing some projects here in 1975. Well, that was the time when 727s were pretty new and then there were the old 727s, and there were

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probably some 707s around at that point, and they really scream. Now we've gone all the way to the regional jets which are pretty good neighbors. And the newest technology of the bigger airplanes are pretty good.

It's not that they're silent. Whisper jets is a name that Eastern Airlines used to use, of course, they disappeared. And those planes didn't whisper, they shouted. Now, they're getting closer to it being a reasonable level.

But, it's 65 and below is sort of okay, 75 and below is no good, and in between you've got to do something.

UNIDENTIFIED FEMALE: The community center affected by the 65 or above is in data form, is that on the website, since the maps are not ready?

MR. HARRIS: Are there any noise contours on the website?

UNIDENTIFIED FEMALE: I want to know if somewhere, even though you don't have the maps ready, what neighborhoods would know that they are impacted by either what changes are happening at the airport or the runway, whatever the case may be.

MR. ORR: Stand up, Bob. There are no

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contour maps on the website.

MR. ANDRESS: The only map on the website, Jerry, is the noise closed roads in that district.

MR. ORR: This is Bob Andress back here, and your number, Bob, is?

MR. ANDRESS: 359-4008.

MR. ORR: And we have an office over on Wilkinson Boulevard and the street address is what?

MR. ANDRESS: 5601 Wilkinson --

MR. ORR: 5601 Wilkinson Boulevard and it's right where we're building a new big parking deck. Bob will be glad to meet any of you over there and show you noise contour maps. We have lots of them. Do you have a card with you Bob?

MR. ANDRESS: Yes, sir.

UNIDENTIFIED MALE: How many cards do you have?

MR. ORR: I think that's a request for a second card.

You can email me at tjorr@charlotteairport.com, and say whatever you like to and I'll make arrangements for you to see maps.

UNIDENTIFIED MALE: This doesn't have

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anything concerning noise whatsoever.
MR. ORR: That's fine.
UNIDENTIFIED MALE: Periodically, we get a real strong fuel aroma coming from the airport. Now, I'm glad you gave me your email because the next time I smell it, I'll send you an email. And we get it about once a month and it's at night mainly and it's real real strong.
MR. ORR: Okay. Do that and tell me where you live, too.
UNIDENTIFIED MALE: Could that be atmostpheric conditions causing that?
MR. ORR: It could be any number of things.
UNIDENTIFIED MALE: I've never been to a gas station that smelled that bad. I think if I went out with a match, I could ignite the air. It's that strong.
MR. ORR: We'll take a look at it.
UNIDENTIFIED MALE: Are the new contour maps, are they going to show the extended runway that the new aircraft that's going to be on that extended runway?
MR. ORR: The new contour maps will show the projected contours for the new runway and those contours are based on the airplanes that are

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anticipated to be used on that runway.
UNIDENTIFIED MALE: On the center runway, you are still extending the middle runway?
MR. ORR: The question is, are we still planning to extend the middle runway or the center runway. And the answer is yes, but no time soon. Certainly not on my watch.
UNIDENTIFIED FEMALE: With the new runway, will you be having a lot more flights coming in between 11 p.m. and 7 a.m?
MR. ORR: The question was, will we have more flights between 11 and 7. I would doubt that we would have any more flights between 11 and 7. Airplanes fly when people want to go somewhere and not many people want to fly between 11 at night and 7 in the morning.
ARCHIE: I have been a member of Wilkinson Boulevard for over 50 years. I moved there when I got out of the military. And I tell you this thing has really gotten carried away. There's an airplane that goes over in the morning at 4 o'clock in the morning, totally wakes me up. I can't sleep and everything just is not right.
And I also have a gentleman here that's from across the water that has the same problem.

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You bought his neighbor out, but you can't buy him out. And he doesn't want a big deal. He just wants to leave and get away. All of his kids are college educated and they don't want to be a part of it anymore.

And I personally don't want to be a part of it anymore either because I think somebody is getting a bad stick here. And I want something done. I went and got attorneys and they will not represent me because they had a bad deal with the program down the street and they just will not represent me.

And I think the longer this thing carries out, the worse it's going to be for me because I am getting the short stick, too. And I've been on the airport committee for probably 20 years and I would like to have something done and I'd like for these poor people to have something done, too.

MR. ORR: For the record, we offered to buy Archie's house.

ARCHIE: I beg your pardon?

MR. ORR: For the record, we offered to buy your house.

UNIDENTIFIED FEMALE: I have a question. And

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you may have covered this, and I apologize, but can you expound more on that airplane at 4 o'clock in the morning because I live on Bright Road, which is off of the water in a valley and it does wake me up at 4 in the morning.

MR. ORR: No, ma'am. But if you --

UNIDENTIFIED FEMALE: Get with him?

MR. ORR: Get with him.

UNIDENTIFIED FEMALE: The card guy?

MR. ORR: Yes.

UNIDENTIFIED FEMALE: Okay, you said that y'all will acquire more mobile homes because you cannot do sound insulation. Okay, now will you just acquire the mobile home or the property that goes with it?

MR. ORR: Both. Both the land and the mobile home.

UNIDENTIFIED FEMALE: Can you just walk through the mobile home?

MR. ORR: No. The question is, would we acquire just the mobile home and not the land. And the way the program's set up, we have to acquire the land and the mobile home. We are acquiring it as residence.

UNIDENTIFIED FEMALE: How do the value of

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that -- how do y'all determine the value?
MR. ORR: The value is determined by an appraiser, independent appraiser, certified MAI appraiser that has appraised all of the property that we have bought.
UNIDENTIFIED FEMALE: Do the person have to initially contact you or do you go out and see?
MR. ORR: You can contact Bob Andress back there and we'll take a look at where you live and determine if you are eligible for acquisition. But we can discuss that with you.
UNIDENTIFIED FEMALE: Your proposed meeting for April, is it the intention of the airport to be more specific, especially as far as the communities are involved, as to what the projected plans are, because even -- and I understand and I thank you gentleman for pointing out where the projected runway is, but it seems to me it was printed deliberately so that you would really have to know what the plan was about to know that this was the projected runway. It seems to avoid really putting things out there for the people to know what's going on. If I didn't have my glasses on, I certainly would not have seen this shadow, projected runway on this plan. And I just would

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like more definitive information as it affects the communities surrounding the airport.
MR. ORR: If you will provide me what information you want, we will certainly provide it for you. Just write down on a piece of paper what you want to know and we'll provide it for you.
UNIDENTIFIED FEMALE: Okay.
MR. HARRIS: All right. Thanks, Jerry.
Some of your questions including the last one about showing in more detail where the runway is and what the noise will be around it, is on the list of what are the next steps in the study.
One of the issues with the new runway is to get a good understanding before the runway opens of how the FAA is going to use the runway. You realize that the airport owns the runway and it builds it. The FAA runs it. And we anticipate that the FAA is going to tell us next week at a meeting how they plan to use the runway when it first opens.
Before the next meeting, we will develop the noise contours that show the new runway in operation in the year 2014 which is the future period for which we have forecasts of how many

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planes will be taking off and landing, what types of planes, how many there will be day and night. We'll develop those noise contours and that will be the future before any changes in the noise program.

We will also identify what potential new measures are and potential revisions to existing measures and we'll develop a draft of the updated noise compatibility program because everything I showed you about what's going on here now in noise is part of a program called the noise compatibility program.

We'll develop a draft and we will talk with you and whoever else is here about what's in the draft, why it's there. And we will show a set of noise contours about what the contours will look like so we can compare them with the don't do anything more than what's going on now for the future so you'll be able to see what the noise will be like in both of those situations.

When those steps are finished, we'll hold the third public meeting. We scheduled it for April, but we may find, for instance, that the FAA didn't give us all the answers we need and we need to talk a little bit more with them. But

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you'll get plenty of notice about when the meeting's going to be, whether it be late April or early May. So we'll have the potential set of measures, the potential noise effects with them and without them and, also, a meeting or a description of how the discussions with the FAA about the ARNAV procedures have gone. So those are the updates for it and so that's the next step.

After that, with your comments, we will also get some early comments from the FAA about the proposed program and then we'll go to what is the draft final update, then there will be a public hearing, which is not going to necessarily look much different than this in that we will have a court reporter, we will have a full transcript. It's just that the FAA requires that there be a transcript at that meeting but they don't require there's a transcript of this meeting. We want it so we've got in writing everything that everybody said.

So that's it for tonight. Unless you have any additional questions, if you have some questions that you'd like to put in writing, there are forms over at the table you can fill out and

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we'll also be around for awhile afterwards so you can ask..

UNIDENTIFIED MALE: One question for Jerry. I know the answer to this question, but there's a lot of people in the neighborhood who do not. There's stuff going between the new runway and the last existing runway that the proposals, in the future, are to build a third runway in there. I know that in that area that there's going to be a piggyback service to the railroad. Jerry, would you explain that to these people. They don't know about the piggyback service, nor do they know that there will be a new fire station between these runways to give quicker response which is a requirement of the FAA.

MR. ORR: There will be a new fire station. It's our second fire station so when this runway is open, we'll actually have two fire stations on the airport, one on either side. The second thing was the rail or motor yard, what Bill referred to as a piggyback service. That's a railyard that is currently located, a portion of what is located in north Charlotte, rail and motor yards, where the containers are taken from the rail and put on the trucks or vice versa.

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We're thinking about doing that; we are planning on doing that. But there's not a firm agreement with Norfolk Southern yet to implement that.

And the third question was, could we build another parallel runway between what is now the center runway and the western runway. And the answer is yes, there is room in there to put another runway. There's also room on the east side of the airfield to remove some buildings and put another parallel runway on that side of the airport. That's pretty far down the road.

The runway in the middle, you really wouldn't notice that because it would be very close to the existing center runway and it would just be a way of separating arriving planes from departing planes.

UNIDENTIFIED MALE: But was there not a requirement from the FAA when this new runway was put in that it be put where it was so you would have the distance between the existing and the new runway?

MR. ORR: Yes, we located the runway -- the new runway, we located it where it is, so we would have the distance, the required distance,

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4300 feet, between the center runway and the new runway to accommodate independent landings, that is, two planes landing at once. So with the new runway, what is now the center runway, and easterly runway, we can land three airplanes independent of each other.

UNIDENTIFIED MALE: Would you explain the railyard a little bit. I'm not really sure what that is.

MR. ORR: The main lane of the Norfolk Southern Railroad runs right along parallel with Wilkinson Boulevard which is old highway 29.

UNIDENTIFIED MALE: I'm looking on the map.

MR. ORR: I don't know whether it's on there.

UNIDENTIFIED MALE: I see Wilkinson, so you're saying it's parallel to that.

MR. ORR: So the interstate, the new runway we just built, and railyards are all very linear so they fit together, very, very well. The runway is right next to the interstate and on the other side of the runway, we could put the railyard. It's a good use of the land. It gets that railyard out of downtown Charlotte. It keeps the trucks on the interstate and out of neighborhoods and communities.

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UNIDENTIFIED MALE: So you're saying that eventually there will be a railyard to the east of the new runways?

MR. ORR: Yes.

UNIDENTIFIED MALE: No timeframe at this point?

MR. ORR: Well, it depends on when and if we can do the agreement with Norfolk Southern.

UNIDENTIFIED MALE: So it's going to be planes, trains, and automobiles all in here, right?

MR. ORR: Yes.

UNIDENTIFIED MALE: One other thing you might mention to him is that the road you're pulling from the Old Dowd Road that will tie into Wilkinson Boulevard.

MR. ORR: If you drive along Old Dowd, new Old Dowd, going from this side going towards the airport, just before you get to the big fuel tanks, if you look to your left you can see that we're building a road. You can see that we've cleared the trees that goes down towards the railroad and out to Wilkinson Boulevard. We're building a bridge over the railroad and so you'll be able to turn left there, go over to Wilkinson,

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and go left or right and avoid all of the traffic around the front of the airport.
UNIDENTIFIED MALE: Is the reason for that to get the piggybacks out there?
MR. ORR: Get the what?
UNIDENTIFIED MALE: The piggybacks out there. You're talking about them not going in the neighborhoods. The piggyback trailers? You say they're not going into the neighborhood, if they're not going out that way, they're going to be coming through our neighborhood.
MR. ORR: No, they'll be going out the interstate.
UNIDENTIFIED MALE: I don't see an access to the interstate --
MR. ORR: Garrison Road interchange. That's the interchange on 485 that's not open yet.
UNIDENTIFIED MALE: I was getting ready to say that. As far as I know, there's not one there.
MR. ORR: It's graded; it's not paved.
UNIDENTIFIED FEMALE: Will you still be able to go on Old Dowd up to the airport?
MR. ORR: Yes, ma'am.
UNIDENTIFIED FEMALE: I had a question.

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Somewhere in there it said you had already acquired all the property you needed for the expansion, but are you indicating there's a possibility that you will be acquiring more homes according to the contours, north contours? As well as maybe insulation or anything.
MR. ORR: I don't think we'll be acquiring more homes or insulation, although there may be some relatively minor number associated with the new runway.
UNIDENTIFIED FEMALE: Well, she partly asked the question I was going to ask. I know at one meeting you said you that you didn't have any plans to acquire any land west of 485. So is that still the plan and you don't see insulating those or doing any noise?
MR. ORR: We do not see insulating any houses to the west of 485.
UNIDENTIFIED FEMALE: And I do want to know about the ramps to Garrison. Do you know when those are going to be open?
MR.. ORR: Do I know when the ramps to the Garrison interchange will be open? We plan on paving those this year or starting this year, so about a year from now.

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UNIDENTIFIED MALE: Do you have any ideas of on Markswood insulation work being done or contemplated there?

MR. ORR: That's the area that we're looking into right now, Markswood and Dorcas Lane.

UNIDENTIFIED FEMALE: Can you change the 35 mile an hour speed limit out on Dorcas Road?

MR. ORR: I'm not going to fall for that. I just act like I didn't see it.

UNIDENTIFIED FEMALE: Who do I write to? Don't act like you didn't see it.

MR. ORR: Okay. We'll be around if you have any questions and you know how to contact me and Bob Andress. Thank you.

MR. HARRIS: Thank you, Jerry, and thank you everybody for coming.

(Proceeding adjourned at 7:04 p.m.)

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C E R T I F I C A T E

I hereby certify that the foregoing is a true and correct transcript from the record of proceedings in the above titled matter.

_____
MEREDITH R. JOHNSON
Notary Public in and for
County of Gaston
State of North Carolina
Notary Number 200814200186

Written Comments

Charlotte·Douglas
INTERNATIONAL AIRPORT

Federal Aviation Regulations Part 150 Update Study
2nd **Public Meeting** – Feb. 24, 2009

PUBLIC COMMENT

Name: Geraldine A. Norman

Address: 6220 River Cabin Lane
Charlotte, N.C. 28278

Comment:
I own property at 5015 + 5017 Morris Field Drive
Charlotte, N.C. 28208

Corner of Morris Field + Eaton Circle
Put me on your mailing list
Thanks

Do not send letters to landlords only - send to me also.

I have talked to Bill Fisk several times regarding noise levels and getting storm windows + doors + insulation for these properties

Charlotte·Douglas
INTERNATIONAL AIRPORT

Federal Aviation Regulations Part 150 Update Study
2nd Public Meeting – Feb. 24, 2009

PUBLIC COMMENT

Name: Tom Olson

Address: 6933 DANIEL LANE

Comment:

1. Why don't you have maps available & showing the noise contours (as up to date as possible) when you schedule a meeting re: noise so that what we hear is a little more understandable.
2. You talk in terms like 'FAR', RUNWAY 18L, etc & I don't know what they mean or represent. You need to identify runway numbers on the maps and a key to your airport jargon.

Charlotte·Douglas
INTERNATIONAL AIRPORT

Federal Aviation Regulations Part 150 Update Study
2nd **Public Meeting** – Feb. 24, 2009

PUBLIC COMMENT

Name: Irma E. Robinson

Address: 4408 Mapleleaf Ln, Charlotte 28208
704-398-6141

Comment:

(1) I would like to know what the DNL is in the Westchester Community.

(2) How the Airport is going to address older homes within that area with sound insulation.

(3) Information does not seem to flow to our area. Flyers + newsletters should be sent out.

(4) How can I be certain that I will be kept informed as to updates and progress of proposed changes or implementation of new runway.

(5) What criteria must home owners meet to be deemed eligible for sound insulation

Charlotte·Douglas
INTERNATIONAL AIRPORT

Federal Aviation Regulations Part 150 Update Study
2nd Public Meeting – Feb. 24, 2009

PUBLIC COMMENT

Name: Eugene Moore

Address: 3804 Margaret Ln.

Comment: I moved to Margaret Ln in 2002, At that time I could hardly hear a plane take-off or land, but know since all the Tree's have been cut down, I can hear them while inside My house watching T-V.

Third Public Meeting

Introduction

Sign-Up Lists

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

Name	Address	Phone	Email
Elle Biehl	10925 Rousay Rd Ch. 28278	704)778-3754	ebiehle@bellsouth.net
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Roger PALMER	9800 Shopton Rd W	704-588-9482	—
Lewis E. Bingham	6520 Hermsley Rd	404-402-0774	
RALPH + JOYCE STEWART	9041 WALKERS FERRY RD	704-3995153	
Evelyn Freeman	4804 Riverdale Dr	704-588-0598	—
Albert KESS	4730 Riverdale	704 588 [illegible]	
Barbara Marotta	4516 Cecilia Dr	732-287-0211	

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Anne Falkner	2019 O'Hara Drive CLT 28273	704-587-0002	

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Herb & Shirley Epler	9059 Walker's Ferry RD Charlotte, 28214	704-399-6259	
Marci Richmond	1145 Cureton Pl. 28217	704-525-0636	
Mick Miller Maggie Miller	6612 Georgianne Ct 28217	704-679-9164	
Terry Archambault	9940 Meadowmead Ct Charlotte 28273	704-583-2085	
CAROL SMITH	7440 ANN SMITH LN CLT 28278	704-588-4535	

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Paul & Colleen Kayser	4117 Rockwood Rd 28214	704 392 8827	
Geraldine Yeoman	6220 River Cabin Lane 28278	704-588-1829	
Jeanette Hess	4730 Riverdale Dr. 28273	704-588-8555	
x PATRICK MAROTTA	4516 CECILIA LANE 28273	732-297-9478	PMAROTTA@YAHOO.COM

wants copy of sign-in sheet

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Mary Marshall	8578 Douglas DR Charlotte NC	N/A	NA
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Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Jim Sellat	9401 MARKWOOD RD 28278	704-588-9474	

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Public Meeting: July 8, 2009

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Suzann Knudsen	1227 Land Grant Road 28217	803-331-6105	—
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Robert Vincent	5908 KirkwynD Commons DR.	—	newwaterboy@aol.com
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Public Meeting: July 8, 2009

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Debbie Vaughn	6508 Hermsley Rd. Charlotte 28278	704-910-4000	
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Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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Pam Sheppard	6519 Baldbay Drive	704-451-3714	pamdsheppard@net
Roderick Gee	5950 Fairview Rd ste 350	704 644 5919	rgee@tksrealtr.com
Brenda Baker	2948 Cross Rd	704 777-2065	
Jessie J. Miller	3204 #12 Nobles Ave	704-399-9695	

Charlotte Douglas International Airport
Public Meeting: July 8, 2009

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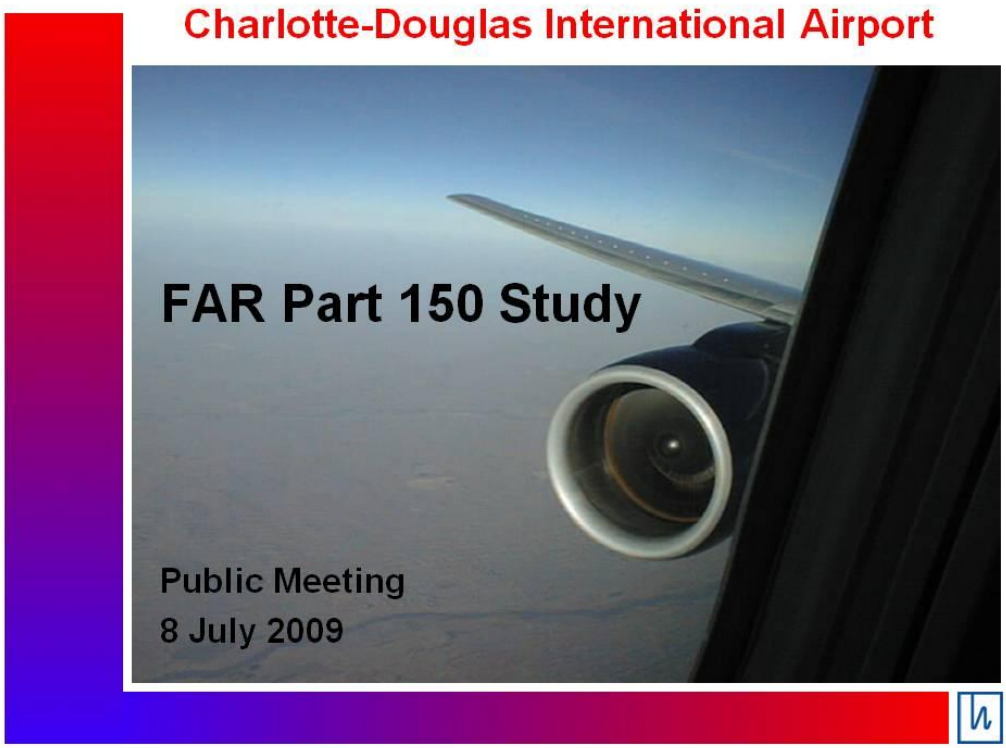
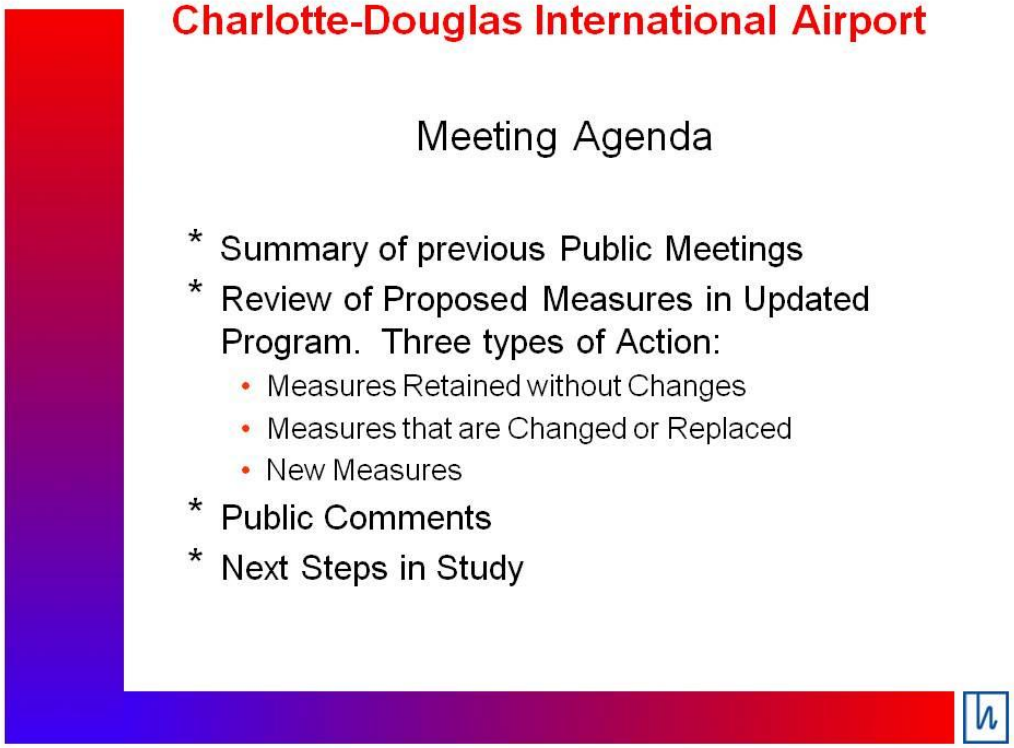
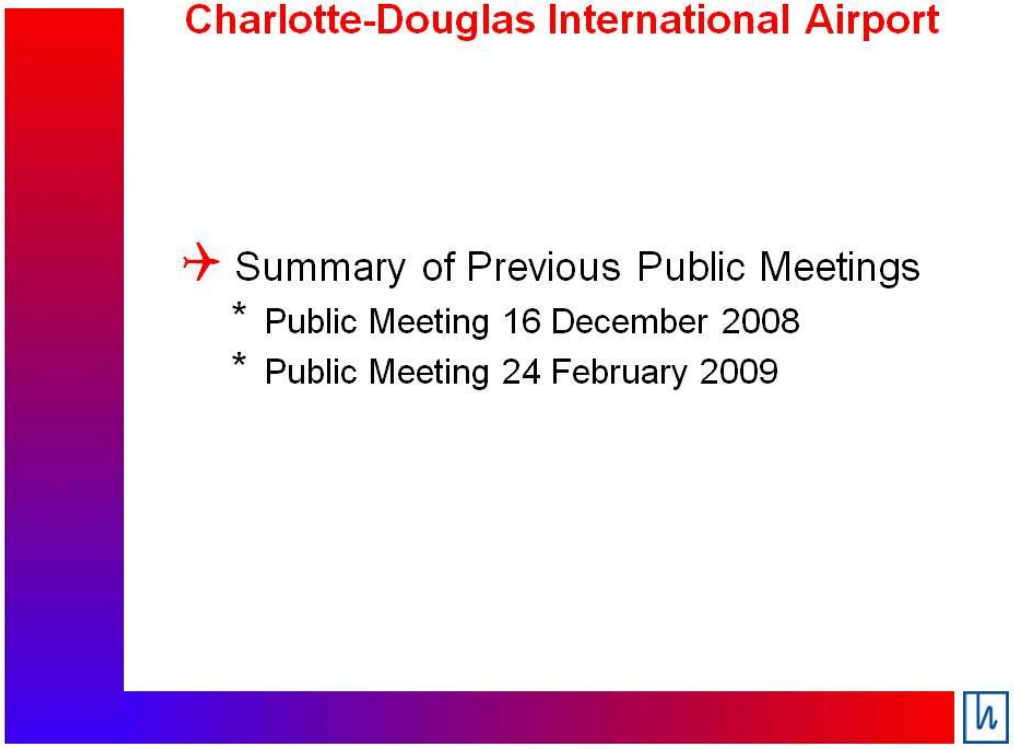
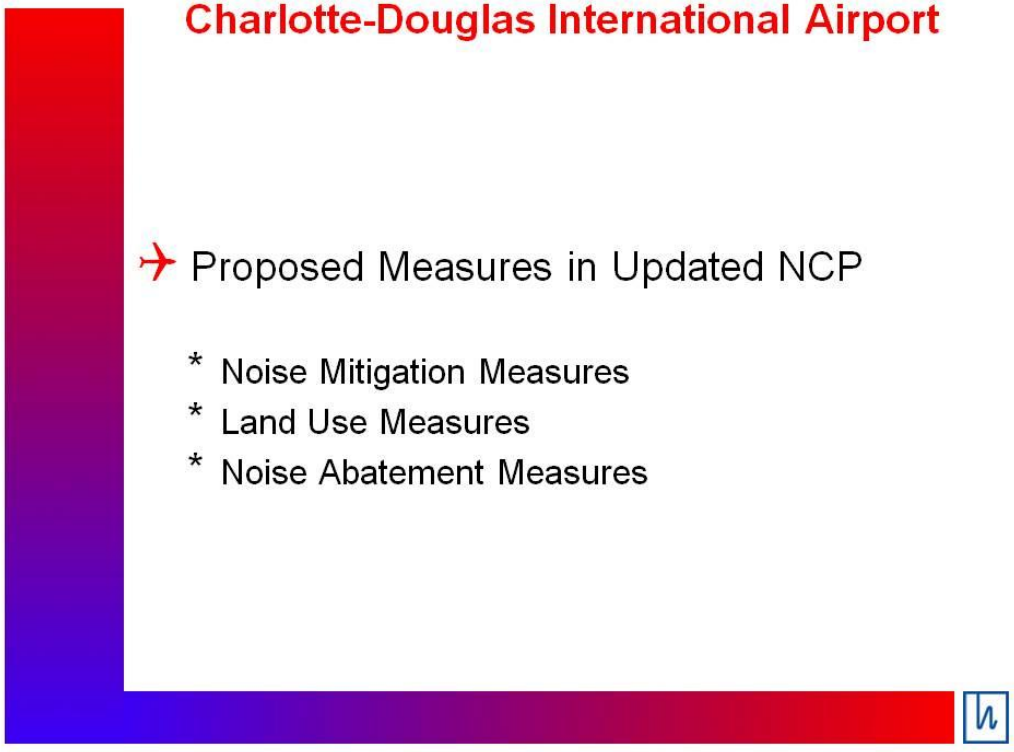
Slide Presentation






Charlotte-Douglas International Airport
Summary of Previous Public Meetings
* Public Meeting 16 December 2008
* Public Meeting 24 February 2009


Charlotte-Douglas International Airport
Proposed Measures in Updated NCP
* Noise Mitigation Measures
* Land Use Measures
* Noise Abatement Measures

Charlotte-Douglas International Airport

Noise Mitigation Measures

NM-1 – Continue the public information program to distribute noise and noise abatement information to the public. Unchanged

NM-2 – Continue sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour for the combined 2009/2014 NCP/NEM contours. Years Updated

Charlotte-Douglas International Airport

Noise Mitigation Measures - Continued

NM-3 – Sound insulate eligible houses located in the 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, which may be benefitted under FAA design criteria. Years Updated

NM-4 – This measure was replaced by the following current measures: NM-2, NM-3 and NM-6 through NM-9. Unchanged

NM-5 – This measure was completed through acquisition of properties where the use was not compatible with 75 DNL or greater. Unchanged

Charlotte-Douglas International Airport

Noise Mitigation Measures - Continued

NM-6 – Acquire mobile homes located in the 70 DNL contour of the 2009/2014 NCP/NEM, whichever is greater. Years Updated

NM-7 – At the Airport's option, purchase avigation easements on, sound insulate, or acquire houses within the combined 65 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.) Years Updated

Charlotte-Douglas International Airport

Noise Mitigation Measures - Continued

NM-8 – Sound insulate eligible houses within the 65 DNL contour of the 2009/2014 NCP/NEM (if any remain to be treated) Years Updated

NM-9 – Acquire mobile homes within the 65 DNL contour of the 2009/2014 NCP/NEM. Years Updated

NM-10 – Sound insulate eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM whichever is greater. New Measure
Extends Measure NM-3 to DNL 60

Charlotte-Douglas International Airport

Noise Mitigation Measures - Continued

NM-11 – At the Airport's option, purchase avigation easements on, sound insulate, or acquire eligible houses within the combined 60 DNL contour of the 2009/2014 NCP/NEM, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (These structures may not appear on the land use base maps because they do not appear on the County's tax rolls.) New Measure

Extends Measure NM-7 to DNL 60

Charlotte-Douglas International Airport

Land Use Measures

LU-1– Promote compatible land use planning, within 65 DNL of combined 2009/2014 NEM and 2009/2014 NCP contours. Years Updated

May be replaced by Measure LU-10

LU-2 – Pursue zoning for compatible development. Unchanged

LU-3 –This measure was replaced by Measure LU-8. Unchanged

Charlotte-Douglas International Airport

Land Use Measures - Continued

LU-4 – Require dedication of avigation easement as a condition of approval for the development of property located in the Airport Environs. Unchanged

LU- 5 and LU-6 – Measures not adopted. Numbers retained for continuity. Unchanged

LU-7 – Establish an Airport Overlay District that corresponds to the airport environs in which there will be special requirements relating to developing, rezoning, and transferring residential property. Unchanged

Charlotte-Douglas International Airport

Land Use Measures - Continued

LU-8 – Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District. Unchanged

LU-9 – Provide a mechanism to notify potential purchasers of residences that they are in an area exposed to aircraft noise. Implemented by Airport Overlay District of Measure LU-7. Unchanged

Charlotte-Douglas International Airport

Land Use Measures - Continued

LU-10 – Promote compatible land use planning, within 60 DNL of combined 2009/2014 NEM and 2009/2014 NCP contours. New Measure

Charlotte-Douglas International Airport

Noise Abatement Measures

NA-1 Periodic noise measurements in airport environs and provide the capability to monitor flight tracks based on radar data from the FAA STARS system or from a passive system. Revised

NA-2 & NA 3 – Measures not adopted. Numbers retained for continuity. Unchanged

NA-4 – Provide monthly reports on runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management. Revised

Charlotte-Douglas International Airport

Noise Abatement Measures - Continued

NA-5 – This measure is replaced by new measure NA-11. Replaced

NA-6 – Reaffirm airport user policy that designates locations and procedures for aircraft runups. Establish a runup position on the USAir ramp parallel to runway 5/23. Unchanged

Charlotte-Douglas International Airport

Noise Abatement Measures - Continued

NA-7 – This measure is replaced by new measure NA-11. Replaced

NA-8 – This measure is replaced by new measure NA-11. Replaced

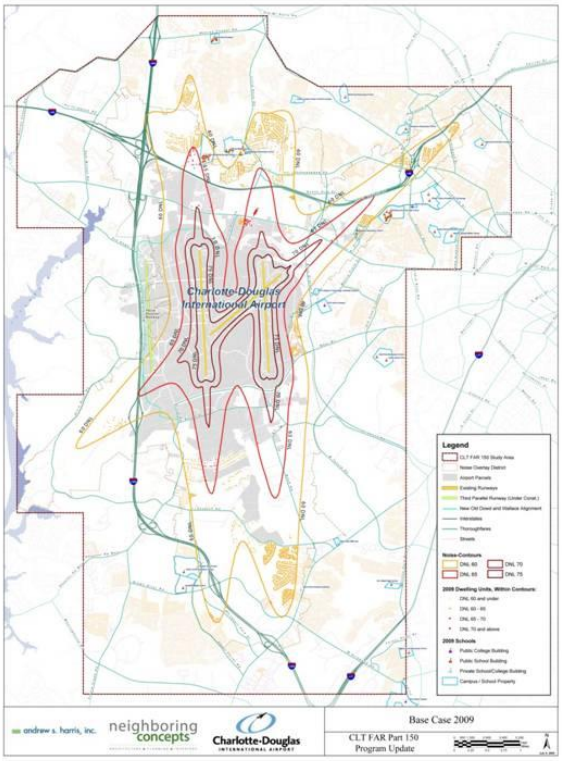
NA-9 – This measure is replaced by new measure NA-11. Replaced

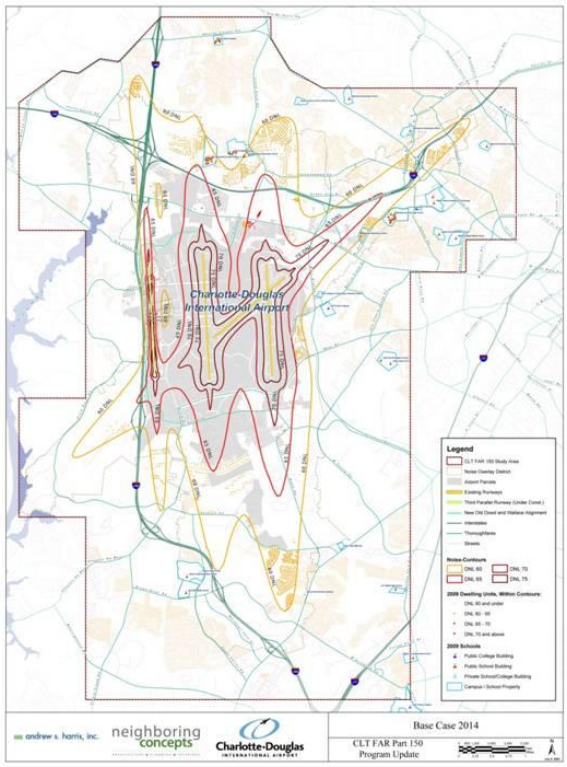
Charlotte-Douglas International Airport

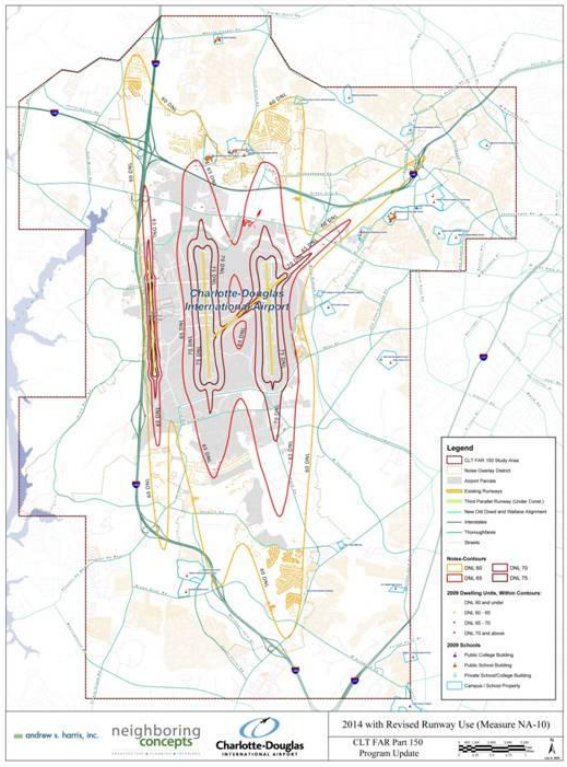
Noise Abatement Measures - Continued

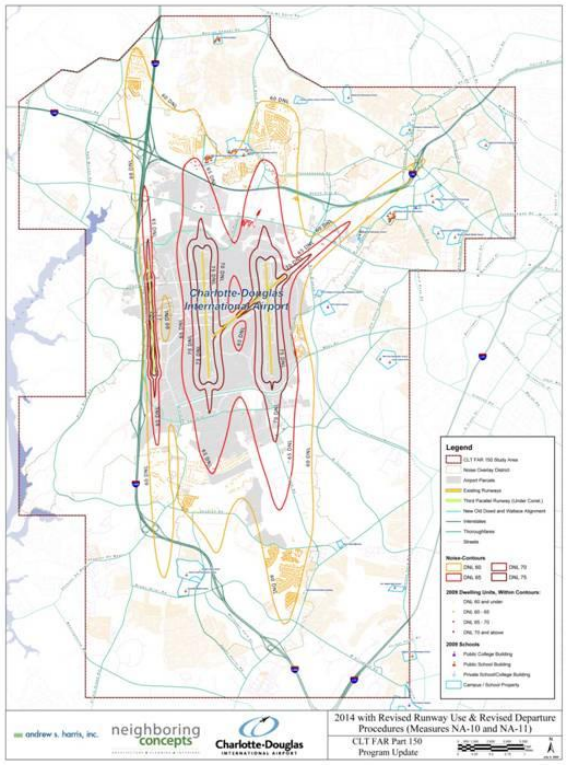
NA-10 – Use 4 runways from 0600 to 2300 and use all but runway 18R/36L from 2300 to 0600.
New Measure

NA-11 – Develop and implement revised departure procedures to provide more than one departure path from each departure runway. New Measure




Charlotte-Douglas International Airport
Legend
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas
Base Case 2014
CLT FAR Part 150
Program Update


Charlotte-Douglas International Airport
Legend
andrew s. harris, inc.
neighboring concepts
Charlotte-Douglas
2014 with Revised Runway Use (Measure NA-10)
CLT FAR Part 150
Program Update



Charlotte-Douglas International Airport

- Public Comments

Written comments may also be submitted

Charlotte-Douglas International Airport

- Next Steps In Study
  - Complete Draft Report
    - Noise Exposure Maps
    - Updated Noise Compatibility Program
  - Give Draft to FAA for Initial Review
  - Hold Public Meeting during Fall
  - Complete Final Report
  - Submit Final Report to FAA by end of 2009

Charlotte-Douglas International Airport

Transcript of Third Public Meeting

Public Meeting 07/08/2009

PUBLIC MEETING
CHARLOTTE DOUGLAS AIRPORT
PART 150 STUDY

The proceedings were conducted in the above-styled matter at Steele Creek Presbyterian Church, 7407 Steele Creek Road, Charlotte, North Carolina on the 8th day of July, 2009, at 6:06 p.m.

Reported By: Meredith Johnson
Court Reporter
Notary Public

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P R O C E E D I N G S

MR. HARRIS: Good evening. If everybody would, the last few who are still up would sit down, we could get going. I didn't want to start too late although I did want to allow the opportunity for some people who got here a little bit to late to come in and grab a seat. And we're actually setting a record, we have people in the front row which doesn't usually happen in public meetings or in church.

I'm Andy Harris. I'm the project manager for the update of the Part 150 Study for the airport. And I began working on noise issues here in Charlotte which was I think meant to be a six month project in 1975. But the airport has changed a great deal since then. I was guessing this morning as I came down from Boston where I live, that you could have put the terminal that was here in 1975 in the atrium of the present terminal and had room all the way around it. So things have changed.

Fortunately, among the things that have changed is the newer aircraft are a lot quieter than the ones that were here back then. And the old ones that were here may be sitting on a runway

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or infield at an airport in California, but they won't be back here ever.

During this meeting, I'll do most of the presentation, Jerry Orr, the aviation director, will give us some input in some parts of the discussion. Public comments are assigned a special part in the agenda which we'll look at, but please, if you have a question about a particular point, don't feel that you have to wait, ask it at any time. I don't mind being interrupted. And then if you get past the point, don't worry because there will be an opportunity near the end for other questions.

So the main purpose of this meeting is to provide some information and have the opportunity to get feedback from you.

This is the third of the public meetings and the first two were in December and in February. And this is last, sort of, open public meeting, then there will be a public hearing and I'll show you what's going to be leading up to that when we get to the end of this evening.

At our first public meeting, we had a general description of the project, a brief discussion about the land use information, a

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preliminary set of noise contours for 2009 which you see now the final contours for 2009, it's the left of the four figures in the back and then there was a description of what each of the steps would be. And that took care of the first meeting which was, sort of, the introduction to the whole process.

In the second meeting, I described what noise compatibility programs are and what Part 150 -- what the elements are in Part 150, which is the federal regulation under which this is done. The study is sponsored by the city of Charlotte under regulations established by the Federal Aviation Administration and with partial funding by the Federal Aviation Administration.

I then went through a complete list of all of the measures in the current program, one of which was completed in 1996. We then had a discussion of existing departure tracts because there were issues about the changes that had been occurring around the airport because of new FAA procedures. And that meeting also concluded with public comments and a look at the next steps of the study.

This evening, most of our discussion

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will be a review of proposed measures in the updated noise compatibility program. And as I described before, there are three groups of measures: Those having to do with noise mitigation, which is really what kinds of things do you do when the noise is there and you want to make -- have less impact on the community and on the individual houses, then there are land use measures which have to do with what you do with land use around the airport to improve compatibility, and then finally noise abatement measures which is how to produce less noise in areas in the community where you're concerned about the noise, residential areas, schools, and churches, for instance.

And what we'll do now is go through each of the measures that are in the present program and indicate whether or not there are any changes.

The first of them, the first group is in the noise mitigation measures and the first measure is public information program, for instance, the newsletter that comes out at regular intervals and those kinds of things. That measure will be continued without any changes.

And the second is sound insulation of

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noise sensitive buildings, residences, schools, and churches inside the DNL 65 contour. This is going to be changed in that the dates of the contours we'll be working from have changed to conform to what they will be when the study is turned in. We expect we will be turning in the final documents over to the city by the end of this year and they will go to the FAA and probably be acted on by the FAA during 2010.

The FAA has two things that they do, one is that they approve -- excuse me, they accept the noise exposure maps, which means that the contours that are included in the program meet the FAA standards and all the information it requires there. So they're accepting them. Yes, accepting them, which means they're really putting the received stamp on it to acknowledge that they're okay. And then they act on the individual elements within the noise compatibility program such as these measures you see here and the rest of the ones that we'll discuss. And what happens is they go through the acceptance of the contours and then after they accept those, they have six months to approve or otherwise act on the proposed measures. The kind of thing that they will check

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on is what we see here that they apply to the current maps. That's what that means.

So we will go on to the next part of the program and that is measure three which, again, will be updated to the proper map.

Noise mitigation measure four is unchanged and this is really, the way this entry here is just sort of an accounting for the FAA because there was a measure and it was replaced by other measures that are in the program and we just tell them that it's how it's being treated this time and it's being carried forward without any change.

Mitigation measure five was acquisition of properties where DNL is 75 or above. Everything has been acquired in that zone and if you, per chance, have been following what noise contours around this airport look like and have looked like in the past, what you'll realize that the 75 which did in the early days in the 80s and 90s include off-airport property. The 75 contour's now almost up to the runways because despite the increase in the number of planes, the elimination of the old aircraft has brought the contours way in. So contour areas have shrunk a

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lot. So something that used to be in 75 may well be just within the 65 because it will have been acquired.

Measure six, same thing. This is acquiring mobile homes where DNL is 70 or above, again, updating the year.

At number seven, it is sort of a Chinese menu. If the airport wants to acquire the property which is in 65 and would normally be acceptable for sound insulation, it either can be sound insulated or acquired if it couldn't be properly sound insulated. Some buildings just don't lend themselves to it. So that's again, updating the years, but otherwise not changing the measure.

Number eight, same thing. They need to be treated in the 65, but the years are updated.

And number nine is the study for mobile homes being 70 DNL at 65, but the years are updated.

Now, measure ten is new. In this program, the city is going to try to get the FAA to accept that houses that are located within the DNL 60 contour should be sound insulated to provide a greater level of protection than is

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normal in FAA programs.

You'll see that there are a couple of measures that will address the 60 contour. The FAA says that according to its information, which is not a standard but as far as the FAA is concerned, they treat it as their standard, unless a community has undertaken a program to help prevent development within 60, or has done something similar by saying that you can't build certain uses under code if DNL is 60, the FAA says you can't sound insulate the module because they don't want to create a situation where people could build something and then come and want sound insulation when it shouldn't have been built there in the first place. So you'll see that several new measures will address residences or schools or churches inside the 60 or will say that we'll try to avoid having them in the 60.

We've tried to get FAA to allow the sound insulation in the 60 previously, but they've disallowed it. We're going to have another attempt by having 60 as part of the planning and see if we can work it out that way.

And measure 11 is like the earlier one, the one that I described earlier that is like a

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Chinese menu, number NM 7. This is the same thing but taking it into the 60, again, if the FAA allows anything to happen inside the 60.

So those are all of the noise mitigation measures and you can see that the two new measures proposed have to do with trying to push the area where you can make treatment out to the DNL 60 where at the moment, it's in the 65.

Now we have the landings measures. And this land use number one is to promote compatible land use planning within the 65 contour. And you'll see in a few minutes that there's a new one proposed to take it out to the 65. Here, we're just changing the dates of the maps to which is applicable.

The second measure is to pursue zoning for compatible development. That's a similar kind of thing to number one. It's unchanged.

Number three was replaced by LU 8. Which we'll look at in a couple of minutes and this note is unchanged because it's unchanged in the set up.

Number four, is a requirement that if somebody wants to develop property that is in an area exposed to aircraft noise and wouldn't be

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allowed otherwise, it may be allowed, not necessarily it will, it may be as long as this navigation easement is applied to the property. A navigation easement says, you're making a certain level of noise now and that's okay. You can keep making that noise. It would be protected against noise getting higher because otherwise you wouldn't want to have such an easement, but it's a way of preventing somebody from building in a place that they shouldn't build and then coming and saying to the city, well, you should pay me to fix it up. That is going to be unchanged.

Five and six weren't adopted. That's just another housekeeping note.

Seven is the airport overlay district. That's already done. That's unchanged.

Eight is to pursue amendments to the building code to make sure of the proper sound insulation. That is unchanged.

Number nine is notifying potential purchasers of residences that they're in areas exposed to aircraft noise. That's been implemented by measure seven, the airport overlay district.

And then we get to number ten which is

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promote compatible land use planning within the 60 DNL. Now, I mentioned before that this would be coming along and it is. And that's the one that is new and is being put in so that the FAA will consider the other measures applied to 60 in a more favorable light. We can't guarantee that they will accept the other measures, but we think that this will give us a better chance. So that takes care of the land use measure.

And now we move into the third and last group, which is noise abatement measures, measures designed to help reduce the amount of noise that comes down in the communities in the areas where there are noise sensitive land uses such as houses, schools, and churches.

Measure one, in black type you see the way it exists now, which is that there are periodic noise measurements and now for many years Bob Andress has been making measurements every quarter, every three months, at a whole series of locations around the airport so there's now a history of what's happened in terms of noise levels for what is it at least a decade now, Bob? Bob's not in yet. So it's at least a decade worth of data. Some of the sites have been in all

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along. We lost some sites because people moved out and the new owners decided they didn't want measurements so we have some new sites. But the idea is to keep the history of what the noise exposure is like.

Now, we're proposing to modify this measure to add the capability to get information on flight tracts or more exactly on where the planes are flying when they come into the airport and then when they leave it. That information includes not only the location on a map but also the altitudes they are coming in and leaving, what airline, what kind of air craft, and the time of day. And in the case of departures, for sure where they're headed, what city they're headed to and arrivals, where they're coming from.

The city had a system for getting this kind of information previously, but it was designed for the type of radar system that the FAA had previously called ARTS and the FAA changed from ARTS to STARS, another acronym, different kind of radar system. The city's old system will not work with that. So there's a need to get a new system so that any time, the city will have a complete record of where the planes are and which

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planes are arriving and departing and what the noise levels are by the combination of the measurements and the radar data. This is particularly useful when the FAA is trying different procedures and the city wants to know where the planes are and how often the procedures are being used in a particular way.

Measures two and three, again, it's an accounting thing. They aren't in force any more or were not adopted.

Number four is to provide monthly reports on runway utilization. Now, this is being revised. It had to do in the original for just a limited period of the day, namely the part of the night time where there was recording, this is saying for all the time and so if there's any need to know what runways have been in the daytime, evening, night, that can be done by combining the information from the radar system with the particular queries information you want to have. So we're revising that measure.

And NA five is being replaced by NA 11 but we'll get to it at the very end.

NA six has to do with where run ups are that is where aircraft are put into position and

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the engines are tested and that's unchanged.

Then we have measures seven, eight, and nine, which have to do with how aircraft turn off various runways when departing and those are all being replaced by measure NA 11. And the next page shows us what NA 10 and NA 11 are.

Between now and is it the end of this year that the runway will be in use?

MR. ORR: November.

MR. HARRIS: Near the end of this year, the new runway, which is under construction to the west of the existing runways, which runs parallel to the two existing parallel runways will be open.

The FAA and the airlines have discussed with the city how they want to use those runways. The new runway will normally be a landing runway. There will be landings to the north and landings to the south.

Only relatively infrequently, will it be a take off runway as long as the other three runways that are here are still available. If any runways are taken out of use for maintenance or for any purpose, then the new runway will be used more and possibly -- and that will probably include departures.

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This measure says that from 6 in the morning to 11 at night, the four runways would be used. The existing three runways would be used as they are now in general and the fourth runway for landings.

Then, between 11 p.m. and 6 a.m., the new runway, 18 right 36 left, would not be used except as I said during times when maintenance requires its use or anything that takes another runway out of use. So that's the way the new runway use program would be.

The measure NA 11 involves revised departure procedures to provide more than one departure path from each departure runway. Now, many of you are aware either from being at one of the earlier meetings or from separate information that the FAA is now using so-called RNAV, area navigation departure procedures.

In the past, when aircraft took off they would be directed to take off and make a turn to a certain heading. Because the pilots would -- in each of the planes, might turn, start turning to the heading at a slightly different time and with a different amount of steepness of turn there was quite a bit of dispersion in where those turns

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began and ended and exactly what the path was that overflown and that dispersion continued well beyond the immediate area of the airport. And in fact, when we were talking about those types of procedures and the resulting patterns over the ground, we would say the planes are not flying on a path which is like a rail for the railroad.

Well, RNAV is much more like a rail for the railroad. And what happens is the plane is taking off, it's following a procedure using the on-board computers and they fly over virtually the same path wherever they're going, moving out of the airport environments. Well, what that has meant close in is that there's much less dispersion but you may not notice it all that much because you're accustomed to more planes going over, you're very close to the airport. But it also means that maybe 15, 12 miles from the airport they're flying over virtually the same path and people who are unaccustomed to lots of flights, relatively small numbers, suddenly find that they're getting a lot more planes flying overhead.

Well, one of the things that we've been looking at is, what kind of benefit can we give

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people 12 to 15 miles away by having more than one path out while keeping near the airport from having too many paths. So it's sort of a tightrope.

In the past, the procedure wasn't terribly precise. The planes dispersed as they got further from the airport. Now, it's a very precise procedure and there's very little dispersion. But you don't want too many departure paths coming from a runway too close in because that means that more people will get the higher noise close in.

But we're looking at the benefits and the penalties of adding maybe one or two paths to some runways, one to some, two to others. And that's what NA 11 is.

Now, what we have in the back of the room --

UNIDENTIFIED FEMALE: Can I real quickly, can I go back to NA ten. Just as a point of comparison, what are the hours of the runways currently as of right now?

MR. HARRIS: As of right now, it's let's see, daytime is 0700 to 2300, 7 in the morning to 11 at night.

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UNIDENTIFIED FEMALE: I beg to differ. Because they fly over my house at 5:55 a.m. and they're flying to almost 2.

MR. HARRIS: What I'm saying is, it depends on where your house is. Some houses are on what is the nighttime runway use pattern already. You may be, I don't know.

UNIDENTIFIED FEMALE: So basically, now it's going to be worse in terms of noise than it already is according to the new measure. Well, the runways are going to be open.

MR. HARRIS: Not everybody lives in the same house. And so in some houses, there will be relief and in some houses there may be more operations. I can't say. I don't know where you live.

UNIDENTIFIED FEMALE: I live in Berewick.

UNIDENTIFIED MALE: She's talking about her house specifically.

MR. HARRIS: I know. I'm saying I don't even know any house unless I'm looking at a map whether it's going to have more or less operation.

UNIDENTIFIED MALE: South of the new runway.

MR. HARRIS: South of the new runway, if you you're due south of the new runway, it's not a new

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runway effect, right?
MR. ORR: It wouldn't be more.
UNIDENTIFIED FEMALE: They're not supposed to be over Berewick. They were during the testing, but they're not supposed to go over Berewick. We're out of all those contours and those flight paths.
UNIDENTIFIED MALE: The only thing that should be flying over Berewick is prop planes. Over the past month and a half, we have noticed a large increase over our houses to the point where we can read the tail numbers on the plane. That ain't right.
UNIDENTIFIED FEMALE: I've had my bed in the master bedroom vibrate and I didn't put a quarter in it.
MR. HARRIS: What I'm saying is that -- I'm laughing at the quarter; I'm not laughing at the noise. I'm laughing at the quarter.
UNIDENTIFIED MALE: We see the changes every day.
MR. HARRIS: I know.
UNIDENTIFIED MALE: So you can say these words all you want to. These changes are going to be getting worse for us. We can't sleep at night.

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We can't go outside and have a cookout in the day time it's so noisy. You can insulate the house, but you can't insulate a bubble here. And that's our concern. It's hard to live here now.
MR. HARRIS: First of all, measure NA ten is not in effect now.
UNIDENTIFIED MALE: So based on that, it's going to get worse.
MR. HARRIS: Well, again --
UNIDENTIFIED MALE: You're increasing the hours.
MR. HARRIS: It depends where you live.
UNIDENTIFIED MALE: Berewick.
MR. HARRIS: You're talking about operations on runway 18 center.
UNIDENTIFIED MALE: North and south.
UNIDENTIFIED MALE: One's cross.
UNIDENTIFIED FEMALE: Talking about RNAV and departures and used to be a heading, and recently, there's been a change and I don't know if it's a test or what but when we take off, you're turned to a heading to join a departure. It was a straight RNAV, but now when the airplanes take off, they're given a heading to fly. Now it's back to like it used to be to join the departures.

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So that might be a reason why some people are in the last month and a half are seeing an increase in noise because it's gone back to fly this particular heading to join that.

UNIDENTIFIED FEMALE: My -- present for a year and a half.

MR. HARRIS: -- several things that are happening. What you're talking about is departure headings as opposed to runway use. But, you're correct, the RNAV procedures, quite a while ago, five years ago there were no RNAV procedures. Then the RNAV procedures came in and there have been issues with how they work. And five years ago, departing flights were given a clearance to take off and go to a heading. With RNAV, the computer gets the information. Now, they're back to take off clearance with a heading.

At the same time, the FAA in trying to deal with several different issues, one is capacity and one is that going straight out on runways 18 left and 18 center, the two existing north, south runways, up until the present, to the present, has required a waiver from FAA procedures because they're meant to have from the time they leave the runway, they're meant to be getting

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separation so that if two planes are taking off on parallels, they're not flying parallel, one is turning right or one is turning left or they're both turning a bit to get away from each other so you don't have aircraft trying to occupy the same bit of space. The FAA is trying to deal with or trying to test procedures to be able to get the capacity they need to without requiring the waiver.

That is separate from measure NA ten because measure NA ten is not in effect. There's no change in runway use at this point.

UNIDENTIFIED FEMALE: You said when you were talking about NA 11 that the people who were 10 or 12 miles out have noticed that they were flying directly over their house all the time. I'm going to tell you, it doesn't have to be 10 or 12 miles out. It's right there.

MR. HARRIS: And I indicated when I was describing NA 11 that what they'll be doing is trying to work a balancing act which is to get some relief out 10 to 12 miles away where they having been flying over while not making it a greater burden for people too close in. There's no free lunch in this business.

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UNIDENTIFIED FEMALE: Who do we contact to let the people know? What's our procedure to have any input in this? I know this is what this meeting's about.

MR. HARRIS: Right. Want comments to come to you by letter?

MR. ORR: Sure.

MR. HARRIS: So you write to T.J. Orr, the aviation director at the airport.

MR. ORR: Or email.

MR. HARRIS: TJOrr@Charlotteairport.com. Email is great.

UNIDENTIFIED MALE: Thank you. And I live in Berewick, pretty much right in the middle I have the shade division directly in front of my house; I have KB directly behind my house. For those in Berewick, you know where I live.

UNIDENTIFIED FEMALE: Yeah.

UNIDENTIFIED MALE: My issue is with number 11, you're talking about departures. Our problem's not departures, our problem's arrivals. Last night at 11:20, all the airplanes flying over my house that woke up my wife, myself, and three and a half year old daughter up, weren't going away from the airport, they're coming into the

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airport.

And I'm a manufacture engineer. I have to worry about noise and hearing protection. I don't have my exact numbers, but I believe 65 decibels is about someone shouting. It's somewhere around there. It's not that loud.

MR. HARRIS: Sixty-five is normal speed.

UNIDENTIFIED MALE: My wife and I were standing about half the distance that you and I were in our driveway at 6 o'clock at night. We couldn't hear each other talk. We had to go inside. And that was from 6 o'clock until 7 o'clock. Mr. Andress has been wonderful. I've called him numerous times to complain about this problem and it keeps happening again and again and again.

We're talking about departures, my concern is the arrivals because that's what's affecting Berewick right now. I'm not hearing the departures, the planes flying out, I'm hearing the planes landing.

UNIDENTIFIED FEMALE: I'm in Berewick. I'm hearing departures.

UNIDENTIFIED MALE: Coming into the airport.

UNIDENTIFIED FEMALE: I wave at them because

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I figure the pilot can see me.
UNIDENTIFIED MALE: I give them the finger.
MR. HARRIS: And then you put a quarter in.
UNIDENTIFIED MALE: I guess I looked at the airplane maps and it looks like our neighborhood might be outside this contour. Maybe I can't tell. It's on the map really closely. But I don't understand if we're full falling under 60 if it's normal speech and I can't hear my wife talk.
MR. HARRIS: You have raised one of the delightful points of acoustics in the -- there are -- the maps are daylight average sound level which is not the instantaneous sound or even the short-term sound. It's the sound over a full day.
So you don't -- you have -- what that's saying is that the noise exposure at 65 is as if during the entire daytime which for that calculation is 7 a.m. to 10 p.m. the sound was 65 unceasingly. And then at 10 p.m. it goes down to 55 and it keeps that up until 7:00 the next morning when it goes up. The reason it goes down -- anyway. That's not what it is when you're talking because your not talking 19 hours a day.
UNIDENTIFIED MALE: I work from home and I do talk all day long on the phone and I have to close

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doors and windows because I can't hear people talk on the phone in my ear over the sound of the airplanes during the course of the day. That's not an average.
MR. HARRIS: That's because -- in fact, it is an average, the plane's not there and then the level comes up.
UNIDENTIFIED MALE: Of course when the plane is not there.
MR. HARRIS: The plane is not there and then as it approaches the level goes up and it reaches the maximum and then it goes down. If you have a sound level meter on --
UNIDENTIFIED MALE: I've had a sound level meter.
MR. HARRIS: Sound pressure level meter.
UNIDENTIFIED MALE: I've measured levels of close to 110 decibels inside my house.
UNIDENTIFIED FEMALE: I have to --
UNIDENTIFIED MALE: Come have dinner with us sometime.
MR. ORR: I want you to show me a 110 level decibels.
UNIDENTIFIED FEMALE: Sir, can I ask something real quick. What I want to know is

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right now, I live in Berewick up in the MIs in the front. I want to know, I thought there were supposed to be a minimum of two minutes between planes. We have timed them flying directly over our house at 30 seconds apart. You're telling me they're supposed to be taking off and splitting off if they're coming off of the parallel runways. How can they be coming over our house every 30 seconds at night? We're talking about at night after 10 p.m. Can you answer that?

MR. ORR: Yes, ma'am. They can be two minutes apart because they have to be 3 miles apart. They don't have to be 2 minutes apart, they have to be three miles apart.

UNIDENTIFIED FEMALE: Well, then somebody's speeding because every 30 seconds -- come on over. I'm not making this up.

MR. ORR: Okay. We're going to measure some noise in Berewick so we can talk really intelligently to you about this. And we need some volunteer to let us put the noise monitor in their yard for a week. So Bob will be contacting you.

UNIDENTIFIED MALE: That would be wonderful.

MR. ORR: And I've already forgotten your first question.

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UNIDENTIFIED MALE: I was --

MR. ORR: You said they were coming over to your house?

UNIDENTIFIED MALE: For me, it's landing that's affecting me the most. It's directly between heading right toward the airport and it's one after the other after the other. I'm probably going from 6 until 7 and then again, it starts about 10:30; it goes sometimes 'til 11:30. Last night, it started at 11:20 and it went until about midnight.

UNIDENTIFIED MALE: They're using the cross runway.

MR. ORR: They're using runway five after 11 at night.

UNIDENTIFIED MALE: The thing that concerns me, when I bought in Berewick about two years ago, I looked at the airport things, there was this thing saying that you're going to have all this airport noise. I looked at it. I looked at what the flight charts were. It wasn't supposed to be there. And then I'm looking at this and you just get done with another problem in Berewick and that finally gets resolved and then this happens. And I'm like how much more do I have to fight to get

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stuff the way it's supposed to be the way it was when I signed on. It's just frustrating. But it's just a level of frustration of constantly having to fight to get it the way it's supposed to be, the way I was sold.

MR. ORR: We'll make the measurements and then we'll be able to talk intelligently about it. Remember, that the contours don't mean that there won't be airplanes flying outside of those contours. So it's erroneous to say that airplanes weren't supposed to fly over Berewick.

UNIDENTIFIED FEMALE: That's an exception, right? Like, they shouldn't be over every single Friday.

MR. ORR: No, ma'am. They may be over randomly any time.

UNIDENTIFIED FEMALE: Randomly is an exception, but every Friday they're over and they're off the FAA path.

MR. ORR: There may be an airplane or two or three or 12 over every day.

UNIDENTIFIED FEMALE: Right.

UNIDENTIFIED MALE: Excuse me, but something drastically changed in the departure pattern about the 20th or 21st of May. We have been here since

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early 2007 and it has never been as it has been since late May. So something changed and nobody seems to be answering that particular question.

UNIDENTIFIED MALE: Thomas Harrison and I live -- South Tryon. Something's happened in the last, I'd say, five to six weeks. It's unbearable. You can hear it during the day. And quite honestly, you can't even enjoy your outdoors. It's just unbearable. So something has changed.

MR. ORR: Mr. Harris explained to you about the RNAV procedures that have been on again and off again and we have been adjusting and correcting some flight paths to try to fix that.

UNIDENTIFIED MALE: So this a short term, long term? Is this the way it's going to be?

MR. ORR: I don't know specifically and I think each of you are talking about some different things.

UNIDENTIFIED MALE: Same thing. It's all noise.

MR. ORR: You're going to have noise this close to an airport. The question is how much noise you're going to have.

UNIDENTIFIED MALE: We accept the noise from

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the airport. What we don't accept is the planes flying so low over our houses that they're shaking and that's what's happening. They're shaking our houses.

UNIDENTIFIED FEMALE: Jumping out of parachutes.

UNIDENTIFIED MALE: I can see the people wave out the windows at us.

MR. ORR: I'm going to let Andy finish his presentation and then I'll take all your questions.

MR. HARRIS: Okay. Thanks, Jerry.

The next four figures are noise exposure contour figures showing aircraft noise exposure on existing land use around the airport. Large scale versions of each of these are at the back of the room on the posters. The left most picture shows then noise exposure in 2009. Then immediately to its right is the noise exposure -- excuse me, in 2009, without the new runway, so it's a representation of the exposure as it is now and will be until the new runway opens.

The remaining three figures to the right in 2009 are different ways of operating the airport in the year 2014. There's nothing magic

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about the year 2014, but the FAA requires that in this type of noise study we look at existing conditions and it's 2009 now it will be 2009 when the recommendations are turned into the FAA and in a future year, typically as distant as five years. 2014 is five years from now.

All of the 2014 maps show the use of the existing three runways plus the new runway. The first figure which is called 2014 base case actually we'll go -- let's take a look -- this is the 2009, the new runway is on the left, but it isn't being used and that's why all the noise is around all the other three runways.

The next one is the 2014 base case and that is showing the four runways in one pattern of usage. That pattern of usage is the three parallels being used with the westernmost that is the new one, a landing only runway, and the other two parallels as either departures primarily or in the case of the easternmost parallel, departures and arrivals. And then runway 523 being used for arrivals on 23. That's in the daytime.

At night, because the demand is much less, the new runway will typically not be in use and the nighttime pattern is the same as the

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current nighttime pattern. Is that right? No. The base case is the current nighttime pattern.

The next map is all four runways. The pattern of runway use is such that the four runways are used in the daytime plus one hour. That is, the daytime is, the present rules 7 a.m. 'til 11 p.m. The daytime for this one is 6 a.m. to 11 p.m. And the nighttime is the same as it is now.

UNIDENTIFIED MALE: Andy, why would that be a change from 7 to 6.

MR. HARRIS: That is to provide airport capacity recognizing that the aircraft have become a lot quieter and that change can basically be accommodated without making the noise exceeding what it would have been to start.

UNIDENTIFIED MALE: On that map, if Berewick is to the southwest, you're not going to have arrivals then at 6 in the morning, right, with that map, with that noise level?

MR. HARRIS: There will be arrivals at, yes, there would be arrivals at 6.

UNIDENTIFIED MALE: Why don't you show the noise contours.

MR. HARRIS: They are. They're there.

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UNIDENTIFIED MALE: They're coming from the south, not the southwest.

MR. HARRIS: The distance of those contours, that's a straight in arrival.

UNIDENTIFIED MALE: Presently we have a flyover and arrivals on the cross runways, right?

MR. HARRIS: Yep, and those --

UNIDENTIFIED MALE: The new runway, does it mean it will eliminate that?

MR. HARRIS: On this one, there are no arrivals on that cross runway at night.

UNIDENTIFIED MALE: So you're saying in the future, we're not going to have flyovers or arrivals.

MR. HARRIS: Not normally. Whenever you say "ever," I say not normally because if there's a runway out of service, then patterns are going to change for whatever period that runway's out of service. They'll make use of all the runways.

UNIDENTIFIED MALE: So in the morning, we should not see flights over Berewick, southwest.

MR. HARRIS: From the southwest, typically not, no.

UNIDENTIFIED MALE: But we might see them at night, though.

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MR. HARRIS: In this pattern, that map, typically not.
UNIDENTIFIED MALE: Okay.
MR. HARRIS: Because that early morning arrivals on five were part of the nighttime procedure that will not be continued.
UNIDENTIFIED MALE: So we should not have flights as we're having presently with the noise factor.
MR. HARRIS: Not on runway five, normally. Remember normally. When things go abnormal, all bets are off.
UNIDENTIFIED FEMALE: I'm feeling really stupid here and I apologize. The first map is how it is. I'm really lost on the second, third, and fourth maps.
MR. HARRIS: The first map is how it is in 2009. The second map --
UNIDENTIFIED MALE: Which is that?
MR. HARRIS: Base case 2014 is one possible way of using a four-runway airport.
UNIDENTIFIED FEMALE: So the next three are possibilities of what you're looking into to propose to the FAA right now?
MR. HARRIS: That's correct.

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UNIDENTIFIED FEMALE: So you don't know which of these three choices, but basically the answer is, I think they've been studying and I think this particular one is what we're hearing is this first case study versus --
UNIDENTIFIED MALE: So you actually are considering flying over Berewick in the future.
MR. HARRIS: Won't they be getting -- they'll be getting noise from arrivals on the new runway, won't they?
UNIDENTIFIED MALE: No, not the new runway.
MR. ORR: They'll be getting some arrivals.
MR. HARRIS: Not the way they get them on five. You're inside the study area. Aren't you here?
UNIDENTIFIED FEMALE: No, I'm not. I'm in the bottom left corner where there's nothing. I'm not in a box.
MR. ORR: You're still inside the study area?
UNIDENTIFIED FEMALE: I'm right there. That's where a lot of us are.
MR. HARRIS: You're on the center line of the existing diagonal runway roughly.
Most of the -- the more further right you go in the figures there, the more benefit you

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have from the proposed use because it'll reduce the landings on five.
MR. ORR: Time out.
MR. HARRIS: The cross runway would still be used for nighttime operations in the base case. This map shows it being used for landings at night still. The ones after this, with measures 10 and 11, that runway's not used at nighttime for landings normally. So you will benefit if what is adopted is either 10 or 11 or two or any -- excuse me, if 10 is adopted you will benefit.
UNIDENTIFIED MALE: How can we ensure that that will be adopted? I mean if we have a lot of noise problems in our area, is that what it is?
MR. HARRIS: No. The FAA will be looking at it in terms of what operational issues this measure might present at the airport when in fact it's an operational benefit that we're looking at.
MR. ORR: The way for him to impact the decision is to make a comment and the FAA will address the comments.
MR. HARRIS: What Jerry said is, if you want to influence the process, you come to the public hearing particularly which will be the next public meeting or make a written comment at this meeting.

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We want to get rid of landings on runway five. They have an adverse impact on our community. And now, don't everybody decide they want to get rid of all operations on all runways because that won't fly.
UNIDENTIFIED MALE: No offense, but I've never heard more double speak in my life than I've heard tonight.
MR. HARRIS: You know --
UNIDENTIFIED MALE: Let me finish my comment. You've got a lot of people that are really just in their own quality of life. If you don't take care of our needs now, you're going to need more than an auditorium to take care of us. This is -- our life savings are in our homes. You obviously don't live near an airport because use don't know what it's like to have this over your head day in and day out. I'm asking you now to take care of our needs because this is not going to hold enough people later on and we're going to take action to stop this.
UNIDENTIFIED MALE: You know, we moved near an airport, agreed. But the drastic change effective May 20th is the issue. We're trying to figure out what changed and is it going to

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continue, and if so I need to know because I'm selling my house. I'm moving.
UNIDENTIFIED FEMALE: It's going to devalue our houses. We won't be able to sell them.
MR. HARRIS: It's important for each of you to understand. Although as I understand, there's a group of people in this part of the auditorium who live in one particular area.
UNIDENTIFIED MALE: No, I think it's all a mix.
MR. HARRIS: Let me say what I want to say so that I can understand. You don't all live in one block. You live -- a high percentage of you, I gather, live to the south of the airport.
UNIDENTIFIED MALE: Southwest.
MR. HARRIS: So you will have many similar interests, but if you live on the approach to runway five, the diagonal runway, this one, you have a different set of concerns or at least the noise exposure than if you live here or here.
UNIDENTIFIED FEMALE: Could I ask a question about that. I don't live in Berewick, although I sympathize with absolutely all your problems and I heard a commitment to measure some of the sound in Berewick. What do we need to do if I live north

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of the airport there, I live in Tuckaseegee. What do we need to do in other areas to get that commitment to come out and measure the sound in other areas?
MR. ORR: Email me. Tell me where you live and give me the permission.
UNIDENTIFIED FEMALE: And you'll do that for anybody who has --
MR. ORR: Anybody in the room or out of the room.
UNIDENTIFIED FEMALE: What kind of action will be taken if the noise level's too high?
MR. ORR: We will measure the noise and report.
MR. HARRIS: Okay.
UNIDENTIFIED FEMALE: We live on Steele Creek Road now. When we moved there, we could sit on our back patio and watch the planes come and going on those two runways and never heard a thing. Now, they're coming and instead of turning when they get way out at the end, they're turning right over our development. That's the problem. It didn't used to be that way and why is it doing that now? What can we do to ask the FAA to change it the way it was and let them go straight on out

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and then split. Why split right over our houses?
MR. ORR: I'm going to let Andy finish his presentation here, but each of your individual questions like that, if we could have some communication with you, we can show you where the airplanes used to go and we can show you where they go today and we can deal with that.
UNIDENTIFIED FEMALE: We know that. We want to put them back to where they were.
MR. ORR: I hear what you're saying but we need to know where those two tracts are to deal with that.
MR. HARRIS: Okay. This measure which -- this figure shows the change in runways that I described and among the changes is that the planes that are normally landing on runway five are taking off on runway 23 during the middle of the night, between 11 and 7 at this time, will normally stop doing that and will use one of the other runways.
Now, at the moment, the nighttime runways, when runway five or 23 are not available, perhaps because of wind, the normal runway choice is one of the parallel runways southbound. Eight left in this direction, eight now center in this

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direction and this one in the future will be called eight right and that one's not currently being used right now.
UNIDENTIFIED MALE: Why don't your contours show the reality of what you're doing with the RNAV procedures. Your contours are outdated. They're showing straightaway flights. You just admittedly said that the RNAV is going off to the east or off to the west. The people sitting here don't want to know what your old map shows. We want to know what you're going to do about the new flights.
MR. HARRIS: Well, with RNAV to the north is what has long been -- the 2009 map is what was being flown in 2009.
UNIDENTIFIED MALE: What is -- what we're dealing with the RNAV going south, you're not addressing that issue.
MR. HARRIS: If the RNAV to the south were the standard long-term procedure, that would be on the maps. In fact, the -- if you go forward, this contour assumes that both of the southbound runways have departure turns away from the center line as you're experiencing now.
UNIDENTIFIED MALE: Those noises of the

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people sitting here are outside of those. And I guarantee they're all east and west of those contours you have there. I could put a black marker up and tell you right where everybody's sitting houses are.

MR. HARRIS: I hear the vehemence with which you're speaking, but the noise -- and I tell you that the noise contours assume that the no -- virtually no aircraft take off straight off on 18 right or 18 center or 18 left in that model. The majority of the noise from those runways is landing noise from northbound landings. But all the departures that are anticipated on those runways are turning from runway center line and are shown.

But the point is, that you're saying well, it doesn't show that I can get 95 decibels at my house. Well, that's because that 95 decibels isn't 24 hours a day. Each of those flights are incorporated in that, the same way they're incorporated in the northbound flights.

UNIDENTIFIED MALE: You just recently announced on the 21st, they changed. You're saying that your contours are updated through the 21st?

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MR. HARRIS: This is 2014. I'm modeling what would be happening then with procedures that would involve turning off the center line. I'm not claiming that's 2009. We're not doing contours each week when the FAA's testing procedures, no.

UNIDENTIFIED FEMALE: Where's the map that shows what's happening now so that we can see that it's flying over and then that we can see that it's going away.

UNIDENTIFIED MALE: We do know on or about May 15, the situation has changed and that's what most of us are concerned about right now.

MR. HARRIS: If that were going to be all the time, that was going to be the standard procedure, that would be modeled, but it isn't, so it's not being modeled right now.

MR. ORR: I'd really like for us to let Andy finish his presentation and then I'll be glad to answer any and all questions. Beg your pardon?

UNIDENTIFIED MALE: I think maybe it would be wise, no offense to Andy, but let's just get to the question.

MR. ORR: Well, we're obligated to finish this presentation.

MR. HARRIS: Part of the process of having

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public meetings is that you hear all of this. And I am virtually -- I'm near the end, but I don't want to be in a position of having somebody say, well, you didn't tell me there was going to be a public hearing.

This final figure that we already have up, combines both the runway use that I described where there are four runways used for the maximum capacity periods. That really says that the new runway is being used for landings during those periods and that will be from 6 a.m. to 11 p.m. From 11 p.m. to 6 a.m., there will be three runways used normally and they will be used in the nighttime, as we're addressing, in the same pattern of use as you currently have in the daytime.

That, as you see from the absence of contours connected with departures on 23 and arrivals on 05, that one runway is used for some landings as it is now. It is a major landing runway, but not for departures to the southwest and continuing those departures to the northeast and minimal landings from the southwest, but normally none. So that's the pattern.

Now, clearly that's the result of a

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combination of runway use and additional departure procedures. It may be that for some runways, there are a couple of procedures, others, there are different number. But that's the kind of thing that we have to explore and decide whether the capacity benefits and the benefits at the distance from the airport are great enough to do multiple paths or whether you just stick to what you have now, which is single paths.

Now, remember, I also said that the FAA normally requires that aircraft departing on parallel runways must start diverging on diverging flight paths when they leave the runway path. They can't just fly off as they do now for a couple of miles before they start to turn. There's a waiver for that. At some point they may not have the waiver and then they will have to turn at the runway. And what we're doing now in this is looking to see what the noise effects are about.

Now, those are the figures that we have at the moment. We will, as we go into the next steps, let's see, where do we -- I'm going to switch this, go to the final substantive slide from my side and then get to rest of the comments.

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I'm not skipping the comments; I'm just bringing the other parts first.

Okay. What do we have? We need to complete a draft report, send the maps and the noise compatibility program to the FAA and get their initial review. That means they give us comments about measures that they need to have adjustments in to accept them and measures that they make, say, we're not going to let that go by. If you submit it we're not going to accept it. That doesn't mean the city won't submit it, but our expectations of acceptance may be lower.

UNIDENTIFIED FEMALE: So these three are going forward?

MR. HARRIS: No. What will have to be in the noise exposure maps will have to show 2009, will have to show a base case 2014, and then we'll show a case that includes all changes in measures that are being proposed. That will go to the FAA in a draft. And the FAA will review that and give an informal set of comments to the city.

After we get the informal comments, we will get -- we'll incorporate what changes we need to make in the documents and hold a public hearing. Again, as tonight, there will be a court

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reporter. We will incorporate any changes that come out of the public hearing, all the comments, and what responses, what actions we take to deal with comments, then the whole package goes off to the FAA. Our goal is to have this submitted by the end of 2009.

The FAA will first review the noise contour maps and determine if they meet their requirements. If they do meet those requirements, they will accept the maps and begin the review of the noise compatibility program, including all the measures that I showed you, any that we had. And the measures that go in will be, as we believe, they should be to serve the combination of airport community needs and the aviation needs.

And then, that all goes to the FAA. If they approve -- when they accept the maps, they review the noise compatibility program, they have three -- they must act within six months. They usually do it on the last week of the fifth month.

And they can accept, period; accept with requirements of how they'll accept it, you know, maybe a measure we put in as a rule, they may say it has to be voluntary; or they will reject them. And then given that, the city proceeds to

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implement the program as the FAA typed it up. So those are the remaining steps.

Now, there will be a public hearing during the fall and I should say public hearing instead of public meeting -- public hearing during the fall. The date and location will be announced later, but it is after the full document's put together and the FAA's given an initial review. So it will be published in the neighborhood of update and in the newspapers and there will be plenty of lead time so -- it will also be on the airport website. So, those are the places to watch and as it gets later in the year, look closer to make sure that you see it.

Now, as promised we'll forget about the slides and answer all your questions.

Now, for everybody, particularly for the court reporter's purposes, to help her, I'd like to ask everybody coming, everybody wanting to make comments or ask questions to come up and use the microphone. That will let you all hear and let us hear and give the court reporter a better shot at it. And if she's finding you're going too fast, she's going to speak up, too.

UNIDENTIFIED FEMALE: I have a pretty loud

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voice. Can you guys hear me?

Hi. I wanted to find out, are you reviewing any other case studies of other airports that have had problems? For example, I grew up 8 miles from Los Angeles International Airport and I honestly did not hear this level of noise. I also lived for a while in Orange County and the John Wayne Airport, the residents around Newport Beach were, for many years, having problems with John Wayne Airport. And one of the resolves was they changed their take off pattern and if -- does anybody -- is anybody here familiar with John Wayne? The planes will basically do, instead of like, climbing like this, they do will do this. And the pilot warned you. And they level off, they cut the engines as their going over the houses. And it scares a lot of people, but it's perfectly safe. And I've flown that way many times.

The other point I wanted to make is the residents of Las Vegas, since Charlotte Douglas is going to turn in into a 24 hour airport, there were a lot of residents in the Henderson area, the Vegas airport, McCarran, they were having a lot of problems. And they had to address the issues with

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the residents there. They've changed some of the flight patterns.

So once again, my question is, are you reviewing other cases where you've had to deal with us?

MR. HARRIS: Yes.

UNIDENTIFIED FEMALE: Simple answer. That's all you're going to say.

MR. HARRIS: Yes.

MR. ORR: What we really need to do here, if you want to make a comment, you need to come up and make your comment for the record. And then I'll be glad to answer any questions that you have. As for your question, Andy has been doing this for 30 years?

MR. HARRIS: I've been doing it here for 35. I've been doing it almost 40 years.

MR. ORR: I've been doing for it 30-some years. This has always been a 24-hour airport and a number of people on staff are quite familiar with procedures at other airports around the country. Anybody want to make a comment for the record?

UNIDENTIFIED MALE: My name is Dan Durant. I live at 8617 Sedgeburn Drive in Charlotte,

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Berewick community. My question is this, we've noticed the pattern, the planes seem extremely low. Most importantly, as I'm recognizing these planes, I do a lot of flying in and out of Charlotte, that's why I chose to live where I live and I accept that we should have some airport noise living close to airport. But it's entirely different when you live in their landing pattern, which is not what was originally done.

These planes that are going over, from what I can tell if we're in the southwest corner, are they circling to land? Is there a height requirement that these planes need to be at? I can tell you honestly, I can see the letters and I can see the people in the plane, that's how low it seems they are.

So my question would be that, if they're that low, can we get them up higher so that they're circling farther out? I'm also very concerned about the exhaust that's also coming off of those jets flying over neighborhoods as well and I got to believe that jet fuel is not really real healthy stuff. My comment.

UNIDENTIFIED MALE: I'm also a Berewick resident. Can I just get a show of hands or at

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least in southwest corner? One, I wasn't quite clear on what changed in May and what we can specifically do to ask them to not experiment in that way or to go back to a different flight pattern. Berewick as you may know, is a growing neighborhood and when it's fully grown, you're looking at I think about 2,500 homes which is quite a number. And that's just one neighborhood in that southwest quadrant. So specifically, I would love to know what we can do to petition that they go back to the former flight pattern.

Secondly, when I bought my house, I wasn't alerted by the builders or the realtor and wanted to know how long has this been in public? Was this made known to the public? And my understanding is it's supposed to be known by the public. And this change in flight patterns was that -- should that have been communicated? So it's a two-pronged question and comment.

UNIDENTIFIED MALE: Hello, my name is Walt Seyter. I live at 6325 Hermsley Road and that's in Berewick. One question that popped to mind when you were talking, was with the flight patterns as they are now. It was stated that the maps were not done based on what they're testing

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now. If they're testing now, do we know how long they're going to test for? Do we know when they're going to go back to normal test patterns? The contours weren't changed because we know this is temporary, how long is temporary?

My other question is, I had a person ask me from Berewick, I guess some of the newsletters aren't getting into Berewick or copied to Berewick. If there's any way that the Berewick community can be included in that. I guess the members that live in the community are not getting the newsletters.

And I have to agree with my other neighbor, we live a couple houses down from each other I wasn't alerted to this when I moved in. I checked the forums; there was a big forum where there was a gentleman complaining about living by airports. I signed up to live by an airport. I went to the area, I stopped there at different times; it was fine. I looked at the contour maps; everything was fine. I thought I went in educated. And it's all been changed since mid May. And it's a big change. I don't know what the change is, it doesn't seem like it's being communicated very well, but it's been a huge

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change.
When I have to go in and comfort my three and a half year old daughter at night, at 11:30 at night, and tell her it's okay, it's normal for your house to shake, that's not right. And I'd just like for those concerns to be addressed, please. Thank you.
UNIDENTIFIED FEMALE: My name's Sherry Rogina (phonetic) and I live at 1305 McDowell Farms Drive. And maybe there's something about the maps and the study I don't totally understand, but I actually live outside of this line where it's supposed to be the 60 or 65 decibel, where you're able to speak in normal speaking voice. I actually live outside of that and, you know, there's a whole bunch of my neighbors over here and some of us have already spoken up, but there has been a drastic change and I don't know that I really understand why it changed and how it's going to continue and so it would be helpful to have that information and see how long this is going to go on.
Also, I've lived in my house since 2002, so for 7 years, Charlotte Douglas Airport has managed to operate and function, planes coming in

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and out, and I hear planes occasionally and get used to it, you expect that. But not like this. This is not reasonable. I live and work in my home. I can't open up my doors, same as this gentleman here was describing, I've had people on the phone, in my house can hear airplanes. That's ridiculous. They start early in the morning. One of my neighbors -- I don't have the patience to count them because I get so frustrated with it -- but has counted as many as 25 airplanes taking off in a 30-minute period. That's outrageous. And they're so low.
It feels like that only because the quality of our life is being impacted, but is that even safe? You know, sometimes it sounds like to me, I get so startled by it, some of the planes are louder than others, I feel like I'm in a war zone, like there's these planes zooming in one after another, acting like they're going to start dropping bombs. I don't mean to sound dramatic about it, but I think it's unreasonable. It's an unreasonable amount of airplane noise.
Last night, I was bold enough to open up my back door. I haven't been able to sleep with my screens, open of the doors since May. And I

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was trying to have a conversation with a friend who was sitting closer to me than Andy is and we couldn't have a regular conversation in our regular tone of voice, inside my home at 10 o'clock at night. I think that's unreasonable.

I want to also say, I don't know where Mr. Andress is. Are you Mr. Andress? I'm Sherry, I'm the lady who's going to do a noise study in my yard which I really appreciate you doing that. But I wanted to have it on the record that that's how it sounds in the McDowell Farms area. So, thank you.

UNIDENTIFIED FEMALE: I'm Ellen Richards and we live in Wildwood Meadows, right off of Steele Creek. We moved in 1998 and again, the planes didn't bother us. There was nothing. We watched them and we could sit out and it was fine. But just recently, again, the flight pattern has changed. Now, this is I think, an open meeting or whatever it is, we're supposed to give our opinions and whatever to be -- so that our considerations can be considered when you make up your plan and your draft and stuff.

So I hope this will be mentioned that I don't know if there can be some change in the

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flight patterns because that seems to be the thing that's the biggest problem that's creating most of the noise for everybody. I know it is for us. Now, we don't have as severe a problem as they do in Berewick. Our house isn't shaking, but it does create a lot of extra noise.

Now, we also are planning to sell because we want to move back to Virginia where our children are. How is that going to affect our selling the house? Are we going to have to tell everybody that the flight patterns have changed and now they're going to have a noisy house? And many of the houses have gone down already, we can't go down any more.

So please, this is something that needs to be presented to the FAA, our feelings, and considered in the proposals that you bring out to them. Thank you.

UNIDENTIFIED MALE: My name is Herb Eglee. We've got a different problem than you have with the land and air. With the new runway four, I notice you said that these will be submitted to the FAA at the end of 2009. And will these contours, after runway four opens, be verified by actual tests? I mean, there's nothing landed

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there yet, so we don't know exactly what the noise level will be. There be a follow-up test on that? Thank you.

UNIDENTIFIED FEMALE: Many name is Sarah Coble. I just have a quick question about the process. You mentioned completing a draft report and giving that to the FAA. My question really is whether these comments are going to be taken into account before that is submitted to the FAA for that initial draft or whether exactly what you presented here tonight is what is going to the FAA regardless of the comments?

UNIDENTIFIED MALE: I'll be very brief in what I have to stay. My wife spoke just a few minutes ago. We live just off Steele Creek and I can tell you it used to be that things went out quite a ways. If that's a change around the country, I have a way of finding that out. My son is one of the technicians who repairs and installs the navigation equipment for the FAA. He's around the eastern part of the country particularly, and he'll be able to do a survey and find out if that test pattern is going all over the country.

The other thing, Jerry, you haven't had a lot of nice comments tonight. I'm one of the

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police chaplains that responded when the U.S. Air commuter flight crashed. Your staff, the crew, and the airport, through that situation and following up on it, I talked to a number of the people who were involved and they give you high marks with what you did. So you get a lot of complaints, you get a lot of grief, but you're also doing a great job.

Thank you. And thank you for allowing us to express our opinions here.

My name is Harold Richards. We live at 10027 Meadowmead Court, Charlotte, 28273.

UNIDENTIFIED MALE: My name is Brian McKeon. I live at 3133 Beaman. For you people that are kind of new folks around here, I've been living near the airport since like 1992. I had an opportunity, I was a postal inspector with Delta Air for about 12 years as part of my territory. I want to appreciate what's happened out there as good and bad. I notice things got a little better for me, which means they got a little worse for somebody else, and that's how it works at the airport. And that changes by season. They've got a lot of experience over the years by the airport, weather changes, wind changes, whatever. And all

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of sudden, you'll have a lot of arrivals and a lot of departures.

I'm situated between two southbound runways and I get a lot of flights. I can say things have improved. I don't see so many fighter planes. They're lollapaloozas when they go off. They crack.

The big difference for me and I really want to thank everybody's involved in this one is taking those old freighters off. They used to roll out of there about 1 o'clock in the morning. You've never heard anything like an old freighter. And I also heard that one plane when it crashed. That how close I am to everything.

I know there's a lot of things involved in this, but my main concern is this: When these contours come out is that my house is either in or outside of the 60 range, one out of three. So that's going to be a big difference. And it's going to make an impact on everybody.

I want everybody to realize that where it goes from one person, it might be good for me but it might be bad for you. But that's part of living by the airport. Thank you.

UNIDENTIFIED FEMALE: My name is April Amos

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and we live at 6231 Breckfield Court 28278 in Berewick. My question is with the new runway, is it going to be able to accompany the 747s as far as noise? I would welcome one of the recorders in our yard because we are on the outskirts of Berewick and we have seen the drastic increase. Thanks.

UNIDENTIFIED MALE: My name is Matt Werner. I live at 6000 Trailwater Lane in Berewick, 28278. And I want to say thanks. I've talked to Bob Andress. I've spoken to you twice, Bob, you've been great on the phone, very helpful. And I've also filed several complaints via phone calls to the main number that was published. Your guys have been taking my calls repeatedly and very professional on the phone and I appreciate them taking my calls.

My question is, are those complaints, do they mean anything and is it going to be beneficial to continue to call and file the complaints? Thank you.

UNIDENTIFIED FEMALE: My name is Elle Biehl and I live at 10925 Rousay Road in Berewick. And I am concerned about the increase in the level of the noise and it has been substantially since May.

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At times, you can see the jets actually turning like this, and we're talking huge jets. And I am actually in fear for these people that are in these planes at times. I am completely out of -- half of Berewick is in that corner that's not even in the square of the study area. And yet they are going over my house and I can show you pictures if you'd like.

I'd like to know primarily, what is the -- I understand the existing noise contour. What I'm not understanding is that there was supposed to be a study that was supposed to have ended. And if the study -- it seems to me that the study is still going on and, if not, then why are these changes seeming to be permanent. Even though it has decreased since the time that the study was supposed to have ended, they are now completely erratic, let's say, in the time periods that they go. They still are several times a day, they're still Friday nights at a regular time. It is still happening.

So basically, why are we not on the maps at all? And what is your proposed plan? If this is your study area, where is the map that shows the study area, I guess. Thanks.

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MR. ORR: Anybody else?

UNIDENTIFIED FEMALE: Yes. I'm Deb Boihe (phonetic). I live at 9101 Paragon Drive, which is not in Berewick, but it is in this direction down here just on the other side of 485. I attended the meeting of the community representatives at the airport about six weeks ago or shortly after this flight pattern changed to express my concern about the change in the flight pattern because they were going directly over my house as you all have described tonight.

And all I'm wanting to say is thank you for all of you being here and expressing the same concerns that I have had. And I hope that someone is listening and going to do something about it. Thank you.

MR. ORR: First off, we do have the noise complaint line. The number is (704)359-4008 or 4012. We do log all the complaints that we receive from that line and we do take some action.

This is a complex and complicated issue and they aren't correct, short answers for most of your questions. Having said that, I'll be glad to try to answer your questions. But before I do that, know that I guess -- here he is back here.

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A few of these people, we're going to make arrangements in the very near future, like next week or so, to set up our equipment and measure the noise, measure the overflights, and then we'll be able to talk very specifically with you about that.

And we will provide you that data, provide you those answers, and explain to you what we did, how we did it, and what it means.

Yes, ma'am.

UNIDENTIFIED FEMALE: To have a noise decibel level that is too high, is there a certain -- I've heard of people having these receptacles in their yard and measure and unless it's 24/7, they say, oh, yeah, you have to factor that with the 24 hour period of time and then it's sort of discounted over time because it's not a continuous. Is there a quantitative method that says how much is too how much or how is the study done?

MR. ORR: We measure the noise. It measures single events and then all of that data goes into a computer into a formula that measures the average day/night noise level which as Andy said is a low rhythmic function and it is a measure of the amount of noise energy. It's not something

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you can take one single measurement with the noise meter and corroborate.

We then compare what we get out of that calculation with the number that you would get by looking at the contours. And if the number is lower, it's lower. If it's higher by any significant amount, then we look to see what's causing that and try to fix it.

UNIDENTIFIED FEMALE: You mentioned that there was a waiver. If two parallel runways were discharging their planes there's a certain waiver of distance that they travel for a period of time. And I think I understood that the reason that they were turning sooner was a fuel-saving method because there's supposedly more fuel burnt in the take off than in almost any other part of the air flight and if they could turn sooner, then they would conserve for more of the fuel in the tank and that was my understanding at the time. But maybe I'm wrong. I don't know. I was trying to figure out if that would have been the change that they were trying to conserve fuel so they turned sooner. So if there's a waiver that says how far they have to go, is there a certain amount that they have to go or can that be negotiated or

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petitioned based on the decibel level or what?
MR. ORR: That's several questions. It has nothing to with the decibel level, it has nothing to do with the noise. The FAA flight rules say that when you have parallel runways, when those airplanes take off, they have to diverge a little bit from each other. This way, this way, this way or this way. Any way, they have to diverge and that's so that they don't go eight or ten miles out there and they're still a mile apart.
Airlines would dearly like to save fuel. That's obvious. But the divergence off at the ends of parallel runways has absolutely nothing to do with the airline's desire to save fuel.
UNIDENTIFIED FEMALE: When I was trying to also figure out the technicalities of why this was all happening and one of the studies that I read and I could be wrong, they're looking at dropping 2,000 feet from where they were to see if they can increase traffic by dropping lower and I didn't really understand that but is that something -- help me out here. Am I just lost on that? And is there something behind that and that's why we're hearing them more?
MR. ORR: I think that's the short answer

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that you're just lost. Do you know what she's talking about, Bob?
MR. HARRIS: I think that the two is right, the thousand is not. The waiver -- the current procedures airport procedures, not FAA, say that the planes will go 2 miles south on runway heading before turning. That's got a waiver because the FAA judges it based on experience elsewhere and here. And if you will, you can get away with letting them go 2 miles, but you don't want them to get any further. But the rule says they should start turns as soon as feasible after runway ends. So the two is that.
UNIDENTIFIED FEMALE: So that's the maximum. That's why they're like sideways when they're turning.
MR. HARRIS: What we're concerned about is if they lose the waiver, they're going to be turning either right off the runway and straight on the other or a little bit right on one or a little bit left on the other. But we won't get the 2 miles. So they're trying to see how different procedures work.
UNIDENTIFIED FEMALE: Who's they?
MR. HARRIS: The FAA.

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UNIDENTIFIED FEMALE: They're looking at either doing the waiver or not doing the waiver?

MR. HARRIS: No, the FAAs looking at what procedures they could do in the air traffic in the tower. That would allow them, if they lose the waiver, to still get the passengers. Otherwise what happens is, no plane can start taking off on -- let's say there's a plane taking off on the left runway, there's going to have to be -- the plane taking off on the left runway is going to have to be 3 miles ahead of any plane taking off on the right runway before the next plane can take off. That reduces the capacity at the airport.

UNIDENTIFIED FEMALE: Is this a nationwide thing?

MR. HARRIS: No.

UNIDENTIFIED FEMALE: They're trying to make an exception?

MR. HARRIS: The waiver is applied just to Charlotte. And waivers are granted but not permanently and they have to be applied for at regular intervals and they're not guaranteed. You can apply and you may get it and you may not. And if you don't, then something has to change.

UNIDENTIFIED FEMALE: So this study that's

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current, has that been a waiver that's been put out that says let's try this wacky stuff?

MR. HARRIS: No. It's the tower saying how can we deal with -- how can we keep the capacity we need if we lose the waiver.

UNIDENTIFIED FEMALE: Who grants this waiver?

MR. HARRIS: The FAA.

UNIDENTIFIED FEMALE: And you request it, Charlotte?

MR. ORR: The FAA.

MR. HARRIS: The FAA tower here, Charlotte requests it. When we say the FAA, there are a lot of different offices. The air traffic control tower here in Charlotte is responsible for running air traffic at the airport. They have the waiver, but headquarters can say, our experience with going out 2 miles left, what you're doing is showing us we shouldn't allow it, so we're not going to give you the waiver.

So they're testing some procedures. They are -- they've tested turning a bit to the right, instead of going up 180, they go to 200. They could try 195. They that could still provide them with the separation they must have or they could go straight off 18 center and go 15 degrees

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to the left of runway heading on 18 left.
UNIDENTIFIED FEMALE: So these proposals really are not accurate at all. None of this is accurate if you're completely figuring out new waivers or lack of waivers or everything else.
MR. HARRIS: Measure 11 includes providing the separation that the rules require. So what we modeled here is a non-waivered approach.
UNIDENTIFIED FEMALE: On which? On 10 and 11.
MR. HARRIS: Eleven.
UNIDENTIFIED FEMALE: Eleven is a non-waivered approach.
MR. HARRIS: Right. Ten is unchanged from the present. So that includes a waiver?
UNIDENTIFIED FEMALE: So ten includes a waiver, eleven is unwaivered. The study that's been going on is to --
MR. HARRIS: What the FAA is checking out with these procedures is happening at the same time as the study we're doing, but it is totally disconnected from it. It isn't part of our study. It's at the same time, but not part of it. But the results of it are interesting to us.
UNIDENTIFIED FEMALE: So we could make this

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nil. In other words, if they're running parallel --
MR. HARRIS: They're testing something that may or not be part of what would be proposed in this.
UNIDENTIFIED FEMALE: So there might be a different proposal than what we see here?
MR. HARRIS: There may be a different proposal. There may be no proposal in terms of increasing the number of tracks. It's just they're looking at something that has interest to them because they're concerned about losing a waiver and they're concerned about optimizing capacity. So it's occurring. It's occurring at the same time, but it is not part of this study. What they do does not change what we're doing except --
UNIDENTIFIED FEMALE: Procedure-wise.
MR. HARRIS: Yeah.
UNIDENTIFIED FEMALE: Because they can come in and trump you at any time.
MR. HARRIS: You keep connecting them. They're not connected. They're looking at the same airport. That's it.
UNIDENTIFIED FEMALE: We're talking about one

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central thing and that's flight patterns.
MR. HARRIS: We're talking about a study that's got a flight procedures part, a part. But what -- they're part of the environment in which we're working at the moment which has increased the number of people at this meeting up until a few minutes ago for several fold. It's made this meeting much more popular or unpopular. But they're not connected events.
UNIDENTIFIED MALE: Just a question. You keep mentioning about trying to keep the current capacity. Who determines what that capacity needs to be or what that capacity number is, whether it increases or decreases. What is that capacity number?
MR. HARRIS: There isn't a single -- well, there are capacity issues, but what the issue is that airlines and air traffic look at is delay. How often are planes sitting on the ground waiting to take off and how often are planes aimed at the airport, not able to land expeditiously. Those are capacity questions. And the new runway provides additional landing capacity. That's a significant element. It means that departures can be focused on a runway fare and landings can be on

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a runway fare.
UNIDENTIFIED MALE: I'm sorry. I'm an engineer; I'm looking for a number.
MR. HARRIS: There isn't a number. There's a number called practical annual capacity, PANCAP, and it's just a measure. It's not saying what you have to have and what you don't have to have. What you need to look at -- what the carriers and air traffic look at is delay. How much delay is there? How can we reduce delay? Well, if you have more runways, you can reduce delay. If you are able to operate in a high capacity mode, part of the time, you increase capacity and reduce delay.
UNIDENTIFIED MALE: I guess that's what I'm trying to get at, if you know what the capacity is, you can weigh what the capacity is to what life quality is in the neighborhood around it. Which is worth more? I guess that's what I'm trying to figure out so I can quantify it.
MR. HARRIS: Clearly in doing a Part 150 Study, one of the things you're trying to do is to reduce the impact of airport operation at the unit. However, the primary mission of the FAA is to safely and expeditiously move air traffic. And

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so that has to be -- that's a trumping requirement when you're talking about noise mitigation. There are a lot of ways you can make a lot of less noise, but they remove capacity. But we're not -- that's -- the FAA has to look at that. We don't.

UNIDENTIFIED MALE: And then --

MR. ORR: The answer to your question is there is no number that you can measure quality of life and there is no number that you can measure capacity. So it is a very subjective balancing act.

MR. HARRIS: The way that the FAA looks at quality of life as it has to do with noise is how many people exposed to aircraft noise in residential environments where the DNL is 65 and above. That's it.

UNIDENTIFIED MALE: One last question. Are they looking at when everyone's at a holding pattern, what the heights of the holding pattern are at?

MR. HARRIS: No.

UNIDENTIFIED MALE: Is there any regulation on what the holding pattern's supposed to be, the FAA, is there local?

MR. HARRIS: There are a lot of regulations

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about holding patterns and one of the regulations is that they're a long way from every airport. They're a long way from here.

UNIDENTIFIED MALE: When I'm watching them do circles on the outskirts and start landing over my house --

MR. HARRIS: That's not a holding pattern. A holding pattern is a box pattern flown way off, a long way from where you want to be.

UNIDENTIFIED MALE: Thank you.

MR. HARRIS: Let me quickly answer one question that was asked before, what goes into the draft document that goes to the FAA definitely is affected by comments such as those received tonight.

UNIDENTIFIED FEMALE: Thank you.

MR. HARRIS: That's one question I knew I could answer correctly.

UNIDENTIFIED FEMALE: And comments from Bob, too, like the ones he handles?

MR. HARRIS: Right.

UNIDENTIFIED FEMALE: When the extra runway gets open, then they'll be able to move traffic without being in danger. The planes can take off and take off further apart then. They won't have

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to stack up because nothing will have to wait for other planes to come in so can't they then spread themselves out a little bit more and give farther out pattern?
MR. ORR: I'm sorry. I couldn't hear that. They're not in danger now. So what is your question?
UNIDENTIFIED FEMALE: He was saying that they have to be so far apart before they can take off in order to be safe. And they're doing that now.
MR. ORR: Yes.
UNIDENTIFIED FEMALE: All right. Because they're having to do that, they're having to turn off quicker to get to wherever they're going. And then when we get another runway, they can spread out a little more because the same amount of traffic would have three runways instead of two, so wouldn't that help alleviate that? They could take off a little farther apart and therefore not have to turn so fast?
MR. ORR: If you took off airplanes on the new runway, yes, you wouldn't have to turn as much and maintain that required separation. We don't need to take off airplanes on the new runway for capacity. So it's better for us and for everybody

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here that we continue the take off airplanes like we have been.
UNIDENTIFIED FEMALE: Yeah, but then the ones won't have to be landing on the ones they're taking off from now.
MR. ORR: That is right. They won't have to be landing and taking off from the same runway. But that's not a safety issue, that's a capacity issue.
UNIDENTIFIED MALE: I have a question and a comment. One, are landings and take offs increasing at the airport or decreasing?
MR. ORR: Is that the question?
UNIDENTIFIED MALE: That's the question. I want to comment at the end of my question.
MR. ORR: Will take offs and landings increase or decrease?
UNIDENTIFIED MALE: Not have they, are they?
MR. HARRIS: Are you having more operations or less?
MR. ORR: Well, we'll have fewer total landings and take offs in 2009 then we did in 2008 I think.
UNIDENTIFIED MALE: Okay. Then I --
MR. ORR: But it's very close.

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UNIDENTIFIED MALE: So we really don't have a capacity issue. My other comment is I'm not a pilot but I can separate two planes taking off on a runway without one of them making a 45-degree turn. That's probably a little bit excessive to separate.

MR. ORR: Thank you.

UNIDENTIFIED FEMALE: I'm sorry. I have a question, are you going to update these system maps when you find, when you take a reading at Sherry's house that we should be in these levels? Right now we're not any of your contours.

MR. ORR: If the readings indicate that the contours are not correct, then, of course, we'll correct the contours.

UNIDENTIFIED FEMALE: And that map will be submitted.

MR. ORR: Only the correct maps will be submitted.

UNIDENTIFIED FEMALE: And the other question I have is we have kids in our neighborhood who won't go outside and play now because I guess last Tuesday, there was a plane that was so low they thought it was going to crash. It was between 9 and 10 o'clock last week. And then when we made

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these complaints. We had the FAA tell one of our homeowners to move. You don't have to move. I get that you have to have planes land and take off, but the change that's happening in the past five weeks is unacceptable. I mean we can't even enjoy -- I just got done redoing my patio and we can't even enjoy that.

MR. ORR: I agree with you that a comment from the FAA telling you to move is unacceptable. And I will express that to them. That is certainly not our function.

UNIDENTIFIED MALE: Well, I don't live in Berewick -- I'm sorry. But I got a question about the contour maps. I thought Andy said it was a time-weighted average of day light hours. Is that correct?

MR. ORR: The time weighted means that nighttime operation counts as ten daytime operations.

UNIDENTIFIED MALE: So that's why the contour to the new runway says it's not going to make any noise. If the contours are a fourth of what the others are, are you saying it don't make noise?

MR. ORR: No, no. That's because it's landings only so we don't have any take offs.

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UNIDENTIFIED FEMALE: But I thought they were louder.

UNIDENTIFIED MALE: But when they land, and reverse their engines, it shakes my house. It don't shake my house taking off like her, but when they land and reverse the engines, it shakes my house.

MR. ORR: If you have landings and take offs on one runway, than you have airplanes landing off one end and airplanes taking off of the other end all the time. If you're only landing on the runway, then you're either landing on this end or landing on that end, so it's half as many --

UNIDENTIFIED MALE: So it should be half of what? I mean it's not even a fourth. Look at the contours. According to this, it's not going to make any noise past 485. I can hear the runways now from 485.

MR. ORR: I didn't say it's not going to make any noise past 485. It says it's going to be less than 65.

UNIDENTIFIED MALE: So if it shakes my house now, the other runway, the new runway won't shake my house.

MR. ORR: No. If your house is shaking now,

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I would suggest that your house will continue to shake.

UNIDENTIFIED MALE: It's been there for 109 years, I guess it'll continue to last.

UNIDENTIFIED MALE: Rich Brown, I live at 1062 Cory Bret Lane on the way to Berewick off of Shopton Road West. My question is, it appears to me that there are two separate issues from what I've been able to hear. I'm a little hard of hearing. But the noise that has been more in evidence in the last six weeks or so, if I'm hearing you correctly, it is because the FAA is changing some procedures because of the waivers and so on and so forth. Am I right there?

MR. ORR: That's pretty close we've been adjusting and trying to figure out what tracts work and what don't.

UNIDENTIFIED MALE: And I think I heard you say that you expressed to them that you're not happy with that change. Is that -- did I hear you say that?

MR. ORR: Not only do I not hear well, I don't remember well. But that's something I would have said. The FAA has a job and their job -- I'm going to overstate this a little bit, their job is

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to get the airplanes in and out of here and not run them together. And I have a job and that's to run the airport for the city of Charlotte. And part of my job is to run it so that taking the neighbors, our neighbors both 1 mile off the runway and 20 miles off the runway in consideration. So my job is to balance the environmental issues, of which noise is one, with the capacity and the economy on the other side.

UNIDENTIFIED MALE: My question would be then, if the FAA is where this change has come, is there a way to let them know that we are concerned about that? What would be the most intelligent way to voice our dismay with them. Where is the proper place to put that, if you will?

MR. ORR: The buck stops here. That's my job.

UNIDENTIFIED MALE: Well, I just want to be sure if it was something we need to address to the FAA should we do that? You know, I'm just -- please.

UNIDENTIFIED FEMALE: How can we help?

UNIDENTIFIED FEMALE: That's what I want to know, too.

MR. ORR: You've been a great deal of help

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tonight.

UNIDENTIFIED MALE: I don't know about that.

MR. ORR: I'm not going to say trust me or the checks in the mail.

UNIDENTIFIED FEMALE: Will there be any way for us to know what you communicated to the FAA about what we have said here tonight? Sorry I didn't mean to give you a question you couldn't answer, but I want to know.

MR. ORR: I can answer your question. I'm thinking about that.

UNIDENTIFIED FEMALE: I've made I don't know how many telephone calls, as most of you know and Mr. Andress knows, up to the airport. And I have tried to call the FAA. I called a man called Mr. Scene (phonetic) you probably know who he is. I've got it written on a piece of paper here along with my notes. And he was to call me back and give me an FAA telephone number. I never heard from him. And then he said -- first he said he couldn't do it. He didn't know who to call. I think that some of us need to be able to contact the FAA in some way. We need to have some way for individuals to make some contact with them to let them know how it really is.

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UNIDENTIFIED FEMALE: Do we call our congressman to put pressure on them?

UNIDENTIFIED FEMALE: I'm done. I'll be glad to give you her address.

MR. ORR: The best way and the most effective way is to go right through Bob Andress and which goes right to me and right to the FAA.

UNIDENTIFIED FEMALE: I have done that and I have noticed the difference in what has taken place between May the 20th, and you know I was at your meeting, the little community meeting. But I have noticed a difference. There has been a change in flight patterns over my house and I'm assuming it's because of the waiver that has occurred.

UNIDENTIFIED FEMALE: Are the times that the planes are going over important in when we complain or can we just say it's really bugging us yesterday. Or do we need to say at 10 o'clock the other day on Friday?

MR. ORR: You need to give us much detail as you reasonably can.

UNIDENTIFIED FEMALE: So you do want more detail. Would more calls help? Not to put a harder job for Bob, but do quantity of calls help

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or the time periods help?

MR. ORR: The time periods certainly help more than the number of calls. It's not helpful for 30 people to call and say the same thing. We're dumb, but we can get it with three or four.

UNIDENTIFIED FEMALE: But you're after the time. Calling and saying it bugged me last week doesn't help.

MR. ORR: That really doesn't help.

UNIDENTIFIED FEMALE: Or last Friday. That doesn't help.

MR. ORR: The time and a little bit of detail about what's -- take off or landing.

UNIDENTIFIED MALE: So what are we seeing in the southwest corner of Charlotte? Are we seeing planes circling out of the box coming in to finish up a landing? I don't believe that we're seeing take offs because those planes are way to too low to be taking off.

MR. HARRIS: If they're coming from the airport, they're taking off. If they're going toward the airport, they're landing.

UNIDENTIFIED MALE: When they come by my house, and I can only go by being in that southwest corner, I actually can see them turning

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with no rise. I've flown in a lot of airplanes. Usually you feel yourself like this. These planes are headed straight.

UNIDENTIFIED MALE: They're circling -- they're coming around Berewick at the southwest corner.

MR. ORR: Coming from the west. They would be landing.

UNIDENTIFIED MALE: Early in the morning on the diagonal runway one after the other.

MR. ORR: One of the problems we have the diagonal runway under our previous procedures what we try to do is land on that diagonal runway because there didn't used to be anything out there. And that's changing now, but we land 'til 7 o'clock and then switch over and land on the parallels. And it's really hard switching over if that's in the middle of a bunch of airplanes that you've got lined up for 30 miles out there.

So what's been happening is, in trying to make that switchover at 7 o'clock, we fly all over the place up there. So what we need to do is have one procedure and stick to it. That's why we want to use the parallels more and the crossway less.

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UNIDENTIFIED FEMALE: And if you're using the things from the record, it's supposed to be like 3,000 homes according to the developer. There's also going to be offices which are going to be affected. If you need bigger numbers, there you got it.

UNIDENTIFIED MALE: You have a brand new elementary school over there, too.

MR. HARRIS: I'd just like to add one thing to Jerry's request that you call one of the two phone numbers or send an email. It's best that all complaints be very specific and that they go to the airport because the airport keeps records and has an interest which involves the impacts on the community as well as the interests of the airport, what's happening with the airport as an enterprise.

The FAA is not well-equipped to deal with complaints. They sometimes say ridiculous things like move. And that's not only inappropriate, it's counter-productive.

And not only they're not well-equipped to handle it, the airport would probably not hear whether the FAA's gotten complaints. So focus on giving them to the airport, that makes them

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useful.
Now, one thing that I hadn't mentioned. I guess I may have mentioned that we have a court reporter here. We decided that we would have a full transcript of all of the meetings. Marcelo had to make the transcript from the first meeting from a recording. And he said can't you get a professional to do this after he did one. So we moved to have the court reporter with us.
Having a verbatim transcript as best as possible of the three public meetings helps us in having a very good record of the public meetings. In fact, the only meeting that is required to have a transcript is the public hearing and interestingly enough, the public hearing is not a requirement. It's a suggestion under the regulation, but the city has always had it at the public hearing. But does provide an opportunity to have people get on the record with a document as it's almost ready to go to the FAA.
So we thank you very much for coming tonight, particularly those of you have stayed throughout the entire time. We thank you for your comments.
Keep an eye out for the public hearing

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in the fall and if you have specific complaints get them to the airport. Otherwise, enjoy the rest of your summer. I'm from New England and we had in June, 21 days of rain, I think.
(Meeting Concluded at 8:19 p.m.)

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CERTIFICATE

I, Meredith Johnson, do hereby certify that I am not of counsel for, related to, in the employment of any of the parties to this action, nor am I financially or otherwise interested in the outcome of this action.

I further certify that the foregoing pages constitute a true and accurate transcript of the proceedings.

IN WITNESS WHEREOF, I hereunto subscribe my name this _____day of _____2009.

_____
Meredith Johnson

Appendix D:

COMMENTS ON DRAFT REPORT WITH RESPONSES AND PUBLIC HEARING TRANSCRIPT

Appendix D will be prepared after the Public Hearing. It will contain comments on the Draft Report and a full transcript of the Public Hearing.