FAR Part 150 Study

for Piedmont Triad International Airport

Final Report
November 2007

andrew s. harris, inc.

PTAA
PIEDMONT TRIAD AIRPORT AUTHORITY

PTAA
PIEDMONT TRIAD
AIRPORT AUTHORITY

December 14, 2007

Ms. Dana Perkins
FAA, Atlanta Airport
District Office
1701 Columbia Avenue, Suite 2-260
College Park, GA 30337-2747

Dear Ms. Perkins:

The Piedmont Triad Airport Authority hereby submits two copies of a revised Part 150 Study for the Piedmont Triad International Airport including a revised Final Report and revised large scale (1 in.:2000 ft) Noise Exposure Maps. These documents should be substituted for the Final Report and NEMs that were submitted to your office by the Authority on February 28, 2007.

The revisions to the Final Report include changes in the explanatory text and to some of the measures included in the proposed Noise Compatibility Program. The NEM's have also been revised to show existing land uses and locations of noise-sensitive structures within DNL 65. The revisions to the Final Report and the NEMs have been made by the Authority in response to the comments of the Atlanta District Office in its letter to the Authority dated May 22, 2007, as subsequently discussed between your office and our consultant, Andy Harris.

The Authority hereby certifies that (1) the enclosed NEM for existing conditions (labeled Figure 5) accurately represents the existing conditions at the Airport as of the date of this submission, and (2) the future conditions NEM's (labeled Figure 6 and Figure 15) accurately reflect the conditions that are forecast for 2014 as of the date of this submission.

The Authority reaffirms its previous certifications as follows:

Post Office Box 35445 • Greensboro, NC 27425 • Fax 336-665-5679
Greensboro 336-665-5600 • High Point 336-454-3213 • Winston-Salem 336-721-0088

1. The Authority certifies that it has afforded interested parties adequate opportunity to submit their views, data and comments concerning the correctness and adequacy of the enclosed NEMs and description of forecast operations and concerning the formulation and adequacy of the proposed Noise Compatibility Program; and

2. The Authority certifies, under penalty of 18 U.S.C. 1001, that the NEMs submitted herewith and the description of consultation and opportunity for public comment set forth in the study documents are true and complete.

The Authority has previously submitted five volumes of documentation reflecting public participation in the process as well as media coverage. These five volumes should continue to be included in the record of this Part 150 Study.

Please let me know if you need anything further from the Authority at this time. If not, the Authority would appreciate your forwarding the revised Part 150 Study to the Southern Regional Office for final review.

The Authority is grateful to the Atlanta District Office for your participation in this process and for the opportunity to revise and strengthen our Part 150 Program.

Sincerely,

PIEDMONT TRIAD AIRPORT AUTHORITY

Edward A. Johnson
Executive Director

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
I. IDENTIFICATION AND SUBMISSION OF MAP DOCUMENT:		
A. Is this submittal appropriately identified as one of the following, submitted under FAR Part 150:		
1. a NEM only	No	N/A
2. a NEM and NCP	Yes	Transmittal Letter and page 1.
3. a revision to NEMS which have previously been previously determined by FAA to be in compliance with Part 150	No	N/A
B. Is the airport name and the qualified airport Operator identified?	Yes	Transmittal Letter and title page
C. Is there a dated cover letter from the airport Operator which indicates the documents are Submitted under Part 150 for appropriate FAA determination?	Yes	Transmittal Letter
II. CONSULTATION [150.21(b), A150.105(a)]		
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?	Yes	Appendices C and E
B. Identification:		
1. Are the consulted parties identified?	Yes	Appendices C and E
2. Do they include all those required by 150.21(b) and A150.105(a)?	Yes	Appendices C and E

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
C. Does the documentation include the airport operators certification, and evidence to support it, that interested parties have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b)?	Yes	Transmittal Letter and Appendices C and E
D. Does the document indicate whether written comments were received during consultation and, if there were comments, that they are on file with the FAA region?	Yes	Appendices C and E
III. GENERAL REQUIREMENTS		
A. Are there two maps, each clearly labeled on the face with year (existing condition year and future year)?	Yes	Figures 5 and 6
B. Map Currency:		
1. Does the existing condition map year match the year on the airport operator's submittal letter?	No	N/A
2. Is the future year map based on reasonable forecasts and other planning assumptions?	Yes	Appendix A
Is it for the fifth calendar year after the year of submission?	No	Appendix A Section 3.2
3. If the answer to 1 and 2 above is no, has the airport operator verified in writing that data in documentation are representative of existing conditions and future forecast conditions as of the date of submission?	Yes	Transmittal Letter and Page 3.

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
C. If the NEM and NCP are submitted together:		
1. Has the airport operator indicated whether the future map is based on future contours without the program vs. contours if the program is implemented?	Yes	Page 4 and Chapter 2
2. If the future map is based on program implementation:		
a.. are the specific program measures which are reflected on the map identified?	N/A	N/A
b. does the documentation specifically describe how these measures affect land use compatibilities reflected on the map?	N/A	N/A
3. If the future NEM does not incorporate program implementation, has the airport operator included an additional NEM for FAA determination after the program is approved which shows program implementation conditions and which is intended to replace the future NEM as the new official future map?	Yes	Figure 15
IV. MAP SCALE, GRAPHICS AND DATA REQUIREMENTS [A150.101, A150.103, A150.105, 150.21(a)] *		
A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000') and is the scale on the maps?	Yes	Large-size prints of Figures 5 and 6 (NEMs)

* Figures 5 and 6 are for the existing condition NEM and the future condition NEM without implementation of the NCP. Figure 15 is the future condition NEM with the NCP.

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
B. Is the quality of the graphics such that the required information is clear and readable?	Yes	Large-size prints of Figures 5and 6
C. Depiction of the airport and its environs.		
1. Is the following graphically depicted to scale on both the existing condition and future condition maps?	Yes	Figures 5 and 6
a. airport boundaries	Yes	Figures 5 and 6
b. runway configurations with runway end numbers	Yes	Figures 5 and 6
2. Does the depiction of the off-airport data Include:		
a. a land use base map depicting streets and other identifiable geographic features?	Yes	Figures 5 and 6
b. the area within the 65 Ldn (or beyond, at local discretion)?	Yes	Figures 5 and 6, Section 5.1
c. clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the 65 Ldn (or beyond, at local discretion)?	Yes	Figures 5 and 6
D. 1. Continuous contours for at least the Ldn 65, 70 and 75?	Yes	Figures 5 and 6
2. Based on current airport and operational data for the existing condition year NEM and forecast data for the future NEM?	Yes	Figures 5 and 6
E. Flight tracks for the existing condition and future forecast timeframes (these may be on supplemental graphics which must use the same land use base map as the existing condition and future year NEM). which are numbered to correspond to accompanying narrative?	Yes	Appendix A, Figures A-2 through A-5
F. Locations of any noise monitoring sites (these May be on supplemental graphics which must use the same land use base maps as the official NEMs)	Yes	Figures 5and 6 and Figure A-1

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
G. Noncompatible land use identification:		
1. Are noncompatible land uses within at least The 65 Ldn depicted on the maps?	Yes	Figures 5and 6 (NEMs)
2. Are noise sensitive public buildings identified?	Yes	Figures 5 and 6 (NEMs)
3. Are the noncompatible uses and noise Sensitive public buildings readily identifiable and explained on the map legend?	Yes	Figures 5 and 6 (NEMs)
4. Are compatible land uses, which would normally be considered noncompatible explained in the accompanying narrative?	N/A	N/A
V. NARRATIVE SUPPORT OF MAP DATA: [150.21(A), A150.1, A150.101, A150.103]		
A. 1. Are the technical data, including data sources, on which the NEMs are based Adequately described in the narrative?	Yes	Chapter 2 and Appendix A
2 Are the underlying technical data and planning assumptions reasonable?	Yes	Chapter 2 and Appendix A
B. Calculation of Noise Contours:		
1. Is the methodology indicated?	Yes	Chapter 2 and Appendix A
a. is it FAA approved?	Yes	Chapter 2 and Appendix A
b. was the same model used for both maps?	Yes	Chapter 2 and Appendix A
c. has AEE approval been obtained for use of a model other than those which have previous blanket FAA approval?	No	N/A

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
2. Correct use of noise models.		
a. does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another?	Yes (Substitution only)	Appendix A
b. If so, does this have written approval from AEE?	Yes	Figure A-0
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were used?	Yes	Appendix A
4. For noise contours below 65 Ldn, does the supporting documentation include explanation of local reasons? (Narrative explanation is highly desirable but not required by the Rule.)	Yes	Section 3.6.2
C. Noncompatible Land Use Information:		
1. Does the narrative give estimates of the Number of people residing in each of the contours (Ldn 65, 70 and 75, at a minimum) for both the existing condition and future condition maps?	Yes	Tables 10 and 12
2. Does the documentation indicate whether table 1 of Part 150 was used by the airport operator?	Yes	Chapter 2 and Appendix A
a. If a local variation to table 1 was used: (1) does the narrative clearly indicate which adjustments were made and the local reasons for doing so?	N/A	N/A

NOISE EXPOSURE MAP CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
(2) does the narrative include the the airport operator's complete substitution for table 1?	N/A	N/A
3. Does the narrative include information on self-generated or ambient noise where compatible/- non-compatible land use identifications consider non-airport/aircraft sources?	No	N/A
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?	N/A	N/A
5. Does the narrative describe how forecasts will affect land use compatibility?	Yes	Chapter 2 and Appendix A
VI. MAP CERTIFICATIONS: [150.21(b), 150.21 (e)]		
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data and comments concerning the correctness and adequacy of the draft maps and forecasts?	Yes	Transmittal Letter, and Appendices C and E
B Has the operator certified in writing that each Map and description of consultation and Opportunity for public comment are true and Complete?	Yes	Transmittal Letter, and Appendices C and E

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
I. IDENTIFICATION AND SUBMISSION OF PROGRAM:		
A. Submission is properly identified:		
1. FAR 150 NCP?	No	N/A
2. NEM and NCP together	Yes	Transmittal Letter and page 1.
3. Program revision?	No	N/A
B. Are the airport name and the qualified airport Operator identified?	Yes	Transmittal Letter and title page
C. Is there a dated cover letter from the airport Operator which indicates the documents are Submitted under Part 150 for appropriate FAA determination?	Yes	Transmittal Letter
II. CONSULTATION [150.23]		
A. Documentation includes narrative of public participation and consultation process?	Yes	Appendices C and E
B. Identification of consulted parties:		
1. all parties in 150.23(c) consulted?	Yes	Appendices C and E
2. public and planning agencies identified?	Yes	Appendices C and E
3. agencies in 2., above, correspond to those indicated in the NEM?	Yes	Appendices C and E

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
C. Satisfies 150.23(d) requirements:		
1. documentation shows active and direct Participation of parties in B., above?	Yes	Appendices C and E
2. active and direct participation of general Public?	Yes	Appendices C and E
3. participation was prior to and during development of NCP and prior to submittal to FAA?	Yes	Appendices C and E
4. indicates adequate opportunity afforded to submit views, data, etc.?	Yes	Appendices C and E
D. Evidence included of notice and opportunity for a public hearing on NCP?	Yes	Appendices C and E
E. Documentation of comments:		
1. Includes summary of public hearing comments, if hearing was held?	Yes	Appendix E
2. includes copy of all written material submitted to operator?	Yes	Appendix E
3. includes operator's responses/disposition Of written and verbal comments?	Yes	Appendix E
F. Informal agreement received from FAA on flight procedures?	Yes	Chapter 3, Section 3.8
III. NOISE EXPOSURE MAPS: [150.23, B150.3, 150.35(f)] (This section of the checklist is not a substitution for the Noise Exposure Map checklist. It deals with maps in the context of the Noise Compatibility Program submission.)		
A. Inclusion of NEMs and supporting documentation:		
1. Map documentation either included or Incorporated by reference?	Yes	Chapter 2
2. Maps previously found in compliance by FAA?	No	Transmittal Letter
3. Compliance determination still valid?	N/A	N/A
4. Does 180-day period have to wait for Map compliance finding?	Yes	Transmittal Letter

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal)		
1. Revised NEMs included with program?	Yes	Figure 15 Section 3.7
2. Has airport operator requested FAA to make a determination on the NEM(s) when NCP approval is made?	Yes	Transmittal letter
C. If program analysis uses noise modeling:		
1. INM, HNM, or FAA-approved equivalent?	Yes	Chapters 2 and 3 and Appendix A
2. Monitoring in accordance with A150.5?	Yes	Appendix A
D. Existing condition and future maps clearly identified as the official NEMs?	Yes	Chapters 2 and 3 and Figures 5, 6 and 15
IV. CONSIDERATION OF ALTERNATIVES: [B150.7, 150.23(e)]		
A. At a minimum, are the alternatives below considered?		
1. land acquisition and interests therein, including air rights, easements, and development rights?	Yes	Section 3.5
2. barriers, acoustical shielding, public Building soundproofing?	Yes	Sections 3.3.1 and 3.3.5 and Appendix B

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
3. preferential runway system	Yes	Sections 3.4.1 and 3.4.2
4. flight procedures	Yes	Section 3.4
5. Restrictions on type/class of aircraft (at least one restriction below must be checked)		
a. deny use based on Federal standards?	No	N/A
b. capacity limits based on noisiness?	Yes	Appendix B
c. noise abatement takeoff/approach	Yes	Section 3.4
d. landing fees based on noise or time of day	Yes	Appendix B
e. nighttime restrictions	No	N/A
6. other actions with beneficial impact	Yes	Chapter 3
7. other FAA recommendations	No	N/A
B. Responsible implementing authority identified for each considered alternative?	Yes	Chapter 3, Table 17
C. Analysis of alternative measures:		
1. measures clearly described?	Yes	Chapter 3
2. measures adequately analyzed?	Yes	Chapter 3
3. adequate reasoning for rejecting alternatives?	Yes	Chapter 3 and Appendix B
D. Other actions recommended by the FAA: Should other actions be added? (list separately or on back of this form actions and discussions with airport operator to have them included prior to the start of the 180-day cycle	N/A	Transmittal Letter

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
V. ALTERNATIVES RECOMMENDED FOR IMPLEMENTATION: [150.23(e), B150.7(c); 150.35(b), B150.5]		
A. Document clearly indicates::		
1. alternatives recommended for Implementation?	Yes	Chapter 3 Table 17
2. final recommendations are airport operator's, not those of consultant or third party?	Yes	Transmittal Letter and page 1
B. Do all program regulations:		
1. relate directly or indirectly to reduction of noise and noncompatible land uses?	Yes	Chapter 3 and Appendix A
2. contain description of contribution to overall effectiveness of program?	Yes	Chapter 3 and Appendix A
3. noise/land use benefits quantified to the extent possible?	Yes	Chapter 3 and Appendix A
4. include actual/anticipated effect on reducing noise exposure within noncompatible area shown on NEM?	Yes	Chapter 3 and Appendix A
5. effects based on relevant and reasonable expressed assumptions?	Yes	Chapter 3 and Appendix A
6. have adequate supporting data to support its contribution to noise/land use compatibility?	Yes	Chapter 3 and Appendix A

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
C. Analysis appears to support program standards set forth in 150.35(b) and B150.5?	Yes	Chapter 3
D. When use restrictions are recommended:	None recommended	N/A
1. Are alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions can be made?	N/A	N/A
2. use restriction coordinated with APP-600 prior to making determination on start of 180-days?	N/A	N/A
E. Do the following also meet Part 150 analytical standards:		
1. formal recommendations which continue existing practices?	N/A	N/A
2. New recommendations or changes proposed at end of Part 150 process?	N/A	N/A
F. Documentation indicates how recommendations may change previously adopted plans?	N/A	N/A

NOISE COMPATIBILITY PROGRAM CHECKLIST – PART I

AIRPORT NAME: Piedmont Triad International Airport REVIEWER: _____

	Yes/No/NA	Page No. or Other Reference
G. Documentation also:		
1. Identifies agencies which are responsible for implementing each recommendation?	Yes	Chapter 3 Table 17
2. Indicates whether those agencies have agreed to implement?	Yes	Chapter 3
3. indicates essential government actions necessary to implement recommendations?	Yes	Chapter 3
H. Timeframe:		
1. includes agreed-upon schedule to implement recommendations?	Yes	Chapter 3, Table 17
2. indicates period covered by program?	Yes	Section 1.4 and Chapter 3
I. Funding/Costs:		Table 17
1. includes costs to implement alternatives?	Yes	Chapter 3 Table 17
2. includes anticipated funding sources?	Yes	Chapter 3 Table 17
VI. PROGRAM REVISION: [150.23(e)(9)] Supporting documentation includes provision for revision?	Yes	Section 1.4

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PREFACE

This is the first FAR Part 150 study at Piedmont Triad International Airport (PTIA). The goal of the Study is to establish a set of measures to reduce potential impacts of aircraft noise in the vicinity of the airport and to avoid potential new noise impacts. This document presents: (1) the Noise Exposure Maps (NEMS) for current (2006) and future (2014) conditions; and (2) the Noise Compatibility Program (NCP) for 2014. The F.A.R. Part 150 study was undertaken under the rules of Federal Aviation Regulation Part 150.

There are certain conditions existing at PTIA that make this study unique: (1) the noise of greatest concern is associated with a future change in aircraft activity, not a current condition; (2) an operational procedure evaluated in the Environmental Impact Statement (EIS) for the current airport expansion project will significantly reduce the noise exposure in the nearest residential development to the northeast of the airport; and (3) local land use planning has helped to limit dense residential development immediately to the southwest of the airport on the extended centerline of the new runway. These aspects of the study are discussed in greater detail in the Chapter 1 of this report.

This F.A.R. Part 150 document includes the following chapters and appendices:

Chapter 1	Introduction
Chapter 2	Existing Conditions (2006) and Future Conditions (2014) without Noise Compatibility Program
Chapter 3	Recommended Noise Compatibility Program (NCP)
Appendix A	Description of Noise Analyses and Land Use Analyses
Appendix B	Measures Not Recommended for the NCP
Appendix C	Record of Public Involvement Program
Appendix D	Glossary

Chapters 1, 2 and 3 present information on the present and future noise exposure environments and the recommended actions to reduce potential impacts of the noise. Appendix A describes the noise analyses used for the study. Appendix B identifies those measures that were considered but that are not recommended for inclusion in the Noise Compatibility Program and the reasons for the recommendation. Appendix C presents information on the processes used to communicate with public agencies, communities and the general public to assure open and complete review of the noise environment, the study process and the proposed Noise Compatibility Program. Appendix D is a Glossary of some of the technical terms used in this document. Appendix E contains the full record of the Public Hearing with comments and responses to comments.

A full draft of this document was presented for public review and comment at the Public Hearing on 16 November 2006. Comments were received until 30 November 2006. The Piedmont Triad Airport Authority (PTAA) adopted the Noise Compatibility Program (NCP) on 16 January 2007 and directed staff to submit the NCP and NEMs to the FAA on the same date. The Atlanta Airports District Office (ADO) commented on the NCP and NEMs. This document includes the PTAA's changes in response to the ADO Comments.

1 INTRODUCTION

1.1 OVERVIEW OF THE PART 150 PROCESS

This F.A.R. Part 150 Study for the Piedmont Triad International Airport (PTIA) has two components: the Noise Exposure Maps (NEMs) and the Noise Compatibility Program (NCP). The NEMs present information about the existing (2006) and future (2014) aircraft noise environments around PTIA. The NCP present measures that are designed to reduce potential impacts of the aircraft noise on noise sensitive land uses around PTIA and to restrict the introduction of new noncompatible land uses in locations around the airport. The NCP is based on the level of aircraft operations 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 Piedmont Triad Airport Authority. Three committees provided advice during the study: a Citizens Advisory Committee consisting of 25 representatives of neighborhoods around PTIA; a Government Advisory Committee consisting of 25 representatives of local governmental bodies; and a Users' Advisory Committee consisting of 25 representatives of airlines, airport tenants and other entities using the airport. Representatives of the PTIA Air Traffic Control Tower participated in the Government Advisory Committee and the Users' Advisory Committee. A full record of public participation is presented in Appendix C of this document.

A key aspect of this study is that the noise that has been the subject of greatest concern to residents living near the Piedmont Triad International Airport is noise that has not yet occurred. A new runway (runway 5L/23R) and a new mid-Atlantic cargo hub for Federal Express Corporation (FedEx) are under construction at the airport and are due to open on or before June 2009. Residents northeast of the airport near the end of the new runway and residents southwest of the airport in High Point on the extended centerlines of the existing main runway and the new runway are concerned that they will be awakened by aircraft noise from the new FedEx hub and from associated flight operations. Concerns have been expressed by residents living in other parts of the region as well.

The residential neighborhoods to the northeast of the airport are near the new runway end. The head-to-head operational design, which will direct nighttime air traffic away from these neighborhoods most of the time, will significantly reduce the noise exposure in those neighborhoods. The head-to-head operational mode was developed during planning for the FedEx hub and runway 5L/23R and assumed during the development of the EIS for the airport expansion project, and the FAA's Record of Decision, which allowed the airport expansion project to move forward.

The neighborhoods in north High Point southwest of the airport and near the extended centerline of the existing runway, 5R/23L, will be exposed to noise from additional

nighttime operations associated with the FedEx hub. However, they are farther away from the airport than neighborhoods to the northeast. In addition, good planning has allowed only minimal residential development to the immediate southwest of the airport along the extended centerline of the new runway 5L/23R.

The NCP contains procedures to implement the head-to-head operating mode as well as other measures that will further reduce potential impacts of aircraft noise on surrounding neighborhoods. Because of the head-to-head operations established by the FAA's Record of Decision and good planning to the southwest of the airport, the NCP began with important measures already planned.

The FAA must first approve the measures in an NCP before it can participate in actions over which the agency 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 and without the NCP. The noise modeling that was done from the beginning of the process through the development of the recommended NCP in early 2006 was based on a forecast of aviation activity at PTIA that had previously been prepared by the study consultants. This forecast projected aviation activity both in the years 2006 and 2014, which are the two years covered by this Study, and it is referred to in this document as the "Original Operations Forecast." Since Part 150 requires that NEMs and an NCP be current at the time they are submitted to the FAA, the study consultants updated the Original Operations Forecast during 2006, and the updated forecast was approved by the FAA in September 2006. This revised forecast is referred to in this document at the "Updated Operations Forecast." The only differences between the Original Operations Forecast and the Updated Operations Forecast are some very minor changes in the overall number of aircraft operations.

This study has retained much of the analysis that was developed with the Original Operation Forecast since the differences between the forecasts are very minor, since the original analyses continue to provide a valid basis for comparing the noise effects of the alternative scenarios that were evaluated in this study, and since the original analyses have already been reviewed and commented upon by the Advisory Committees.

Chapter 2 of this study presents the Base Case contours that were developed under the Original Operations Forecast (referred to in Chapter 2 as the "Preliminary Contours") as well as contours developed under that forecast for contrasting scenarios, including scenarios with and without Boeing 727 aircraft in the FedEx fleet, and between head to head operations and one way operations. However, Chapter 2 also includes a final set of Base Case contours that have now been developed for 2006 and 2014 using the Updated

Operations Forecast. The maps showing this final set of contours, and related tables are presented in the concluding section of Chapter 2 (Section 2.1.4). These maps and related documentation constitute the proposed NEMs that the study consultants recommend for submission to the FAA to show the projected noise exposure around the airport without implementation of the NCP.

Chapter 3 of this study, which presents the NCP, also retains the analysis that was performed by the study consultants under the Original Operations Forecast to evaluate alternative measures for the NCP. Since the changes in the forecasts were minor and would tend to affect all alternatives equally, the projections developed from the Original Operations Forecast continued to provide a valid basis for comparing one alternative to another and to weigh the relative merit of alternatives. However, new contours were prepared using the Updated Operations Forecast for the preferred alternative (Alternative 2C) recommended for the NCP. As in the case of Chapter 2, Chapter 3 concludes with a final section (Section 3.7) in which these updated contours are presented. The maps showing the updated contours in Section 3.7, and related documentation, constitute the proposed NEM that the study consultants recommend for submission to the FAA to show the projected noise exposure around the airport with the NCP implemented.

Information from the Original Operations Forecast appears in Chapter 2, Tables 1 (2006) and 2 (2014). Information from the Updated Operations Forecast also appears in Chapter 2, Tables 9 (2006) and 11 (2014). Appendix A presents detailed operations information from the Updated Operations Forecasts for 2006 and 2014, including a breakdown of the projected operations both by user category and aircraft type. See Tables A-1 and A-2 for 2006 and Tables A-4 and A-5 for 2014.

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 PTAA 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 2007. Implementation of NCP measures approved by the FAA is expected to begin after the FAA issues a Record of Approval for the NCP.

1.4 PROVISIONS TO UPDATE PART 150 STUDY

During preparation of the NEMs and the NCP, members of the Advisory Committees asked what provisions exist to assure that the NEMs and NCP will be current. As stated in Section 2.1.2 of this study, "it was anticipated, that there will be updates of this study in about 2011 and about 2016." Furthermore the study will be updated at an earlier date if a revision of the NEMs is required by FAA 150.21(d), in which case the NCP measures will be reconsidered in light of that revision and any necessary changes will then be made to the NCP.

2 EXISTING CONDITIONS (2006) AND FUTURE CONDITIONS (2014) WITHOUT NOISE COMPATIBILITY PROGRAM

The Part 150 Study for PTIA addressed 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 (2006) and in the future year that was chosen for the study (2014), if none of the measures proposed in the 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.

As pointed out in Section 1.2 of this document, the Operations Forecast that was used in this Part 150 study was updated in 2006. The noise contours presented in Sections 2.2.1, 2.1.2 and 2.1.3 are based on the Original Operations Forecast for 2006 and 2014 referred to in Section 1.2. However, the noise contour maps for the NEMs that are presented in Section 2.1.4 are based on the Updated Operations Forecast. Detailed operations information from the Updated Operations Forecast is set out in Appendix A. As stated in Section 1.2, the differences between the two forecasts are very minor and the analyses prepared under the Original Operations Forecast continue to provide a valid basis for evaluating the projected noise exposure at PTIA.

2.1 NOISE CONDITIONS WITHOUT A NOISE COMPATIBILITY PROGRAM

Throughout this study, the noise exposure environment around PTIA is presented in terms of contours of the yearly average Day-Night Sound Level (DNL) for existing (2006) 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 PTIA include noise contours for a DNL value of 60 dB as well because previous noise studies at the airport have included this information and because Proposed Measure NM-2, which has been included in the proposed Noise Compatibility Program at the request of the Advisory Committees, calls for the publication of 60 dB contours for informational purposes. See Section 3.6.2. 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 6.1. 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 Preliminary Noise Contours (2006)

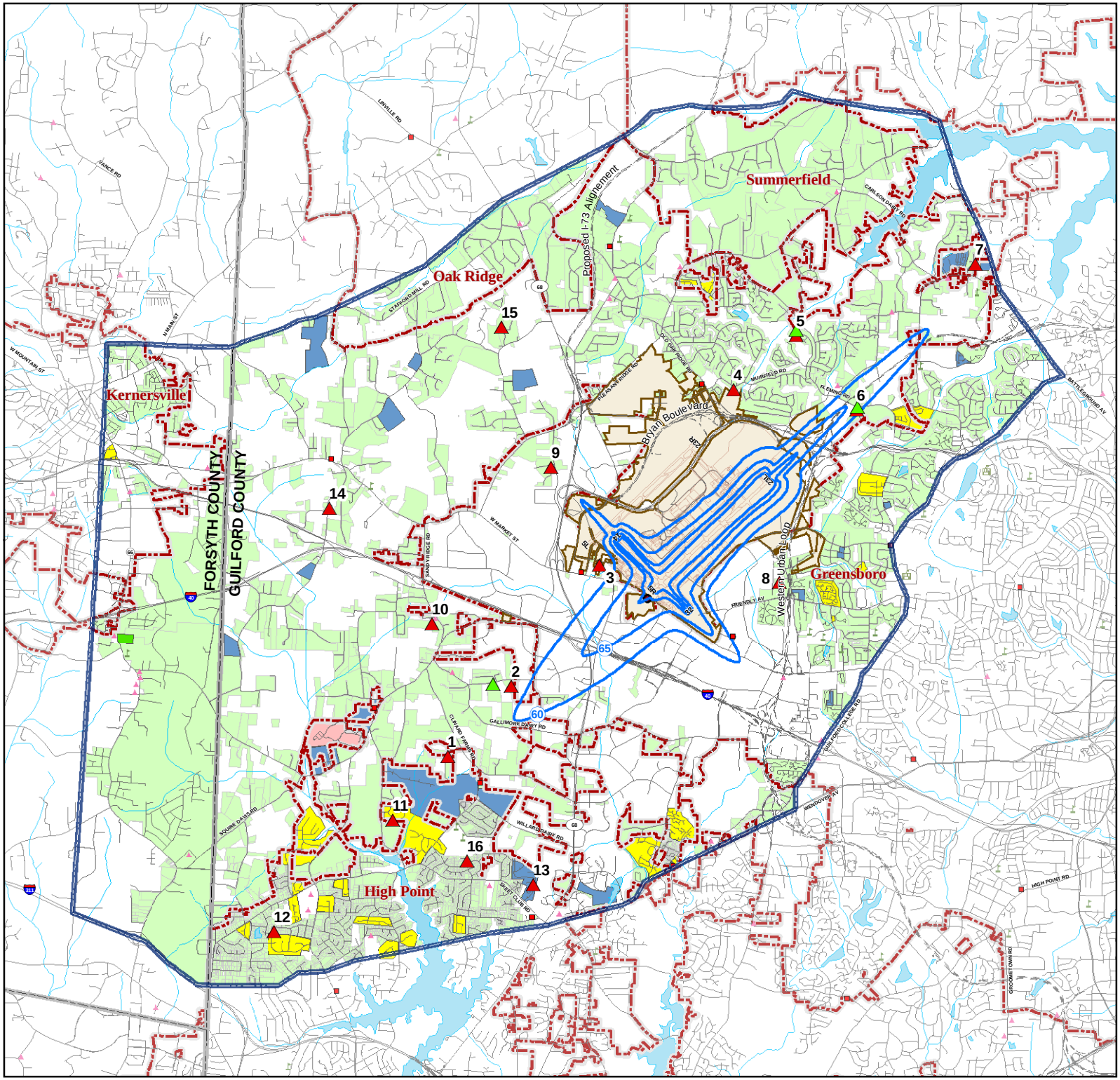
The Preliminary noise contours for 2006 are presented in Figure 1. (The Final NEM for 2006 is in Section 2.1.4.) These noise contours do not assume inclusion of any NCP recommendation. Therefore, they represent the aircraft noise environment that was anticipated in 2006.

During 2006, the yearly average daily number of takeoffs and landings was originally forecast to be 333.80. Table 1 presents this activity in 6 separate user groups. (Appendix A contains detailed numbers of aircraft operations by aircraft type for the final (2006) 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 2004 and anticipated changes between 2004 and 2006.

TABLE 1

Existing Condition (2006) Yearly Average Daily Aircraft Operations
Piedmont Triad international Airport
Based on Original Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	20.50	2.49	22.99	20.50	2.49	22.99
Commuter	54.11	12.00	66.11	57.44	8.67	66.11
Cargo – FedEx	0.94	2.30	3.24	0.51	2.73	3.24
Cargo – Other	4.11	1.29	5.40	1.80	3.60	5.40
GA	62.05	5.73	67.78	62.05	5.73	67.78
Military	1.30	0.08	1.38	1.30	0.08	1.38
Total	143.01	23.89	166.90	143.60	23.30	166.90



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- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours
Preliminary Base Case 2006

Figure 1

andrew s. harris, inc.

The pattern of runway use during 2006 is assumed to be the same as occurred during 2004. Table 2 shows the runway use percentages that were used to model operations for the year 2006. Aircraft use existing runway 5/23 for 90 percent of operations. Larger, air carrier aircraft use this runway almost exclusively. Southwest flow, with arrivals and departures on runway 23, occurs more than 83 percent of the time that runway 5/23 is in use.

TABLE 2

Existing Condition (2006) Runway Use
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
5	15%	15%	15%	15%
23	75%	75%	75%	75%
14	9%	9%	9%	9%
32	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%

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 flight tracks.

The DNL contour for 65 dB in Figure 1 shows the extent of significant noise exposure according to FAA guidelines. (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, in the case of the existing aircraft fleet, noise from aircraft departures with the existing aircraft fleet is typically louder than the noise from aircraft landings.

Impacts of aircraft noise are identified 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 65 and higher in 2006. 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 (2006)
Piedmont Triad International Airport
Based on Original Operations Forecast

Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	0.38	0.00	0.00	0.38
Residents	6	0	0	6
Residences	2	0	0	2
Houses of Worship	0	0	0	0
Schools	0	0	0	0

2.1.2 Preliminary Noise Contours (2014) without the NCP

The regulations under FAR Part 150 require consideration of noise conditions during a future period. While that period must be at least 5 years in the future and a typical Part 150 Study addresses future conditions in the fifth year, this study addresses future conditions in the year 2014, eight years in the future. The reason for selecting this period is that 2014 is the earliest year that full buildout and use of the FedEx hub is expected to occur. It was decided that use of any earlier year as the future year for PTAA might not capture all the potential impacts of full use of the hub.

The number and mix of operations in 2014 will determine the extent of the noise contours around PTIA that year. For this reason, the modeling for 2014 uses a forecast of the various aircraft types that will be in use that year, including any Boeing 727 aircraft that may be operated by FedEx. FedEx currently has 727s in its fleet and it is not know at this time whether the 727s will be phased out by 2014.[1] With this in mind, two forecasts were prepared for 2014. The first, Forecast A, includes 727s. The second, Forecast B, replaces the 727s with Boeing 737-300s.

Table 4 presents the 2014 annual average daily aircraft operations in the same 6 separate user groups as Table 1 (for 2006). These operations numbers are identical for Forecasts A and B. (Appendix A contains detailed numbers of aircraft operations by aircraft type with Forecasts A and B identified separately.)

Figure 2 shows the DNL contours for Forecast A. Since it is not possible to determine exactly what fleet will exist in 2014, it was decided that this study would base its analyses

[1] In September 2006, FedEx announced that it would replace 90 Boeing 727-200 aircraft with Boeing 757 aircraft between 2008 and 2016. FedEx has not determined the extent that 727-200s forecast to GSO will be replaced by quieter aircraft by 2014. For this reason, the analyses for this study retain Forecast A (with 727s) for 2014 .The Forecast B contours use Boeing 737-300s as the replacement aircraft for 727-200s because these contours were run before the FedEx announcement. The noise characteristics of the B737 are similar to those of the B-757.

and the Noise Compatibility Program (NCP) on Forecast A rather than Forecast B because the resulting contours will be larger and the NCP will be more protective. If the NCP were based on Forecast B conditions and Forecast A conditions prevail in 2014, fewer residences would qualify for sound insulation and fewer restrictions would be placed on development than might be appropriate. A further reason that it is appropriate to use Forecast A for this study is that there will be updates of this study in about 2011 and about 2016. If the NCP from the present study turns out to have been too protective, the future updates can adjust to the new conditions by relaxing any excessively restrictive measures.

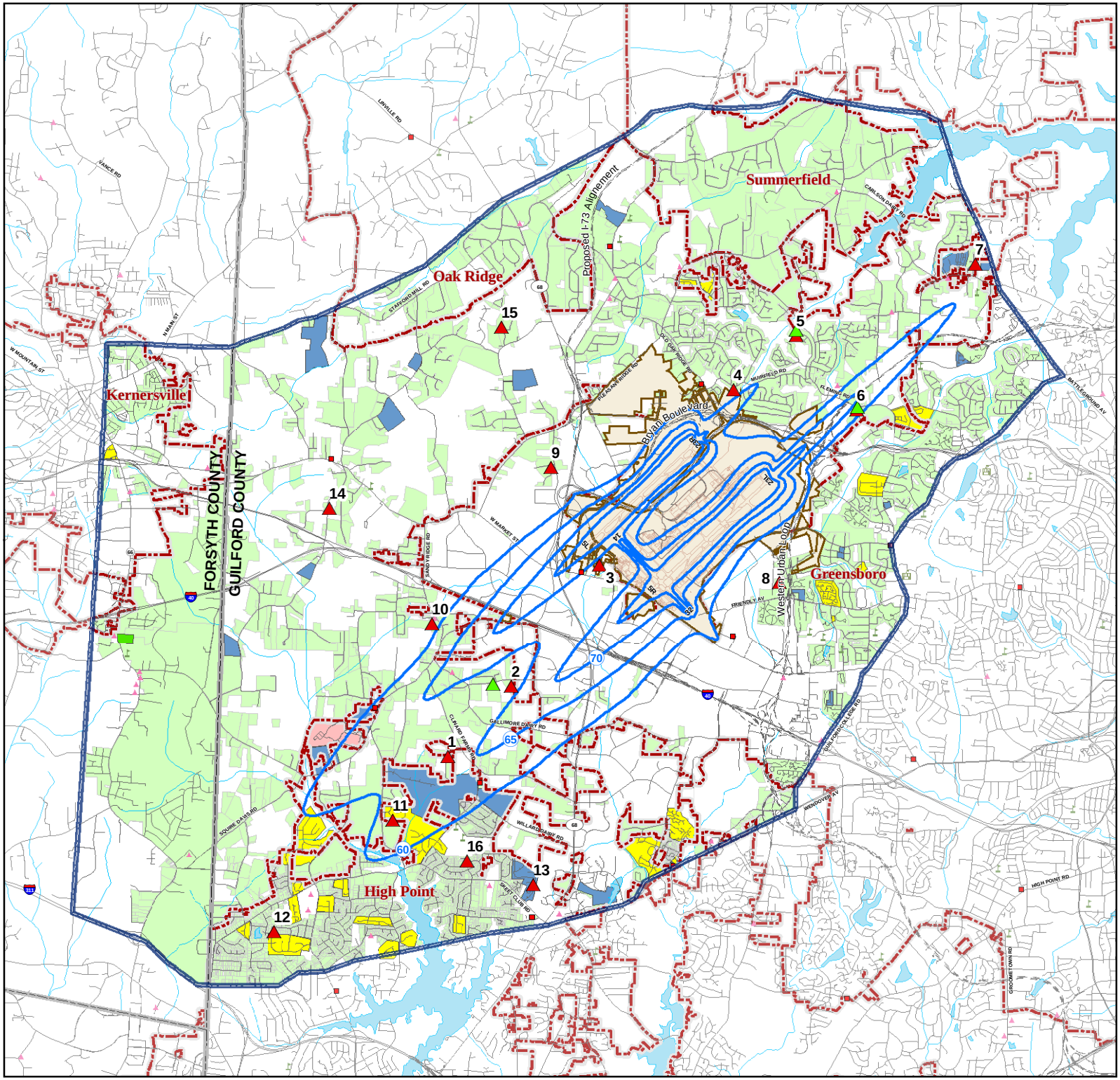
TABLE 4

Forecast Condition (2014) Annual Average Daily Aircraft Operations
Piedmont Triad International Airport
Based on Original Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	19.37	2.37	21.74	19.37	2.37	21.74
Commuter	73.72	16.34	90.06	78.25	11.81	90.06
Cargo – FedEx	13.06	31.82	44.88	7.09	37.79	44.88
Cargo – Other	5.55	1.74	7.29	2.43	4.86	7.29
GA	68.83	6.35	75.18	68.83	6.35	75.18
Military	1.30	0.08	1.38	1.30	0.08	1.38
Total	181.83	58.70	240.53	177.27	63.26	240.53

While the contours of Figure 2 reflect anticipated conditions without any measures in effect from a Part 150 NCP, they do reflect the presence of a noise abatement measure that comes from the EIS and will be implemented through the NCP. The EIS identified head-to-head operations for the FedEx hub during the night as a project requirement. Although this procedure is required, wind and weather permitting, it is important to realize that head-to-head operations produce a significantly smaller noise impact than single-direction operations would produce. (See Section 2.1.3). Head-to-head operations at GSO will maximize departures on runways 23L and 23R and arrivals on runways 5L and 5R. Based on information in the EIS, this study assumes that FedEx hub operations will occur in these directions 95 percent of the time, subject to variations from season to season and year to year. The head-to-head procedure has two advantages. First, it minimizes nighttime overflight of the densely-developed residential area to the north and northeast of the airport. Second, it minimizes taxiing by FedEx aircraft using the hub that will be located at the northeast end of the airport between runways 5L/23R and 5R/23L. (During head-to-head operations, aircraft will land on runways 5L and5R and taxi to the FedEx hub to begin unloading, sorting and reloading of packages. After reloading, aircraft will depart from PTIA on runways 23L and 23R.)

Runway use in 2014 differs from runway use in 2006 because of two significant changes: (1) addition of new runway 5L/23R; and (2) use of the head-to-head procedures by FedEx



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0 4,000 8,000 12,000 Feet

DNL Contours
Preliminary 2014 Forecast A
Alternative 1

Figure 2

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during the night. Daytime runway use reflects one-way operations and continued use of the original long runway, called 5R/23L, as the predominant runway. Nighttime runway use reflects a combination of one-way operations by non-FedEx aircraft and head-to-head operations by FedEx aircraft. Note, however, that these two operating modes (one-way and head-to-head) do not occur simultaneously. Table 5 shows runway use for 2014 operations in two groups: (1) non-FedEx operations and (2) FedEx operations.

The departure tracks used to develop Figure 2 are shown in Appendix A. The flight tracks used for runway 5R/23L are unchanged from the flight tracks in Figure 1 and Appendix A for existing conditions. The flight tracks for departures to the north from runway 23R are similar to those from runway 23L, but initial turns to the left are replaced by initial turns to the right. The flight tracks for other departures from runway 23R are similar to the tracks from runway 23L, but initial turns from runway heading are 15 degrees further to the right to assure a 15 degree separation between aircraft departing simultaneously from runways 23L and 23R.

TABLE 5

Forecast (2014) Base Case Head-to-Head Runway Use
(No other Noise Abatement)
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
Non-FedEx Operations				
5L	0%	0%	0%	0%
5R	15%	5%	15%	5%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14[2]	5%	0%	5%	0%
32	5%	0%	5%	0%
Total	100%	100%	100%	100%
FedEx Operations				
5L	0%	47.5%	0%	2.5%
5R	15%	47.5%	15%	2.5%
23L	75%	2.5%	75%	47.5%
23R	0%	2.5%	0%	47.5%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
Total	100%	100%	100%	100%

[2] The FAA Air Traffic Control Tower (ATCT) personnel say that use of runways 14 and 32 will be equal in the future.

Figure 3 compares the noise contours for Forecast A and Forecast B. Table 6 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 different values of DNL in 2014 for Forecast A and Forecast B with head-to-head operations and no other noise abatement.

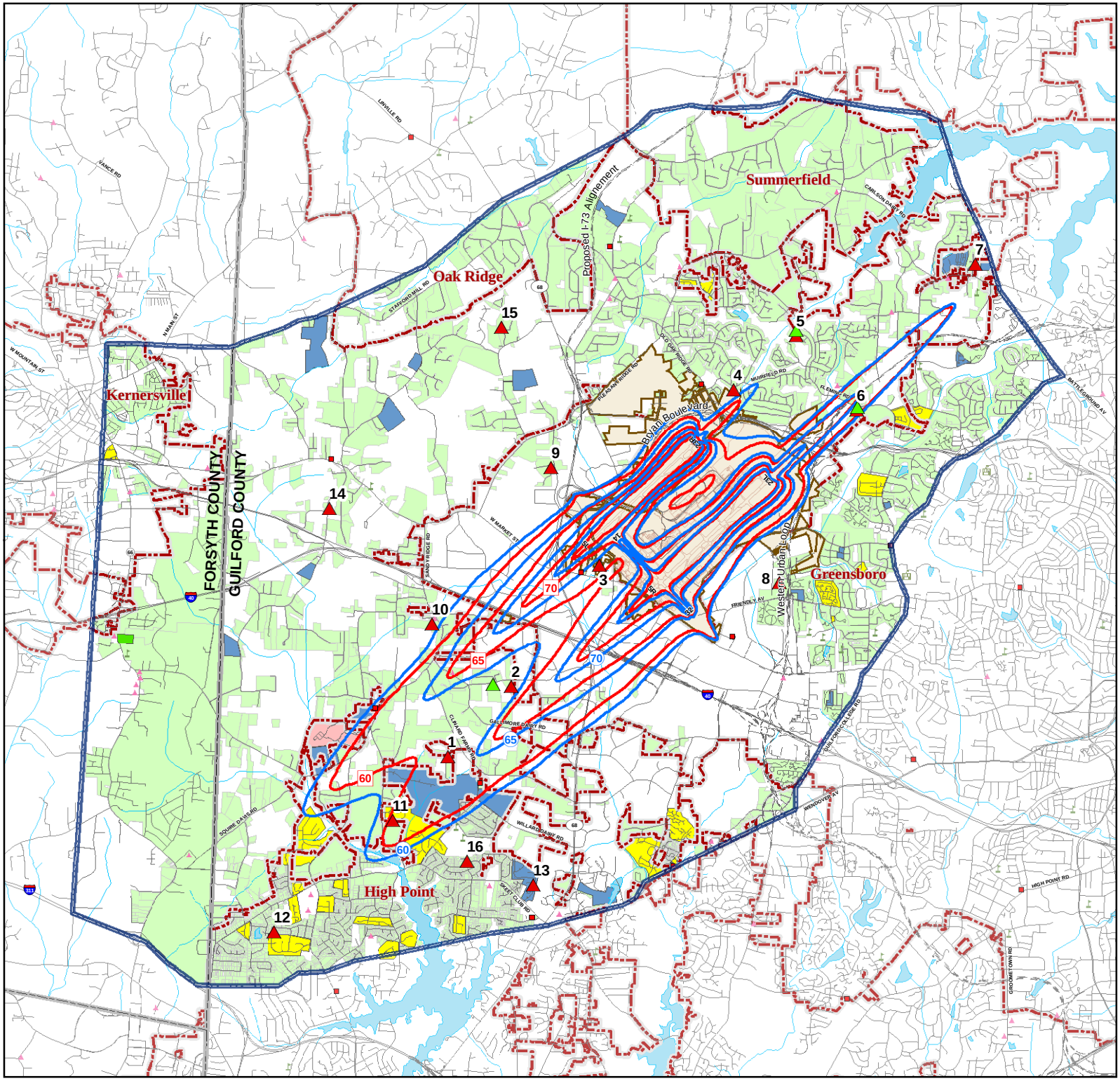
TABLE 6

Incompatible Land Uses
Forecasts A and B (2014) Head-to-Head Operations
(No other Noise Abatement)
Piedmont Triad International Airport
Based on Original Operations Forecast

Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Forecast A				
Land Area (sq. mi.)	2.93	0.82	0.06	3.81
Residents	337	14	0	351
Residences	116	5	0	121
Houses of Worship	1	0	0	1
Schools	0	0	0	0
Forecast B				
Land Area (sq. mi.)	2.13	0.33	0.02	2.48
Residents	194	9	0	203
Residences	65	3	0	68
Houses of Worship	1	0	0	1
Schools	0	0	0	0

2.1.3 Benefits of Head-to-Head Procedure

Although head-to-head operations have been assumed since early in the planning process for the new runway and the FedEx facilities, it is important to quantify the noise abatement benefits of the head-to-head procedures. In order to quantify the benefits of using the head-to-head operating mode rather than the normal one-way operation of the runways, noise contours have been prepared based on an alternative runway use scenario in which FedEx is assumed to be conducting one-way operations rather than head-to-head operations. In this alternative scenario, it was assumed that the FedEx night operations would be evenly divided between the parallel runways with operations occurring in each direction the same percentage of the time as at present. (Current FedEx night usage is 95% on runway 23 and 5% on runway 5. Accordingly, the one-way operations modeled 95% of takeoffs and landings on runways 23L and 23R and 5% of the takeoffs and landings on runways 5L and 5R.) The DNL contours of Figure 4 show what the noise environment around PTIA would be based on these one-way operations. For comparison, Figure 2 also shows the 2014 Base Case Contours. Both sets of contours are based on Forecast A. As compared to one-way operations, head-to-head operations decrease the noise exposure (the DNL) at various locations north of the airport between 3 dB and 8 dB below the exposure that would occur



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- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast B Alternative 1

Figure 3

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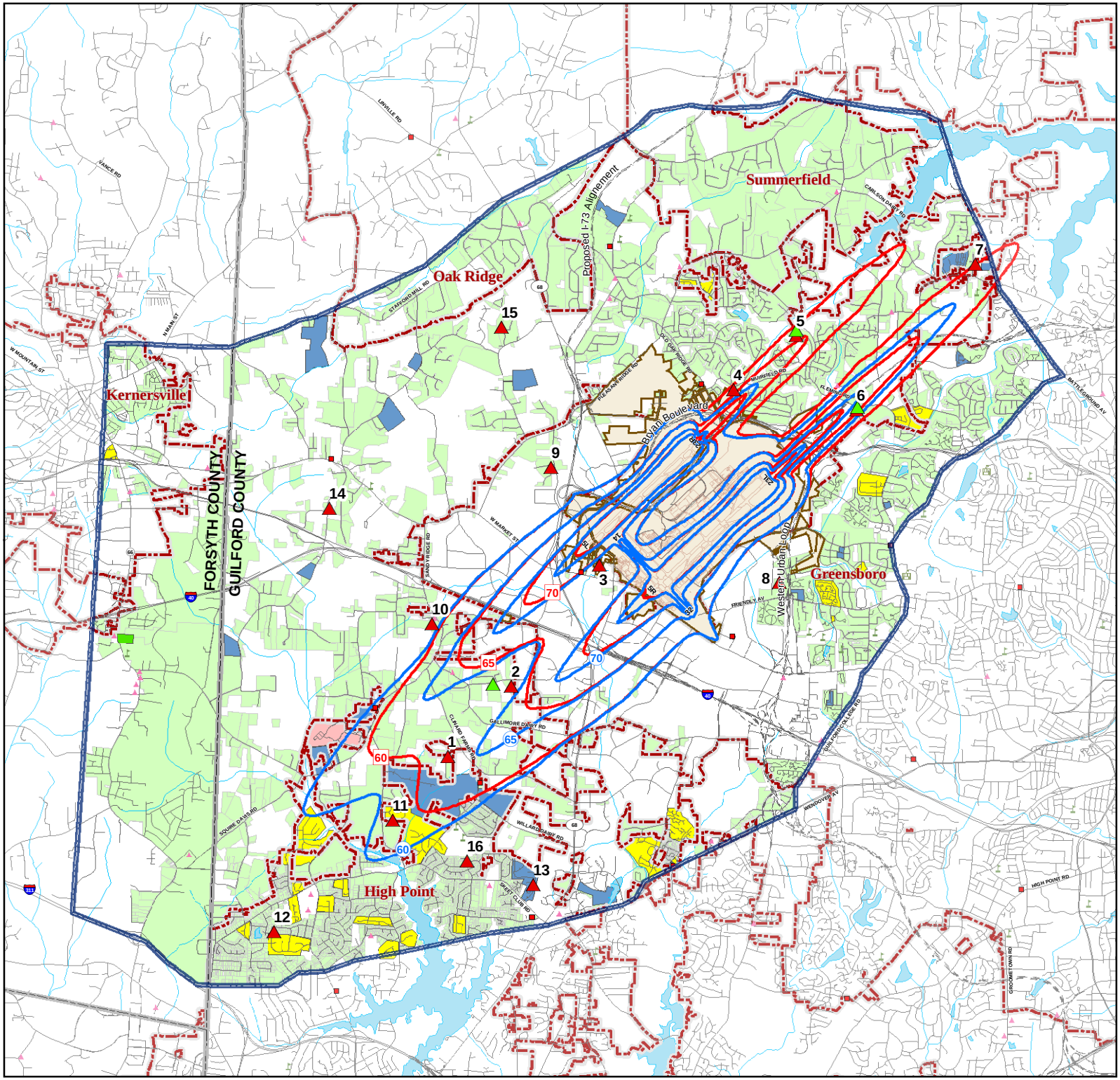

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- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A One-Way

Figure 4

andrew s. harris, inc.

with one-way operations. Head-to-head operations increase the noise exposure (the DNL) southwest of the airport up to 3 dB above the exposure that would occur with one-way operations. The preliminary contours prepared under the original operations forecast indicate that head-to-head operations reduce the residential population exposed to a DNL greater than 70 dB from 22 to 14 and reduce the residential population exposed to a DNL in the range from 65 to 70 from 821 to 337. The total residential population exposed to DNL levels of 65 or above is reduced through the use of head-to-head operations from 843 to 351. This is a 58 percent reduction in the residential population exposed to a DNL greater than 65. These improvements result from the fact that, the head-to-head procedure greatly reduces the number of approaches at night northeast of the airport where there is more housing near the airport than there is to the southwest.

TABLE 7

Forecast A (2014) One-Way Operations Runway Use
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
Non-FedEx Operations				
5L	0%	0%	0%	0%
5R	15%	5%	15%	5%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
Total	100%	100%	100%	100%
FedEx Operations				
5L	0%	2.5%	0%	2.5%
5R	15%	2.5%	15%	2.5%
23L	75%	47.5%	75%	47.5%
23R	0%	47.5%	0%	47.5%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
Total	100%	100%	100%	100%

Table 8 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 different values of DNL in 2014 for Forecast A with one-way operations.

TABLE 8

Incompatible Land Uses
Forecast A (2014) One-Way Operations
Piedmont Triad International Airport
Based on Original Operations Forecast

Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	3.09	.66	0.03	3.78
Residents	821	22	0	843
Residences	316	8	0	324
Houses of Worship	1	0	0	1
Schools	0	0	0	0

2.1.4 Final Noise Exposure Maps (2006 and 2014) without the NCP

After the FAA approved the updated operations forecast in September 2006, updated noise contours were prepared for 2006 and 2014 without the NCP. The aircraft operations numbers for 2006 and 2014 are shown in this section along with the contour maps for the 2006 and 2014 base years, without the NCP. The maps showing these updated contours (figures 5 and 6) constitute the proposed Noise Exposure Maps for PTIA without the NCP. Updated tables of incompatible land use are also shown in this section.

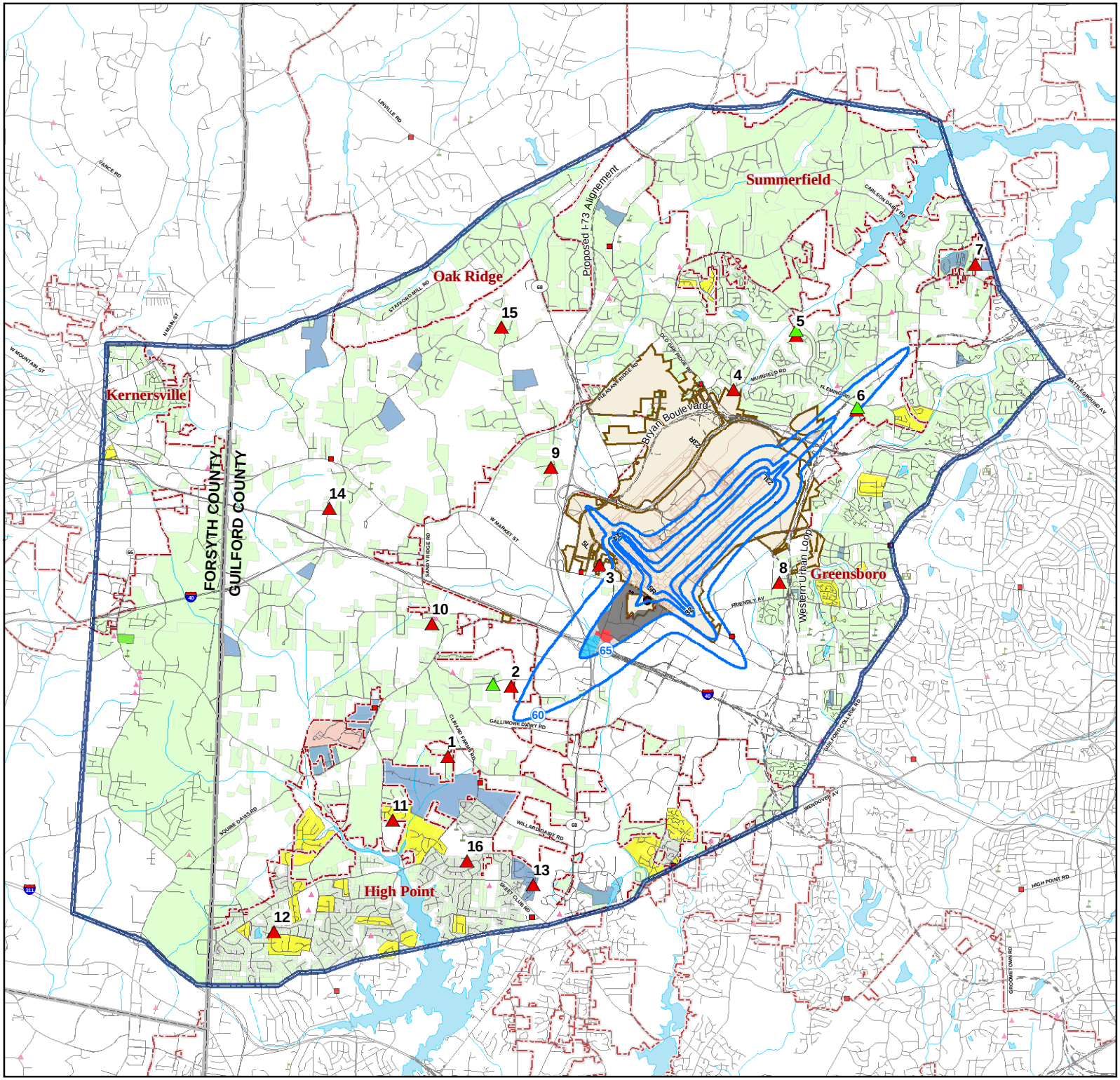
Table 9 shows the final numbers of aircraft operations by category for the base case in 2006. These numbers are broken down by aircraft type in the detailed forecast in Appendix A at table A-2. Figure 5 shows the final base case noise contours for 2006 and Table 10 shows the incompatible land uses for 2006. The noise contours in Figure 5 differ only slightly from the noise contours based on the original operations forecast, Figure 1. Likewise, the incompatible land uses for 2006 with the new forecast, Table 10, are virtually identical to the incompatible land uses for 2006 with the old forecast in Table 3.

Because the updated forecast includes reductions in the numbers of nighttime arrivals by air carrier aircraft and commuter aircraft, the noise contours at the northeast end of existing runway 5/23 shrinks about 1 dB in 2006 and 2014. A forecast change in the number of older business jets increases the noise on the approach end of runway 14 by less than 1 dB. The contours do not change in other areas.

TABLE 9

Existing Condition (2006) Yearly Average Daily Aircraft Operations
Piedmont Triad International Airport
Based on Updated Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	18.34	0.00	18.34	17.97	0.37	18.34
Commuter	62.81	10.22	73.03	58.43	14.61	73.03
Cargo – FedEx	0.94	2.30	3.25	0.51	2.73	3.25
Cargo – Non-FedEx	3.30	1.04	4.34	1.45	2.89	4.34
GA	60.90	5.47	66.37	60.90	5.47	66.37
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	148.74	19.17	167.91	141.71	26.20	167.91



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Off-Airport Landuse within DNL 65

- Agricultural/Residential
- Commercial
- Office
- Light Industrial
- Heavy Industrial
- Residences

0 4,000 8,000 12,000 Feet

DNL Contour Base Case NEM 2006

Figure 5

andrew s. harris, inc.

TABLE 10

Incompatible Land Uses (2006)
Piedmont Triad International Airport
Based on Updated Operations Forecast

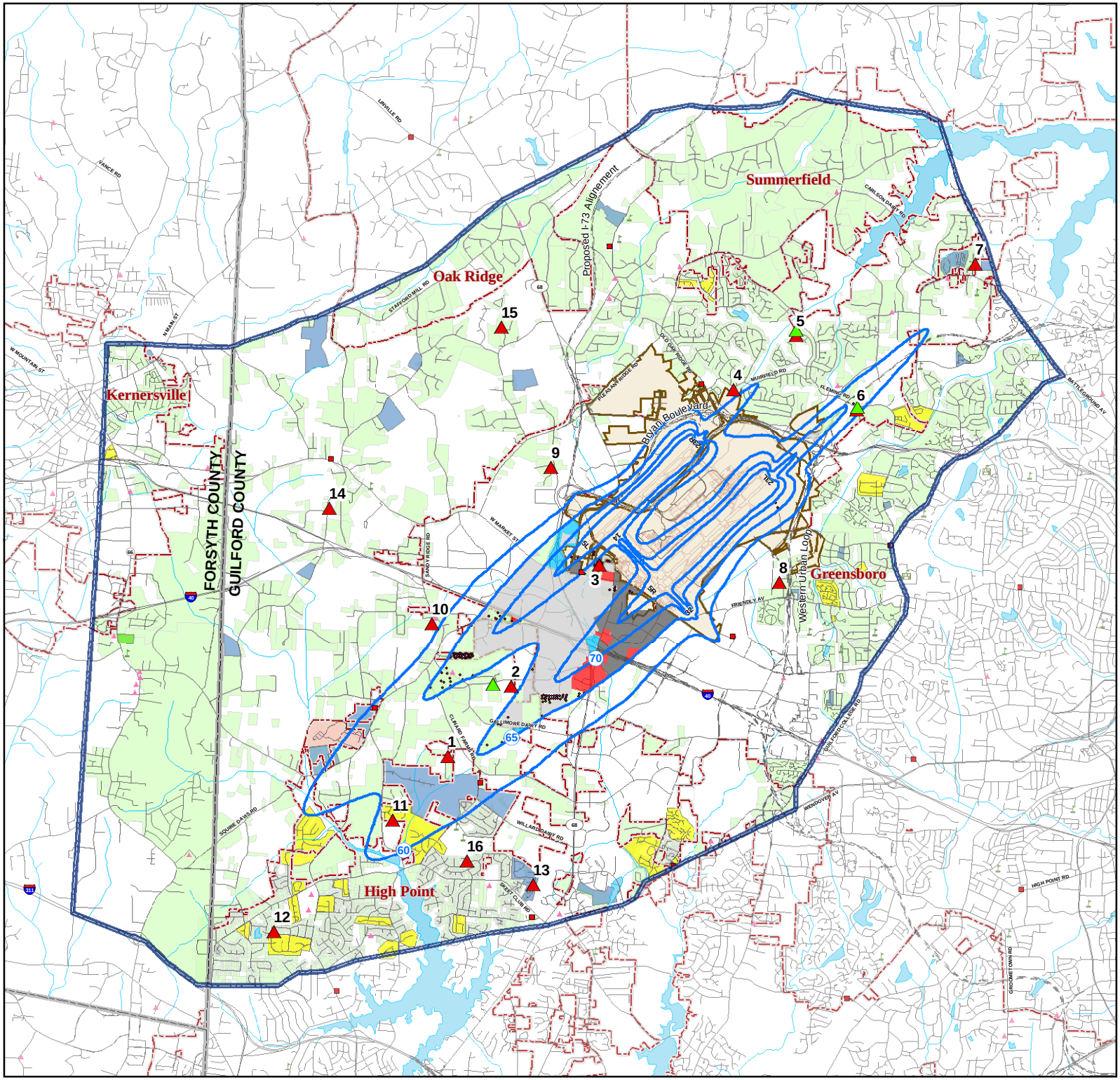
Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	0.42	0.01	0.00	0.43
Residents	6	0	0	6
Residences	2	0	0	2
Houses of Worship	0	0	0	0
Schools	0	0	0	0

Table 11 shows the numbers of aircraft operations by category for 2014. These numbers are broken down by aircraft type in the more detailed forecast in Appendix A, Table A-5. Figure 6 shows the final base case noise contours for 2014 (without the NCP). Table 12 shows the incompatible land uses for the base year 2014, without the NCP. The operations and the contours are based on the updated operations forecast. The extent of incompatible land use with contours in Table 12 is virtually identical to the incompatible land use in Table 6, the conditions with the preliminary contours prepared with the original operations forecast.

TABLE 11

Forecast Condition (2014) Annual Average Daily Aircraft Operations
Piedmont Triad International Airport
Based on Update Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	21.62	0.00	21.62	21.19	0.43	21.62
Commuter	77.17	12.56	89.74	71.79	17.95	89.74
Cargo – FedEx	13.06	31.81	44.88	7.09	37.79	44.88
Cargo – Other	4.35	1.37	5.72	1.91	3.81	5.72
GA	68.28	6.15	74.43	68.28	6.15	74.43
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	186.94	52.03	238.98	172.70	66.27	238.98



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- Residential Built Since 12/31/2001
- Residential Under Construction
- Agricultural/Residential Zoning

Off-Airport Landuse within DNL 65

- Agricultural/Residential
- Commercial
- Office
- Light Industrial
- Heavy Industrial
- Residences

0 4,000 8,000 12,000 Feet

DNL Contour Base Case NEM 2014

Figure 6

andrew s. harris, inc.

TABLE 12

Incompatible Land Uses (2014) Forecast A Base Case
Piedmont Triad International Airport
Based on Updated Operations Forecast

Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	2.88	0.83	0.06	3.77
Residents	334	14	0	348
Residences	117	5	0	122
Houses of Worship	0	0	0	0
Schools	0	0	0	0

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 FAA's Record of Decision (ROD) for its EIS on the airport expansion project indicated that the PTAA had committed to undertake a FAR Part 150 Study. Furthermore, the ROD indicated that the PTAA had committed to other measures to mitigate impacts of aircraft noise. These measures included: acquisition of noise sensitive land uses where DNL exceeds 70 dB; sound insulation of noise sensitive land uses where DNL is between 65 dB and 70 dB; and installation of a noise and operations monitoring system.

The EIS and associated ROD also identified head-to-head runway use as the normal mode for FedEx night operations. The head-to-head mode consists of a period of landings in one direction (on runways 5L and 5R) followed by a period of departures in the opposite direction (from runways 23L and 23R). The head-to-head operating mode minimizes taxi times to and from the FedEx facility that will be between runways 5L/23R and 5R/23L at the northeast end of PTIA. The head-to-head operation also minimizes overflight of the residential areas to the north of PTIA by night FedEx operations. Minimization of

overflights of this residential area significantly reduces the number of residences and the number of residents exposed to significant levels of aircraft noise.

There are certain conditions existing at this airport that distinguish this study from most Part 150 programs: (1) the noise of greatest concern is associated with a future change in aircraft activity, not a current condition; (2) an operational procedure (head-to-head operations at night) introduced in the EIS will significantly reduce the noise exposure in the nearest residential development to the northeast of the airport; and (3) local land use planning has helped to limit dense residential development immediately to the southwest of the airport on the extended centerline of the new runway.

The Part 150 Study considered a broad range of measures to reduce potential impacts of aircraft noise on surrounding neighborhoods, including both the neighborhoods to the northeast of the airport and north High Point. But because of the head-to-head operations established by the ROD and good planning to the southwest of the airport, the Part 150 Study began with important measures planned or already in place.

The NCP for PTIA consists of a set of measures to reduce the impacts of aircraft noise in the vicinity of PTIA and to avoid potential new noise impacts. The measures come from four categories of action: 1) measures involving the plan of the airport; 2) measures involving use of the airport and use of the surrounding airspace; 3) measures involving land use; and 4) measures involving noise program management.

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.

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. [3]

3.2 DEVELOPMENT OF THE NOISE COMPATIBILITY PROGRAM

The NCP for PTIA was developed for the PTAA by the study consultants with continuing consultation with three Advisory Committees and continuing coordination with PTAA personnel. The Advisory Committees were as follows: (1) a Citizens Advisory Committee; (2) a Government Advisory Committee; and (3) a Users Advisory Committee. Meetings with the Advisory Committees were quarterly beginning in June 2004 and concluding in January 2006.

Development of the NCP for PTIA was an iterative process. Each step in the process consisted of an analysis by the study consultants that was presented in an informal report circulated to the three Advisory Committees and discussed during meetings of the committees. The discussions provided input to the next phase of NCP development. The Advisory Committees are one element of the Public Involvement Program for the PTIA FAR Part 150 Study. Appendix C presents the record of the Public Involvement Program and includes detailed descriptions of all elements of that program.

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 PTIA 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.

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

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.

An NEM and the NCP focus on two periods, the year when the Part 150 documents will be submitted (in this case, 2006) and a future year at least 5 years later. The year 2011 was initially chosen as the official forecast year in this study because at the time this study began the FAA required a future year that was exactly 5 years after the year of submission. However, FAA procedures were changed during the course of the study to allow an airport sponsor to forego the 5th-year analysis and plan for a later forecast year when that is appropriate for a specific airport. A decision was then made to adopt 2014 as the forecast year for this study. Planning for the year 2014 will be beneficial for the community. The noise contours for 2014 reflect the noise from full operation of the FedEx hub, which is not expected to reach full operation until that year. In addition the 2014 contours encompass the entire area of the noise contours for 2011, and therefore measures that address potential noise impacts in 2014 will also address any issues existing in 2011. It should be noted that even though 2014 is the planning year for this study, most measures included in this NCP will go into effect upon its approval by the FAA, and will be in place at the expected beginning of hub operations and the opening of the new runway 5L/23R in 2009. Measures that apply to runway use and flight corridor use will go into effect upon operation of the hub and opening of the new runway. It should also be noted that the regulations under FAR Part 150 will require that the NEM and NCP be updated as of 2011 to keep the FAR Part 150 program for PTIA current. Under FAR 150.21(d), an update to the NEMS might be required, under certain circumstances, in the event of changes in airport operations that are not reflected in the NEMs.

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 three-part format is used in this document for the discussion: (1) identification of the measures considered for the NCP; (2) discussion of each measure recommended for the NCP and why it was included (3) discussion of each rejected measure and why it was not recommended for the NCP. Measures that are proposed for inclusion in the NCP are covered by this chapter. The rejected measures are the subject of Appendix B. All discussions identify the benefits and costs of measures proposed as part of the NCP. Discussions of the measures proposed for the NCP identify implementation issues as well.

3.2.1 Selection of Measures for Inclusion in the NCP

The selection of measures for the PTIA NCP comprised several steps. Initially, the project consultants identified a series of measures that addressed the full range of potential measures. During March 2005, the consultants submitted a list of 14 potential measures to the three committees for review and comment. Based on committee comments, two measures were added to the list of potential measures. (The measures added were providing sales assistance for owners of residential property where DNL exceeds 65 and publication of noise contours below DNL 65.) In preparation for the June 2005 committee meetings, the study consultants evaluated potential benefits of the 16 measures and submitted a "Review of Measures for the Noise Compatibility Program." As part of the review, the consultants recommended that 13 measures be further refined for potential inclusion in the NCP. During and after the June meetings, several committee members recommended that measures be developed to reduce or eliminate 727 operations at PTIA and that further consideration be given to inclusion of barriers to reduce levels of departure noise at the northeast end of PTIA. In preparation for the September 2005 meetings of the Advisory Committees, the consultants continued to refine the measures recommended for further consideration, undertook further analysis of noise barriers and evaluated two potential measures to reduce or eliminate 727 operations at PTIA.

As a result of the discussions at the September meetings and further analysis by the project consultant, a revised list of proposed measures was presented at the final (January 2006) meetings of the Advisory Committees. This proposed NCP reflects the discussions at those meetings as well as subsequent comments and analysis.

Table 13 lists the measures that are recommended for inclusion in the NCP along with those that have been considered and rejected. The recommended measures are classified in the four general categories that have been used throughout this study and are designated by three common abbreviations: "NA" for Noise Abatement Measures, "LU" for Land Use Measures and "NM" for measures involving Noise Program Management. As noted above, full discussions of all measures in Table 1 are presented in this document. Discussions of measures included in the NCP are in the remaining sections of this Chapter, each concluding with the proposed text of the recommended measure or measures proposed in that section. Discussions of measures that were considered but that are not recommended for inclusion in the NCP are in Appendix B.

Table 13
Noise Mitigation Measures Examined in the Part 150 Study

MEASURES	
No.	**Measures Proposed for the NCP**
	Airport Plan
NA-1	Evaluate Noise Barriers at Sites of Future Airport Facilities
	Airport and Airspace Use
NA-2	Preferred Night Runway Use
NA-3	Night Runway Use Assignments
NA-4	Southbound Departure Corridor from Runway 23L
NA-5	Departure Procedures from Runway 23R
NA-6	Night Northbound Departure Corridor from Runway 23L
NA-7	Original Measure now Included in NA-5
NA-8	Departures from Runway 5L
NA-9	Departures from Runway 5R
NA-10	Restrictions on Use of APUs
NA-11	Noise Abatement Departure Profiles
NA-12	Noise Abatement Approach Procedures
NA-13	Altitude for Downwind Legs
	Land Use
LU-1	Acquire Noise-Sensitive Properties where DNL Exceeds 70 dB
LU-2	Sound Insulate Noise-Sensitive Structures where DNL Exceeds 65 dB
LU-3	Purchase Noise Easements where DNL Exceeds 65 dB
LU-4	Other Assistance for Owners of Residential Properties where DNL Exceeds 65 dB
LU-5	Pursue Compatible Use Zoning where DNL Exceeds 65 dB
	Noise Program Management
NM-1	Establish a Noise Monitoring Function at PTIA
NM-2	Publish Noise Contours for DNL 60 and above
NM-3	Install and Operate Aircraft Noise and Operations Monitoring System
	Rejected Measures
	Airport Plan
-	Noise Barriers North End of Runways
-	Change Location of Runway 5R/23L
	Airport and Airspace Use
-	Daytime Use of Runway 5L/23R
-	Restrict Use of Aircraft Based on Noise
-	Landing Fee Surcharge Based on Noise

3.2.2 Operations Forecasts Used in this Chapter

As pointed out in Section 1.2 of this document, the Operations Forecast that was used in this Part 150 study was updated in 2006. Where comparisons are made among alternative measures in this Chapter based on the resulting noise contours, those contours were prepared in accordance with the Original Operations Forecast for 2014 referred to in Section 1.2. However, the proposed NEM presented in Section 3.7 (Final Exposure Map with the NCP) was prepared in accordance with the Updated Operations Forecast. The Updated Operations Forecast is set out in Appendix A. As stated in Section 1.2, the differences between the two forecasts are very minor and the analyses prepared under the Original Operations Forecast continue to provide a valid basis for comparing alternatives measures for inclusion in the NCP.

3.3 MEASURES INCLUDED IN NCP INVOLVING AIRPORT PLAN

One measure involving the airport plan is included in the NCP, Noise Barriers at the Sites of Future Ground Operations.

3.3.1 Evaluate Noise Barriers at Sites of Future Ground Operations

This measure involves consideration of noise barriers to reduce noise levels in the community around PTIA from activities on aircraft ramp areas. To be effective, the barrier must be near to the source of the sound or near to the receiver of the sound and must be tall enough to break the line of sight between the two. Potential use of barriers or berms was considered at the FedEx site and at other airport locations.

FedEx Ramp Operations. Ramp activities at the new FedEx facility, including taxiing and idling aircraft and use of auxiliary power units (APUs) may be audible at nearby residences. Although 400-Hz ground power will be used at the facility, APUs still may be used for engine start, systems testing, or for quick turnarounds. In addition, aircraft will taxi on and off of the ramp and may idle while waiting in queues. However, a review of the FedEx site plan indicates that portions of Old Oak Ridge Road (as relocated) will run along the northern boundary of the site at an elevation approximately 20 feet above the level of the aircraft apron on the site. The embankment of those portions of the road that break the line of sight between noise sources on the ramp and noise sensitive land uses would serve as a noise barrier in reducing the ground noise originating from the northern edge of the site. The buildings on the site, which lie to the west of the aircraft apron, will also act as a barrier.

Other Operations. TIMCO currently operates a major third-party maintenance facility at PTIA. The loudest current operations at the TIMCO facility are aircraft maintenance engine run-ups. In addition to run-ups, other activities at the TIMCO site include aircraft taxiing, idling, and use of APUs. Other operators also conduct engine run-ups from time to time at PTIA. TIMCO already has a dedicated run-up barrier at one of its hangers that is available

for its use. In addition, PTAA has a voluntary plan in place for restricting the nighttime run-ups that may be conducted by TIMCO and other operators.

While ramp activities such as those at TIMCO may be audible at some times at off-airport locations, they do not increase off-airport DNL. For this reason, no specific barriers are recommended in this NCP but it would be appropriate for the PTAA to evaluate whether future facilities that might add on-airport noise sources should incorporate design elements (such as building location and noise-barriers) to control off-airport noise exposure from on-airport activities. Such barriers could be part of negotiations between the PTAA and potential tenants.

The benefits and costs of these barriers cannot be estimated at this time since it is not proposed that the NCP compel installation of any particular barrier. Rather, it is proposed that the measure in the NCP be a policy, adopted by the PTAA, to consider potential benefits of barriers on a case-by-case basis and to negotiate construction of barriers with individual PTAA tenants where appropriate. Decisions about barrier installation would then be based on mutual agreement between the PTAA and the tenant.

Tree Barriers. Although a thin bank of trees does not act as noise barrier, large forested areas do provide noticeable noise reduction. PTIA has large areas with densely-growing trees. There are currently no areas where it would be appropriate to consider planting new trees as a noise control measure. Nonetheless, planning for construction of the new runway and the FedEx sorting facility has included consideration of the potential to retain forested areas and to plant new trees where they would not obstruct necessary line-of-sight for FAA Air Traffic Control.

Proposed Measure NA-1

Evaluate Noise Barriers at Sites of Future Airport Facilities. Under this measure, the Piedmont Triad Airport Authority (PTAA) would adopt a policy to evaluate potential benefits of noise barriers to control off-airport noise levels from future airport facilities. The policy would commit the PTAA to work with tenants to have the tenant install noise barriers if the PTAA considers the use of a barrier appropriate.

3.4 MEASURES INCLUDED IN NCP INVOLVING AIRPORT AND AIRSPACE USE

Several mitigation measures were considered that involve airport and airspace use. The following measures are recommended for inclusion in the NCP.

3.4.1 Preferential Runway Use

In the context of noise abatement, a preferential runway use program establishes a plan of runway use that reduces noise impacts while retaining airport capacity. Preferential runway use can provide significant benefits to the communities near an airport. A number

of preferential runway use alternatives have been analyzed over the course of this study to see whether additional decreases in the residential population exposed to aircraft noise in excess of 65 can be achieved. During the analysis, changes in runway use have been combined with changes in flight corridors to explore potential benefits from combinations of the two measures. Various aspects of runway use have been considered: head-to-head operations; daytime use of runway 5R/23L; and night use of runway 5R/23L; and, night use of runway 5L/23R. Head-to-head operations and the night-time runway usage patterns are discussed in this section as is monitoring of runway use.

Head-to-Head Operations. The design of a preferential runway program for PTIA was developed during planning for the FedEx hub and Runway 5L/23R. The program is based on head-to-head operations during nighttime operation of the hub. The preferred operational mode for the hub is arrivals on Runways 5L and 5R and departures on Runways 23L and 23R. In this mode, aircraft land toward the FedEx hub and depart in the opposite direction. This pattern of runway use optimizes use of the hub by minimizing taxiing after landings and before takeoffs. The resulting use of airspace to the southwest of the airport also minimizes overflight of the most densely populated area near the airport, which is the residential area to the northeast of the new runway. According to the EIS, the use of the head-to-head mode, when allowed by wind conditions, will result in approximately 95 percent of the hub operations occurring southwest of PTIA, subject to variations from season to season and year to year.

Because head-to-head operations during the night were assumed in the EIS, this study assumed head-to-head operations during the night as a given condition. In addition, as discussed in Chapter 2, the noise analyses in this study are based of Forecast A, which includes 727s in the forecast fleet. As described in Chapter 2, the 2014 Base Case assumed the same runway use and flight corridor use as the EIS. These conditions were as follows: (1) head-to-head operations; and (2) equal use of both runways by each FedEx jet aircraft type. The EIS did not attempt to identify the optimal combination of runway use and flight corridor use. Rather, the EIS left that task to this Part 150 study. Alternative combinations of runway use and flight corridor use by departures from runways 23L and 23R are examined under the next section, "Noise Abatement Flight Corridors". For that analysis, the 2014 Base Case is called Alternative 1.

Runway Use by the FedEx Fleet as a Whole. Several committee members suggested that as many as possible of the FedEx night operations use Runway 5R/23L, because this runway is currently being used for most operations. This concept was also considered in the EIS for the initial phase of the FedEx operation. It would be feasible to consider such a procedure when the FedEx facility is running below full capacity. Other committee members have suggested just the opposite, that most FedEx night flights use runway 5L/23R. However, since it will be necessary to use both parallel runways during Phase II of the FedEx hub, when it is fully built out and operating at a high level of flights, equal use of both runways will be required and it will not be feasible to assign a greater number of aircraft to one runway or the other. This condition was assumed for 2014. However, as discussed below, assignments of the 727 aircraft (with an offsetting number of non-727s assigned to the opposite runway) were evaluated during preparation of the NCP.

Runway Use by 727 Aircraft. Although the EIS adopted head-to-head operations and specified that the preferred mode of operation was to land on runways 5L and 5R and to depart on runways 23L and 23R, the EIS did not establish any other program of runway use. In order to build on the benefits achieved through head-to-head operations, careful consideration has been given in this Part 150 Study to the potential benefits of additional runway preferences, particularly for any 727 aircraft that remain in the FedEx fleet through 2014.

There is not a great difference between the landing noise levels of the different types of FedEx jet aircraft. Therefore there is no reason to establish a runway preference for aircraft arrivals either for 727 aircraft or other aircraft types. However, noise levels from departing 727 aircraft are higher than from other FedEx aircraft. For this reason, potential benefits can be achieved by establishing runway assignments for the departures of any 727 aircraft that remain in the FedEx fleet.

Runway Use for Runway 23L and 23R Departures. When FedEx aircraft are departing on runways 23L and 23R, departing 727 aircraft should be directed to the runway leading to the lowest impact flight corridor. Because these runway use assignments are influenced by the choice of flight corridors, they are discussed in the next section (Section 3.4.2), dealing with departure corridors, rather than in this section, and the proposed runway use measures for runways 23L and 23R are presented in the next section.

Runway Use for Runway 5R and 5L Departures. During the nights when departures must occur on runways 5R and 5L (to the northeast), it is recommended that 727 aircraft be directed exclusively to runway 5R, and that no 727 aircraft depart on runway 5L. An offsetting number of non-727 aircraft would be directed to runway 5L to maintain balanced use of the runways. This recommended runway use for departing 727 aircraft will direct 727 departures away from the residential areas immediately to the northeast of runway 5L and towards the established flight corridors for runway 5R. As a result, the residential areas to the northeast of runway 5L would not experience direct overflights by 727 departures. This recommended runway use will not result in any increase in population exposed to DNL 65 or greater and is incorporated in recommended Measure NA-3, which is set out in Section 3.4.2. All of the additional mitigation measures discussed in succeeding sections assume that this measure will be followed on the nights when departures occur in the runway 5 direction.

Monitoring Runway Use. As is the case with all measures in the NCP, the runway use program would be proposed by the PTAA. Implementation of the runway use program will be the responsibility of the FAA Air Traffic Control Tower (FAA ATCT) at PTIA. Although the final decision about runway use rests with the pilot, FedEx has agreed to comply with all measures in the NCP. Personnel of the PTAA would monitor use of the runways. Contemporary noise and operations runway systems (NOMS) can monitor runway use and prepare records essentially automatically. (See Measure NM-3 regarding monitoring.) Runway use records could include detailed information about the aircraft types using each runway. Thus, the records could reflect not only usage of head-to-head procedures, but also records of runway use by specific aircraft types. The PTAA personnel

running the NOMS could report FedEx operational information from the NOMS directly to FedEx. This would facilitate compliance with the runway use program.

3.4.2 Noise Abatement Flight Corridors

Aircraft using an airport fly over various parts of the surrounding community during arrivals and departures. The areas in which these flights occur are called "flight corridors." Flight corridors modeled during development of the EIS assumed that corridors for Runway 5L/23R would be similar to the existing corridors for Runway 5R/23L. Before the Part 150 study began, there was a significant amount of public discussion about future noise abatement procedures, including alternative flight corridors Alternative flight corridors are analyzed in this section along with related runway use assignments.

Arrival Corridors. Although arriving aircraft come from many different directions and use runway-specific arrival procedures, the areas most regularly overflown by arrivals in the vicinity of the airport are along the extended centerlines of the runways. Based on analysis of radar information obtained during 2004, aircraft arriving to existing runway 5/23 are on the extended centerline of the runway for distances ranging from as little as 2 miles to as many as 14 miles from the airport. It is anticipated that similar arrival corridors will exist along the extended centerline for new runway 5L/23R. Due to the need for aircraft to arrive on a runway heading, there is little flexibility for altering these corridors. When aircraft are arriving on both parallel runways, the FAA will achieve adequate separation of aircraft through timing of arrivals and through assignment of different initial approach altitudes. See Section 3.4.5, "Noise Abatement Approach Procedures," for a further discussion of proposed approach procedures for jet aircraft.

Criteria for Departure Corridors. There are a number of factors which must be considered in establishing appropriate flight corridors for PTIA:

- The parallel runways must be capable of dual, simultaneous operations. This is the principal purpose for which the FAA approved the construction of runway 5L/23R.

- There must be a minimum of 15 degrees separation in the initial headings of aircraft departing on the two runways. Greater degrees of separation may be used if the resulting corridors produce particular benefits, such as reduced noise exposure in noise sensitive areas.

- As pointed out above, the effect of alternative measures must be evaluated in light of the residences and population exposed to DNL 65 or above, under the various alternatives, which is the basic criterion used by the FAA to determine noise exposure. If the exposure to DNL 65 is similar, secondary benefits should be considered in comparing alternative measures.

Proposed departure corridors must take into account the directions the aircraft are headed. The most reliable information on this point comes from the EIS, which used the following breakdown for the initial departure directions of

FedEx aircraft to model Phase II of the hub: 43.5% to the southwest; 34.3% to the south; and 22.2% to the north. The EIS breakdown was used in all of the modeling presented in this NCP.

Aircraft Departures from Runways 5L and 5R. At this time, aircraft generally make an early turn from runway bearing on departure from runway 5 (which will be redesignated runway 5R). The right-hand turn is about 15 degrees from the extended runway centerline. Since this procedure is in place and would achieve adequate separation when simultaneous departures are occurring on runway 5L, it is appropriate to retain the current procedure when the new runway is placed in use. Then, any aircraft departing from the new runway, runway 5L, may remain on the extended runway centerline of runway 5L[4]. This is the preferred departure path for runway 5L because fewer residences lie under the extended centerline than under the path resulting from a turn to the left.

According to personnel in the ATCT, an established procedure is also in place that requires aircraft making a left-hand turn on departure from existing runway 5 to delay the turn until they reach 3,000 feet MSL. This procedure reduces noise exposure in the Cardinal area (which lies to the west of the extended center line of runway 5) because the left-hand turn is delayed until the aircraft have either passed beyond the Cardinal area or have attained a substantial altitude. It is recommended that this restriction remain in place for departures on existing runway 5 and that a comparable restriction apply to aircraft departing on runway 5L that would require such aircraft to delay any turn from runway bearing until they have reached 3,000 feet MSL. These measures will keep the existing procedure in effect and help to limit noise exposure within the Cardinal area.

It was suggested by several members of the Advisory Committees that departures on runway 5L at night (anticipated only during those weather conditions that require both arrivals and departures to the northeast) turn right, away from the neighborhoods to the northeast of runway 5L (the Cardinal area) to intercept and follow the departure corridor for runway 5R. While such a turn might be feasible, it would create airspace conflicts with aircraft departing from runway 5R and reduce the capacity of the airport. Furthermore, the turn might be counterproductive since it would typically occur over the Cardinal area rather than avoid it. For these reasons, this procedure was not recommended. Rather, as described above in the discussion of preferential runway use, it is proposed that 727 aircraft use runway 5R on these nights. On those nights, equal numbers of departures should occur on runways 5L and 5R, with only the new-technology, quieter jets using 5L and a mixture of 727s and new-technology jets using runway 5R. As pointed out above, the requirement for 727s to depart from runway 5R is assumed in all mitigation alternatives presented in the NCP.

Significance of the Base Case (Alternative 1). As pointed out above, one of the unique aspects of this Part 150 Study is that it looks ahead to a future activity involving a new runway and hub facility for which there are no established operating procedures other than the head-to-head runway use prescribed in the EIS. For purposes of its noise analysis, the

[4] The basic pattern of use anticipated for runway 5L/23R during head-to-head operations is with landings on runway 5L and departures on 23R. Departures from runway 5L will occur infrequently as described elsewhere in this document.

EIS also assumed equal use of the runways by all aircraft types and for all departure destinations. These same assumptions are reflected in the
Base Case described in the preceding sections of this study. However, the EIS did not attempt to analyze how these assumptions might work in practice or to adopt these assumptions as actual operating procedures. Instead, it was left up to this study to evaluate these and other procedures from the standpoint of both operating efficiency and noise impact and then to determine how best to implement the head-to-head runway use concept. For this reason, the Base Case will be regarded in this section as merely one of several options that requires its own justification rather than as an established practice that the other alternatives are measured against. It is referred to in this section as "Alternative 1." The other alternatives are described below.

Aircraft Departures on Runways 23R and 23L. Several alternative runway use patterns and departure corridor configurations were analyzed for aircraft departing from runways 23L and 23R, consisting of the Base Case (that shall be numbered as Alternative 1 for purposes of this discussion) and seven additional alternatives (Alternatives 2A, 2B, 2C, 2D, 3A, 3B and 3C) described in greater detail below.

Base Case (Alternative 1). The 2014 Base Case Contours assumed equal use of runways 23L and 23R for all departure corridors and all aircraft types. In addition, the 2014 Base Case Contours assume that departure corridors from 23L are identical to existing departure corridors, and that the departure corridors for 23R are as follows: (1) the southwest corridor is similar to the existing corridor for 23L with an initial 15 degree turn to the right for separation and subsequent turns to reach the initial departure fix; (2) the south corridor is similar to the existing corridor for 23L with an initial 15 degree turn to the right for separation and subsequent turns to reach the initial departure fix; and (3) the north departure corridor is based on a corridor currently used by some departures from runway 23L that is similar to the main northbound corridor for 23L, but with a right turn from the runway heading instead of a left turn. The DNL contours for the Base Case alternative are shown in Figure 2 (Forecast A), which is set out in Section 2.1.2. As shown on Table 14, 121 residential structures and a residential population of 351 are exposed to DNL in excess of 65 dB under the Base Case.[5]

Additional Alternatives. Potential noise abatement benefits of other patterns of runway use and other departure corridors were also evaluated. These consisted of two additional alternatives for runway use and three variations in departure corridors, as follows:

- **Alternative Runway Use Patterns.** The additional alternatives for runway use consisted of two sets of runway assignments for the 727s. Alternative 2 places all 727 departures on runway 23R. Alternative 2 was considered potentially beneficial because there is less residential development in the departure corridors for 23R than for 23L. Alternative 3 places 727 departures to the south and southwest on runway 23R and 727 departures to the north on runway 23L. This alternative was suggested during the September meetings of the Advisory Committees because the northbound corridor for departures from runway 23L has relatively little residential

[5] As stated above, the contours used to determine noise exposure in this section are based on the original operation forecast (see section 1.2).

development. In all variations of Alternatives 2 and 3, non-727s are distributed between the two runways to assign equal numbers of FedEx aircraft to each runway.

- **Alternative Departure Corridors** Three alternative sets of departure corridors were considered: (1) Alternative A used the same departure corridors as Alternative 1, with dispersion of the flight tracks within each corridor reflecting the conditions observed in August 2004. (2) Alternative B involved reducing the width of each corridor by placing all flights on the 3 flight tracks (of 8) with the tightest turn radii observed in August 2004; and (3) Alternative C involved reducing the width of each corridor, as in Alternative B, and also relocating the southbound corridor for nighttime departures from runway 23L so that it passes to the east of and parallel to the southbound path of NC Route 68. The potential benefit of narrowing a departure corridor (alternative B) is that it reduces the area overflown and tends to reduce the number of people exposed to higher levels of aircraft noise. It also causes aircraft that are turning off runway heading to initiate the turn as soon as practicable off the runway end. The potential benefit of the new departure corridor along NC Route 68 (Alternative C) comes from the fact that the portion of Route 68 nearest PTIA has a mixture of commercial and industrial land uses and few residences. Furthermore use of this departure corridor reduces the number of people who are exposed both to overflights from arrivals to runway 5R and then from southbound departures on 23L.
- **Combinations.** The combinations of two runway preferences for 727s (Alternatives 2 and 3) and three alternative flight corridors (Alternatives A, B and C) produce six variations (2A, 2B, 2C, 3A, 3B and 3C) that were evaluated in this study, along with the Base Case, to determine the best proposal for managing FedEx nighttime operations at PTIA. A final alternative involving daytime use of the Route 68 corridor (Alternative 2D) was also considered at the request of the Advisory Committees, as discussed below.

Alternative 2A – Alternative 2A has all FedEx 727s departing from runway 23R. Non-727 aircraft departing to the southwest and a portion of non-727 departing north use runway 23R. All other non-727 departures use runway 23L. The DNL contours for this alternative are in Figure 7. As shown on Table 14, 144 houses and a residential population of 411 are exposed to DNL is excess of 65 dB under Alternative 2A.

Alternative 2B – Alternative 2B is like Alternative 2A except for concentration of flight tracks. It has all FedEx 727s departing from runway 23R. Non-727 aircraft departing to the southwest and a portion of non-727 departing north use runway 23R. All other non-727 departures use runway 23L. The width of flight corridors is reduced to the three flight tracks with tightest turn radii. The DNL contours for this alternative are in Figure 8. As shown in Table 14, 128 residential structures and a residential population of 366 are exposed to DNL in excess of 65 dB under Alternative 2B.

Alternative 2C – Alternative 2C is like Alternative 2B except for relocation of the southbound departure corridor from runway 23L. It has all FedEx 727s departing from runway 23R. Non-727 aircraft departing to the southwest and a portion of non-727

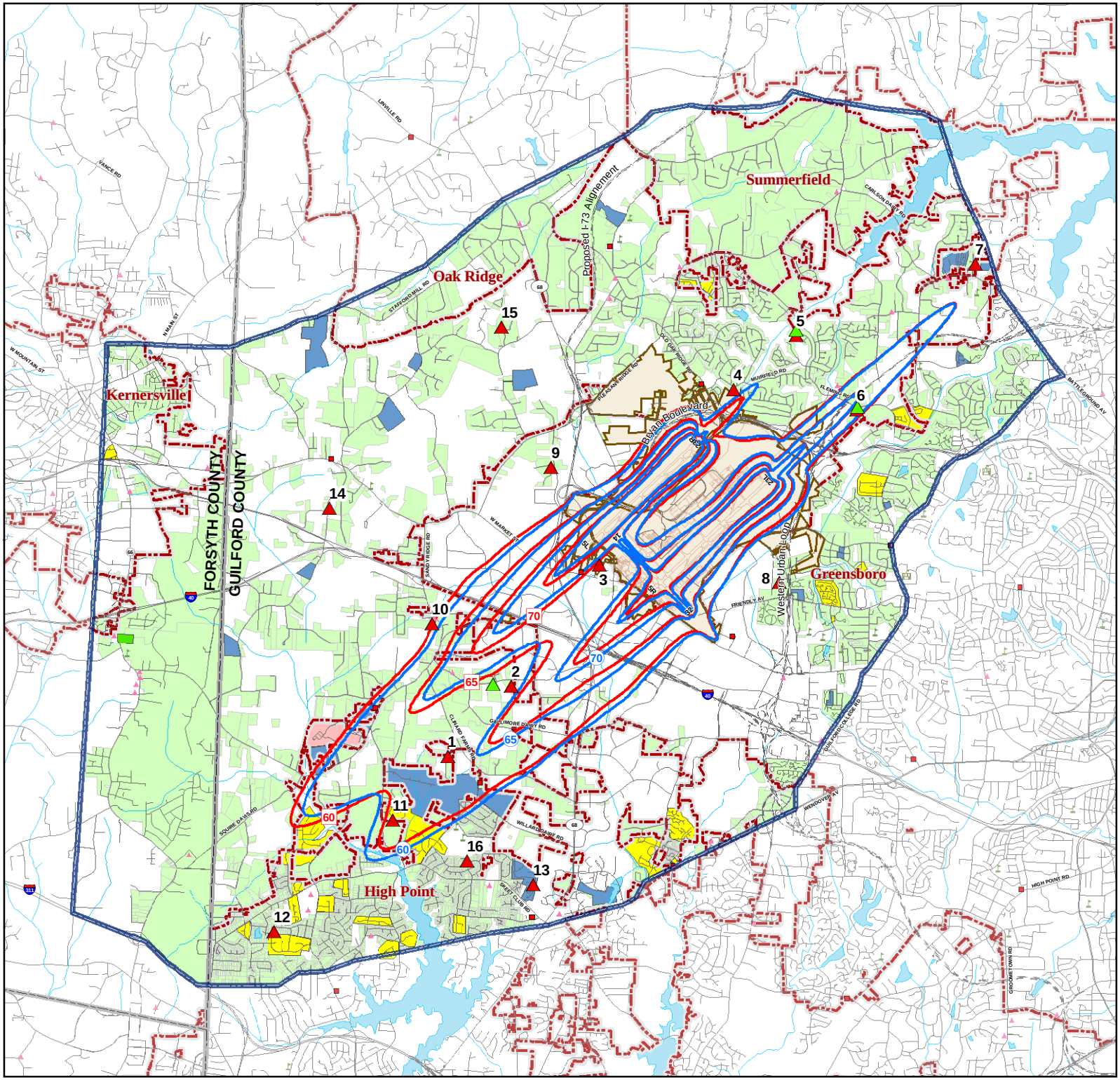
departing north use runway 23R. All other non-727 departures use runway 23L. The width of flight corridors is reduced to the three flight tracks with tightest turn radii and the southbound nighttime corridor from runway 23L is relocated to the east so that it passes to the east of and parallel to the southbound path of NC Route 68. The DNL contours for this alternative are in Figure 9 As shown in Table 14, 123 residential structures and a residential population of 347 are exposed to DNL in excess of 65 dB under Alternative 2C.

Table 14

Numbers of Residential Structures and Residential Population under Alternative Scenarios
Based on Original Forecast

Figure	Scenario	Residential Structures				Residential Population			
		DNL 65	DNL 70	DNL 75	All	DNL 65	DNL 70	DNL 75	All
2	Base Case (Alt 1)	116	5	0	121	337	14	0	351
4	One-Way	316	8	0	324	821	22	0	843
7	Alternative 2A	132	12	0	144	377	34	0	411
8	Alternative 2B	117	11	0	128	336	30	0	366
9	Alternative 2C	113	10	0	123	320	27	0	347
10	Alternative 2D	115	10	0	125	320	27	0	347
11	Alternative 3A	128	9	0	137	368	25	0	393
12	Alternative 3B	121	10	0	131	349	28	0	377
13	Alternative 3C	115	10	0	125	331	28	0	359

Note: All residential structures within the contours for the various alternatives are single family houses.



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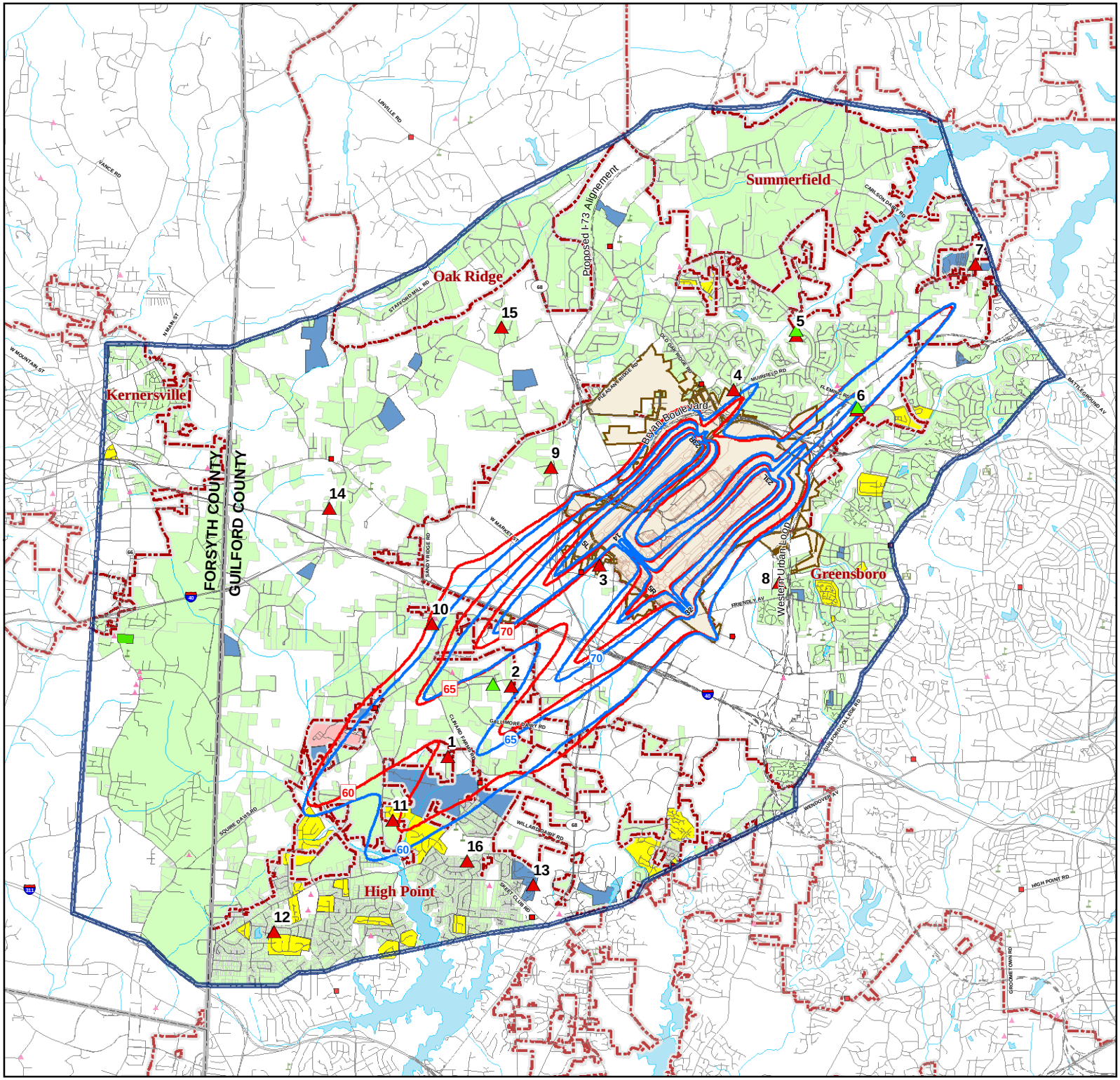
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 2A

Figure 7

andrew s. harris, inc.



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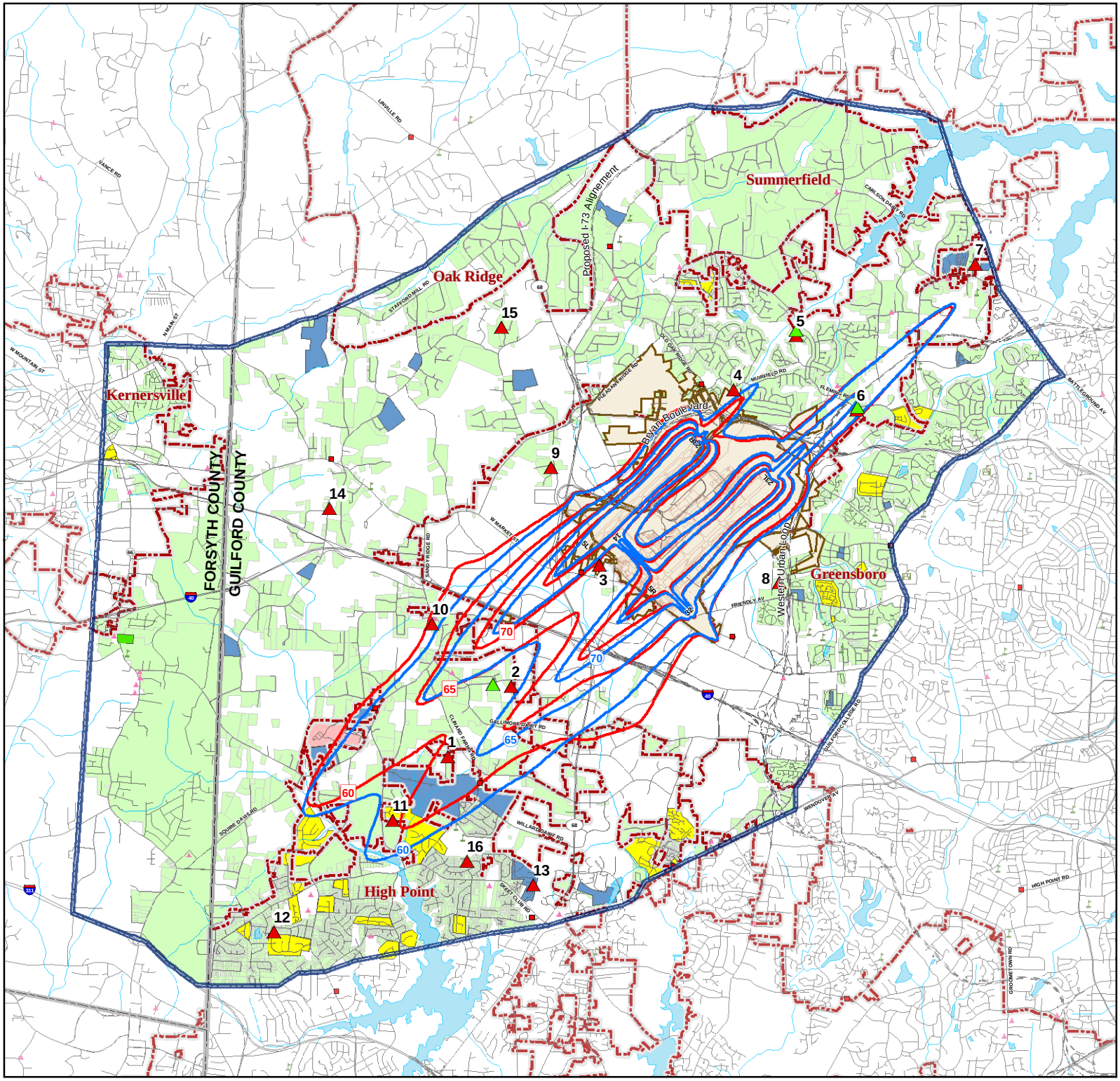
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 2B

Figure 8

andrew s. harris, inc.



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0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 2C

Figure 9

andrew s. harris, inc.

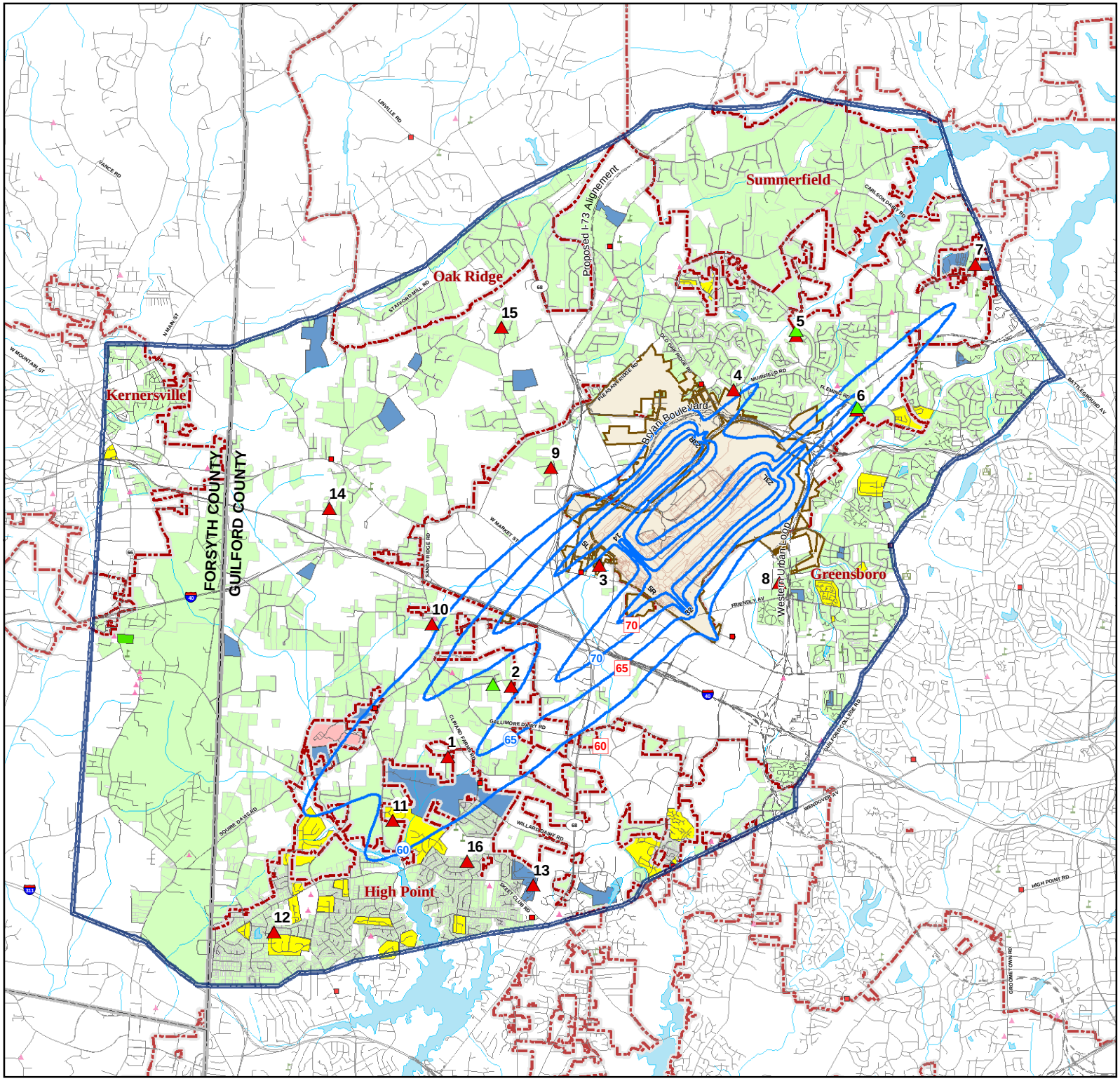
Alternative 2D – Alternative 2D is identical to Alternative 2C except that aircraft departing southbound from runway 23L use the Route 68 corridor at all hours, not just during the nighttime . The DNL contours for this alternative are in Figure 10. As shown in Table 14, 125 residential structures and a residential population of 347 are exposed to DNL in excess of 65 dB under Alternative 2D, nearly the same numbers as under Alternative 2C.

Alternative 3A – Alternative 3A places 727 departures to the south and southwest on runway 23R and 727 departures to the north on runway 23L. Non-727 aircraft departing to the southwest and a portion of non-727 aircraft departing north use runway 23R. All other non-727 departures use runway 23L. The DNL contours for this alternative are in Figure 11. As shown in Table 14, 137 residential structures and a residential population of 393 are exposed to DNL in excess of 65 dB under Alternative 3A.

Alternative 3B – Alternative 3B is like Alternative 3A except for concentration of flight tracks. It places 727 departures to the south and southwest on runway 23R and 727 departures to the north on runway 23L. Non-727 aircraft departing to the southwest and a portion of non-727 departing north use runway 23R. All other non-727 departures use runway 23L. The width of flight corridors is reduced to the three flight tracks with tightest turn radii. The DNL contours for this alternative are in Figure 12. As shown in Table 14, 131 residential structures and a residential population of 377 are exposed to DNL in excess of 65 dB under Alternative 3B.

Alternative 3C – Alternative 3C is like Alternative 3B except for relocation of the southbound departure corridor from runway 23L. It places 727 departures to the south and southwest on runway 23R and 727 departures to the north on runway 23L. Non-727 aircraft departing to the southwest and a portion of non-727 departing north use runway 23R. All other non-727 departures use runway 23L. The width of flight corridors is reduced to the three flight tracks with tightest turn radii and the night time corridor for southbound departures from runway 23L is relocated to the east so that it passes to the east of and parallel to the southbound path of NC Route 68. The DNL contours for this alternative are in Figure 13. As shown in Table 14, 125 residential structures and a residential population of 359 are exposed to DNL in excess of 65 dB under Alternative 3C.

Recommended Runway Use and Flight Corridors for Runway 23L and 23R Departures -- Based on the analyses of alternatives for the runways and departure corridors used by FedEx jet aircraft, there are two alternatives that are candidates for implementation: (1) Alternative 1 (the 2014 Base Case) and ; (2) Alternative 2C. These alternatives result in virtually identical numbers of residents and residences exposed to aircraft noise in excess of DNL 65 and significantly fewer than in the other alternatives. The choice between these alternatives requires an evaluation of other factors, including a comparison of the operational efficiency of the two alternatives as well as their secondary benefits.



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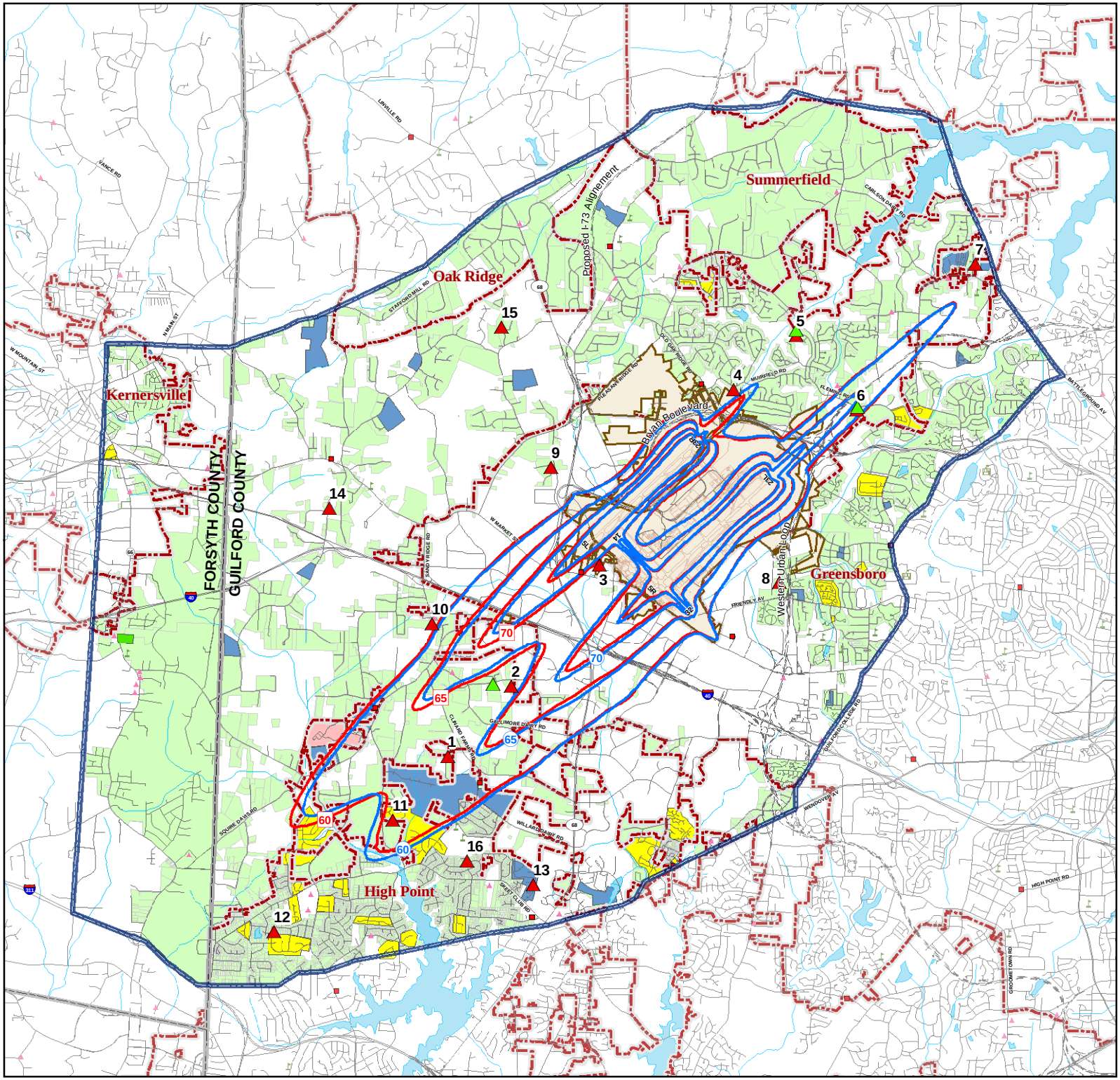
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 2D

Figure 10

andrew s. harris, inc.



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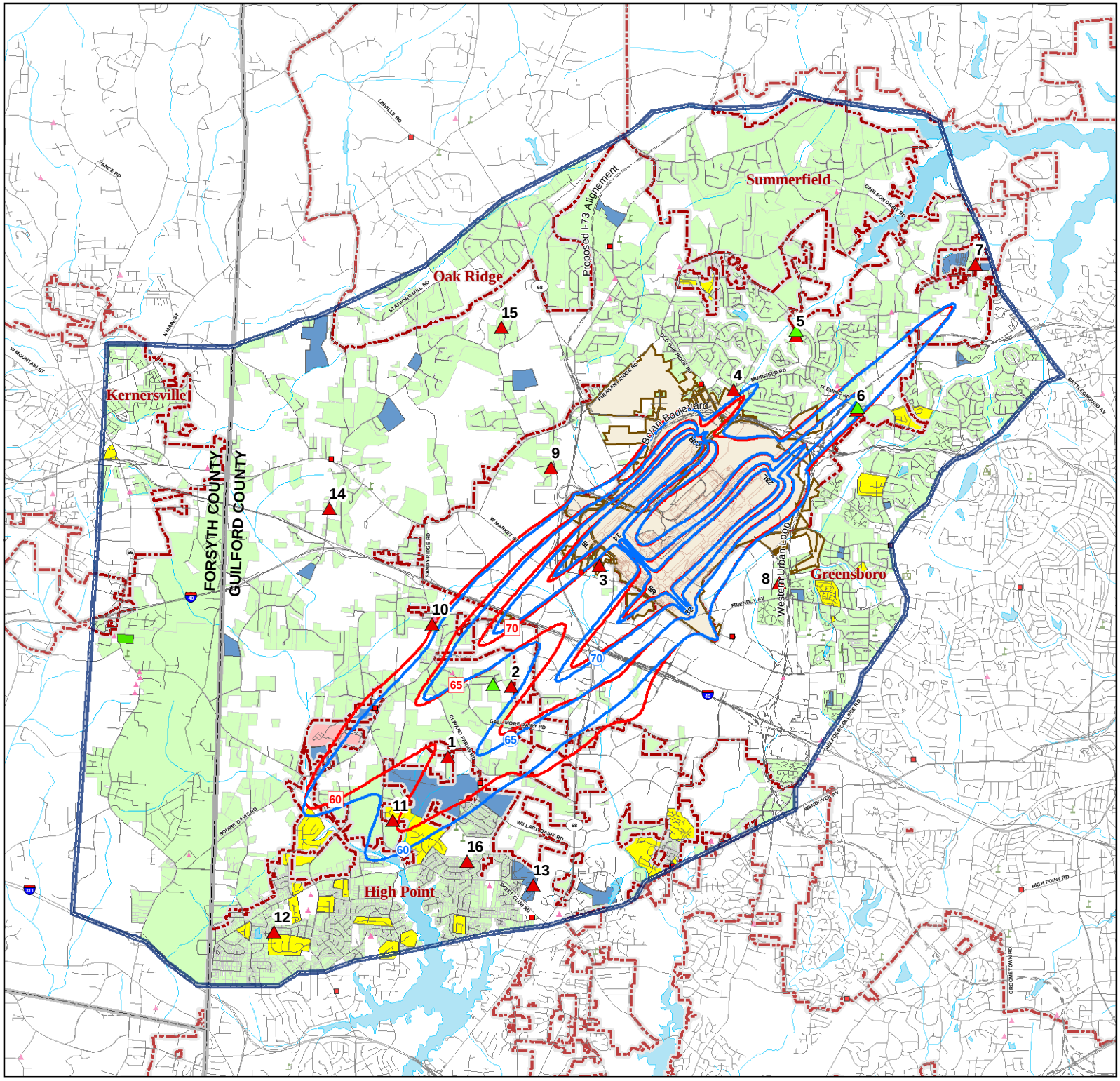
- Residential Zoning

0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 3A

Figure 11

andrew s. harris, inc.



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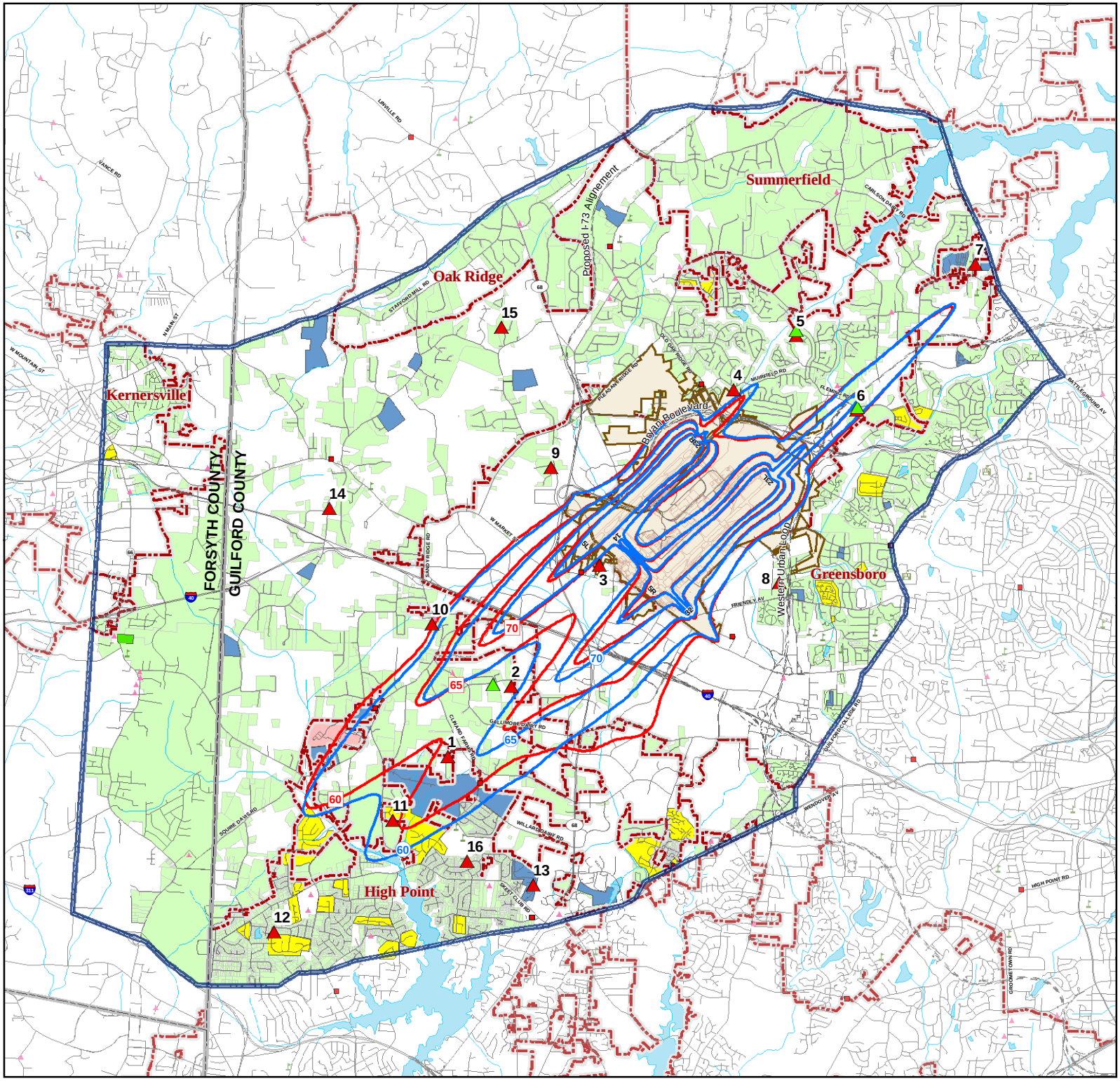
0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 3B

Figure 12

andrew s. harris, inc.



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0 4,000 8,000 12,000 Feet

DNL Contours 2014 Forecast A Alternative 1 and 2014 Forecast A Alternative 3C

Figure 13

andrew s. harris, inc.

Alternative 1 assumes equal use of runways 23L and 23R for all aircraft types and all destinations. This alternative assumes that runway assignments will alternate between 23L and 23R in sequence as aircraft are loaded and depart. Alternating aircraft between the runways based on the sequence in which they are readied for departure fails, in many cases, to achieve the most efficient runway assignments because it could result in aircraft taking a less direct route to their initial departure fix. In addition, airspace conflicts could occur between aircraft heading southwest off runway 23L and aircraft heading south off runway 23R. Therefore Alternative 1 fails to take into account operational issues that are avoided with Alternative 2C. The greatest secondary benefit of Alternative 1 is that there would not be any need to change the existing departure routes for Runway 23L nor would there be any need to alter runway assignments based on aircraft type. These benefits are offset by the lack of any procedure in Alternative 1 to reduce the area overflown by aircraft or to manage 727 departures.

Alternative 2C assumes that equal numbers of FedEx aircraft will depart from runway 23L and runway 23R. However, as described above, its bases runway assignments on two criteria: (1) aircraft type; and (2) the direction in which the aircraft is headed. Alternative 2C also incorporates refinements in the departure corridors as described above. The changes in flight corridors would require coordination with the FAA and FedEx. The greatest secondary benefits of Alternative 2C are: (1) the ease of runway use assignments; (2) reduced area overflown by aircraft; and (2) reduced number of overflights of densely-populated areas by all aircraft types. The primary negative aspect of Alternative 2C is the need to refine the departure corridors.

At the request of the citizens advisory committee, the study consultants also evaluated Alternative 2D, which is the same as Alternative 2C except that Alternative 2D uses the Route 68 corridor for daytime departures as well as night time departures. The projected noise exposure from Alternative 2D is similar to Alternative 2C. However, discussions with personnel in the ATCT revealed that the Route 68 corridor would cross one of the downwind paths for aircraft that are arriving from south of the airport to land on runway 23L. (The affected downwind path runs parallel to, and to the east of, the extended center line of the runway.) Therefore, if aircraft departed along the new route during the daytime, they would have to delay their ascent to remain below the downwind traffic. This result would be counterproductive, because the slower rate of ascent would prolong the noise exposure on the ground. To avoid the daytime conflict, the ATCT personnel recommended that the Route 68 corridor be used only at night, when there is far less downwind traffic to compete with the departing aircraft.

Table 14 shows the numbers of residences and the numbers of residents exposed to DNL 65 and greater for all 2014 alternatives. There are two other properties that require identification because of noise exposure. One house of worship (Triad Community Church, 922 Gallimore Dairy Road, High Point) is exposed to DNL between 65 dB and 70 dB for all 2014 alternatives . One property eligible for the National Historic Register (Campbell-Gray Farm, at the southwest corner of West Market Street and Regional Road in Greensboro) is exposed to DNL between 70 dB and 75 dB for all 2014 alternatives .

Based on this review of the candidates for implementation, Alternative 2C provides the best overall benefits with a clear method of operation. Therefore, the runway use and flight corridors proposed for FedEx night operations and included in the NCP are based on Alternative 2C. They are as follows:

1. During use of runways 23L and 23R, aircraft use the following procedures:
    a. All 727s depart from runway 23R using concentrated flight tracks
    b. Non-727 aircraft to the southwest depart from runway 23R using concentrated flight tracks
    c. Non-727 aircraft to the south depart from runway 23L using concentrated flight tracks in a southbound corridor relocated to the east so that it passes to the east of and parallel to the southbound path of NC Route 68
    d. Non-727 aircraft to the north are divided between runways 23L and 23R
    e. Equal numbers of aircraft use runways 23L and 23R.
2. During use of runways 5L and 5R, aircraft shall use the following procedures:
    a. All 727s depart from runway 5R
    b. Non-727 aircraft use runways 5L and 5R
    c. Equal numbers of aircraft use runways 5L and 5R
    d. Aircraft departing from runway 5L remain on runway heading until they reach an altitude of 3,000 feet MSL
    e. Aircraft departing from runway 5R delay left-hand turns from runway heading until they reach an altitude of 3,000 feet MSL.

In addition to limiting the numbers of residences and residents exposed to aircraft noise inside the noise contours, Alternative 2C has an additional benefit that is not obvious from these data. The changes in the departure corridors place departures and arrivals over different areas of the community. The areas overflown by departures and arrivals are the same on and near to the airport. However, they differ at greater distances from the airport. As a result of this fact, Alternative 2C not only limits the numbers of residences that are exposed to DNL 65 and above, but it also reduces the number of residences that are overflown by both departures and arrivals.

The procedures recommended in this section are proposed for inclusion in the NCP. The FAA ATCT will be responsible for implementation of the procedures. As with the preferential runway use program, personnel of the PTAA would monitor use of the flight corridors.

Later in this document we consider potential benefits of noise abatement departure procedures and approach procedures as methods to further reduce the impacts of departures and arrivals.

I-40 Corridor. Some of the members of the Citizens Advisory Committee proposed a departure corridor for runway 23L along the route of I-40 East, south of the airport. However, the I-40 east corridor would only have been useful for northbound traffic, but northbound traffic does not need to travel very far south of the I-40 corridor under Alternative 2C before taking a turn to the north. There is no eastbound FedEx traffic that could use the corridor. In addition, under Alternative 2C, no 727s would depart on runway

23L. Since the I-40 corridor would provide no significant benefits, no specific use of the I-40 corridor is contemplated in the NCP.

Proposed Measure NA-2

Preferred Night Runway Use. When new runway 5L/23R is available for use during nighttime hub operations, designate runways 23L and 23R as the preferred departure runways and runways 5L and 5R as the preferred arrival runways. This head-to-head pattern of runway use will be used when permitted by weather and runway conditions. To the extent feasible, equal numbers of aircraft shall use the left and right runways for arrivals. Runway use assignments for departures shall be as established by Proposed Measure NA-3.

Proposed Measure NA-3

Night Runway Use Assignments. [6] When new runway 5L/23R is available for use during the nighttime hub operations, designate the following pattern of runway use:

1. When departures are using runways 23L and 23R, designate runway 23R as the departure runway for Retrofitted Stage 3 aircraft
2. When departures are using runways 23L and 23R, the runways to be used by New Stage 3 aircraft are as follows:
    a. For all New Stage 3 aircraft departing to southern destinations, designate runway 23L as the departure runway
    b. For all New Stage 3 aircraft departing to south-western destinations, designate runway 23R as the departure runway
    c. For New Stage 3 aircraft departing to northern destinations, either runway 23L or runway 23R may be used as the departure runway.
    d. To the extent feasible, assign usage of runways 23L and 23R by New Stage 3 aircraft to northern destinations so that equal numbers of aircraft use runways 23L and 23R for night departures
3. When departures are using runways 5L and 5R, designate runway 5R as the departure runway for Retrofitted Stage 3 aircraft
4. When departures are using runways 5L and 5R, assign usage of departure runways by New Stage 3 aircraft so that approximately equal numbers of aircraft use runways 5L and 5R for departures to the extent feasible.
5. Aircraft departing on runway 23R and needing to make a transition to a more southerly heading should delay the transition until they have reached an altitude of 4,000 MSL.

[6] In this measure, 727s and all other aircraft that met the Stage 3 requirements of FAR Part 36 through retrofit or engine replacement are identified as "Retrofitted Stage 3" and aircraft that met the Stage 3 requirements of FAR Part 36 at the time of original manufacture are identified as "New Stage 3." These and other terms are defined in the Glossary in Appendix D. This measure uses these generic terms, rather than referring simply to "727" and "non-727" aircraft, to ensure that aircraft with similar noise characteristics are treated alike. 727s are the only Retrofitted Stage 3 aircraft that are projected for the FedEx fleet.

6. It is anticipated that carriers operating during the nighttime will request runway assignments that are consistent with this measure.

Proposed Measure NA-4

Night Southbound Departure Corridor from Runway 23L. Promptly after FAA approval of this measure, establish a new nighttime departure procedure for aircraft departing runway 23L for southern destinations so that the initial flightpath is in a southerly direction, east of and parallel to NC Highway 68. Departing aircraft shall initiate the left departure turn onto this flight path as soon as practicable. Aircraft may make a transition to another heading after reaching 4,000 feet MSL.

Proposed Measure NA-5

Night Departure Procedures from Runway 23R. Aircraft departing runway 23R at night and turning right shall initiate the right departure turn as soon as practicable.

Proposed Measure NA-6

Night Northbound Departure Corridor from Runway 23L. Promptly after FAA approval of this measure, establish a new nighttime departure procedure for aircraft departing from runway 23L to northern destinations to initiate a left departure turn to a northeasterly heading as soon as practicable.

Proposed Measure NA-7

In response to comments received from the FAA's Atlanta Airports District Office, Measure NA-5 was modified to address all aircraft that turn right from runway 23R. Measure NA-7 thus became redundant and was deleted. The numbering of other measures was not changed.

Proposed Measure NA-8

Departures from Runway 5L.

When runway 5L/23R is available for use, establish a procedure to delay initial turns from runway heading by aircraft departing on runway 5L until such aircraft reach an altitude of 4,000 MSL.

Proposed Measure NA-9

Departures from Runway 5R

Revise the existing procedure to delay initial left turns from runway heading by aircraft using runway 5R until such aircraft reach an altitude of 4,000 MSL.

3.4.3 Restrictions on Use of Auxiliary Power Units

Although the noise environment around an airport is dominated by the noise from takeoffs and landings, noise from taxiing and noise from other on-airport activities may be noticeable during otherwise quiet periods, particularly at night. Aircraft require power to run on-board equipment when on-board auxiliary power units (APUs) are not operating. This power can be generated on site by ground power units that also produce noise, or the power can be supplied by connection to ground electric power that does not. Ground electric power can be used for all functions except for engine starts. FedEx plans to use a ground electric power system at its new hub.

In order to reduce the use of noisy auxiliary power units (either on-board units or ground units), the PTAA can adopt an airport operating rule that places limits on the noise produced by auxiliary power units used at the airport at any future facilities, or of any existing facilities operated by new airport tenants, that are close enough to residential areas for such noise to be noticeable. The rule might address only the night hours since it is only during these otherwise quiet periods that noise from auxiliary power units is apt to be noticeable. The PTAA could negotiate lease terms requiring the use of ground electric power in new facilities except to facilitate engine starts. The benefits of such a measure are difficult to assess. Nonetheless, similar restrictions have been beneficial at other airports when residential development has been close to the airport or nighttime ambient levels are low.

Proposed Measure NA-10

Restrictions on Use of APUs. Under this measure, the Piedmont Triad Airport Authority (PTAA) will adopt a policy for future airport facilities, and for new tenants after FAA approval of this measure, that would require that auxiliary power units, either on-board units or ground units, except for units in use for engine starts, not produce night-time noise levels in off-airport residential neighborhoods that exceed the ambient noise level at those locations.

3.4.4 Noise Abatement Departure Profiles

Distant and Close-in Procedures. The noise from aircraft departing from an airport depends on the amount of power that the engines are producing. The power used during each stage of a departure is prescribed in the operating procedures that the pilot follows. In general terms, takeoff power is used initially, followed by cutbacks to one or more power settings during climb and subsequent cutback to cruise power. Different amounts of noise are produced by takeoffs when different power schedules are in use during departure. The lower the power setting, the less noise an aircraft makes.

The FAA has identified Noise Abatement Departure Profiles (NADPs) that an airport proprietor may request be used at an airport. They are identified as a “close-in” profile to

reduce the noise near to the airport and a "distant" profile to reduce the noise at greater distances from the airport. These profiles involve tradeoffs. The close in profile reduces noise exposure near the airport but results in slightly higher noise levels at greater distances from the airport. The distant profile results in slightly higher noise levels close in to the airport but reduces the noise exposure at greater distances because of the faster rate of climb. Nonetheless, both profiles can be beneficial in appropriate circumstances if they are applied with full understanding of their effects. The standard departure profile and the distant departure profile are similar for many aircraft types. Details of the profiles and their effects were discussed in the "Review of Measures for the Noise Compatibility Program, Piedmont Triad International Airport FAR Part 150 Study," distributed before the Advisory Committee meetings on 14 June 2005.

An airport proprietor requesting operators to use a distant profile or a close-in NADP profile must designate the same profile for all departures on a particular runway heading. Based on the presence of dense development off of the north end of runway 5L, it is proposed that close-in departure profiles be used by aircraft departing from runways 5L and 5R. In addition, based on the greater distances of dense development from the south-west ends of runways 23L and 23R, it is proposed that neither the "close-in" profile nor the "distant" profile be prescribed for these runways because the standard departure profiles would be more appropriate.

Use of these profiles would tend to reduce aircraft noise levels in the areas of densest development around PTIA. Use of these profiles would not increase costs of aircraft operation at PTIA to any appreciable degree. Both profiles have similar fuel usage. Furthermore, aircraft would only be asked to change from their standard profile on the infrequent occasions when departures are required to take place in the runway 5 direction.

Proposed Measure NA-11

Noise Abatement Departure Profiles. Under this measure, the Piedmont Triad Airport Authority (PTAA) designates the Close-in Noise Abatement Departure Profile (NADP) for jet departures on runways 5L and 5R beginning with the opening for use of new runway 5L/23R.

3.4.5 Noise Abatement Approach Procedures

Reducing Noise from Arriving Aircraft. During the study there have been several discussions about the noise from arrivals. The desire to keep arriving aircraft high during approaches and to reduce noise from arriving aircraft is reflected in the following discussion.

I**nstrument Approach to Maintain High Altitude**. Based on resident comments, some aircraft arriving at the airport may be using visual approaches at altitudes lower than the glide slope prescribed for ILS approaches. Visual approaches at lower altitudes will tend to produce higher noise levels than exist during normal instrument approaches. Therefore a measure was proposed in earlier drafts of the NCP that approaching aircraft stay as close as

possible to the altitude of the glide slope throughout the approach procedure, even during visual approaches. Adherence to this measure would tend to produce lower aircraft noise levels from approaching aircraft because of lower power settings and greater altitude. In addition, it would tend to decrease aircraft operating costs during landings, although the difference in costs might not be appreciable.

The measure initially proposed was discussed at meetings and was the subject of comments after meetings. This process led to development of two more specific measures. The first measure (NA-12) refines the initial measure by prescribing the point at which aircraft should intersect the glide slope during their final approach. Current procedures require aircraft on an ILS approach to intersect the glide slope at the outer marker for the arrival runway. It is anticipated that the outer markers for the existing runway will be replaced by Distance Measuring Equipment (DME) on the ILS localizers in the future and that DME systems will be used instead of outer markers on runway 5L/23R. For this reason, Measure NA-12 refers to a DME value that is approximately the same as the Outer Marker distance (5.5 nautical miles from the runway end). The second measure (NA-13) identifies a minimum altitude for the downwind leg of approaches to be sure that downwind legs are at altitudes that minimize noise impacts.

The altitude of the glide slope at the outer marker is approximately 2,800 feet MSL. A proposal was made by Committee members that arriving aircraft be required to intercept the glide slope at 4,000 feet AGL, which would place the point of intersection over 12.5 nautical miles from the runway ends. Under this proposal, aircraft making a downwind approach to the airport would have to travel that entire distance, in the opposite direction from the airport, before they could turn back to the airport on final approach. It was the judgment of the study consultant that intersecting the glide slope at the outer marker distance achieved the desired benefit of this measure, and that there was inadequate justification to require interception of the glide slope at a more distant point.

The INM does not allow easy modeling of the potential benefit of these measures. It assumes all arrivals are instrument arrivals on the glide slope with constant power settings. Measures NA-12 and NA-13 are designed to achieve conditions consistent with the modeled environment.

Continuous Descent Approach. During aircraft landings there is typically variability in power settings with decreases and increases in power, and noise, during the descent. The variability in noise levels could be reduced if it were possible to maintain a more continuous power setting. Furthermore, a standard landing procedure involves lowering the landing gear and flaps well before final approach. To compensate for the drag from the landing gear and flaps, thrust is increased to control the rate of descent. A new landing procedure has been developed that includes a delay in lowering the landing gear and flaps and requires less thrust than a standard approach. The result is a reduction in noise. Called the Continuous Descent Approach (CDA), it has been tested at the Louisville International Airport. The FAA has undertaken an initial program to: analyze the data from the Louisville test and quantify benefits; initiate an effort to quantify noise and emissions benefits; determine criteria for cost/benefit analyses; and initiate an assessment of airports where CDA will provide greatest benefits. Preliminary information on the benefits of CDA

indicates that it can provide a reduction in landing noise between 15 and 7 miles from an airport.

At this time there is no assurance whether or when CDA might be available at PTIA. In addition, it is not possible to model the effects with the FAA's standard noise model, the Integrated Noise Model (INM).

It does not appear advisable to try to incorporate CDA into the NCP for PTIA until a more definitive evaluation of the procedure has been completed. However, it is the kind of potential measure that the PTAA should be prepared to evaluate and possibly implement if and when it is available.

Final Measures As initially submitted to the FAA, Proposed Measure NA-12 required aircraft to remain fixed on the glideslope throughout their final descent. However, in response to a comment from the FAA's Atlanta Airports District Office, Proposed measure NA-12 has been modified so that aircraft are not required to remain exactly on the glideslope, but may instead descend at altitudes at or above the glideslope, as prescribed by FAA regulations.

Proposed Measure NA-12

Noise Abatement Approach Procedure. Under this measure, the PTAA requests that FAA Air Traffic Control Tower personnel direct all jet aircraft arriving at the airport, whether on an IFR or a visual approach, to intercept the final approach at least 5.5 nautical miles from the intended landing runway and to stay at or above the glideslope throughout the remainder of their approach. The PTAA requests that FAA Air Traffic Control Tower personnel direct all jet aircraft arriving at the airport and on the final approach within 12.5 nautical miles from the intended landing runway, whether on an IFR or a visual approach, to stay at or above the glideslope throughout the remainder of their approach.

Proposed Measure NA-13

Altitude for Downwind Legs. Under this measure, the PTAA requests that FAA Air Traffic Control Tower personnel direct IFR aircraft on the downwind leg for arrival on runways 5L, 5R, 23L or 23R to remain at or above 4,000' MSL until crossing the extended centerline of runway14/32 at the airport. When implementing this measure and there are simultaneous approaches to runways 5L and 5R, the PTAA requests that FAA Air Traffic Control Tower personnel direct IFR aircraft on the downwind leg for runway 5R to remain at or above 5,000' MSL and aircraft on the downwind leg for runway 5L to remain at or above 4,000' MSL.

A review comment from the FAA's Atlanta Airports District Office indicated that Air Traffic has not determined the procedures to be used with the new runway. The PTAA requests that Air Traffic establish the procedures described in Propose Measure NA-13.

3.5 MEASURES INCLUDED IN NCP INVOLVING LAND USE

Five potential land use measures were evaluated:

- Acquire Noise-Sensitive Properties where DNL Exceeds 70 dB
- Sound Insulate Noise-Sensitive Structures where DNL Exceeds 65 dB
- Purchase Avigation Easements at PTAA's option where DNL Exceeds 65 dB
- Provide Other Assistance at PTAA's option for Owners of Residential Properties where DNL Exceeds 65 dB
- Pursue Compatible Use Zoning.

All five measures are recommended for inclusion in the NCP.

3.5.1 Acquisition of Noise-Sensitive Properties where DNL Exceeds 70 dB

In accordance with the FAA's Record of Decision, PTAA will offer to purchase all noise sensitive structures not already owned by PTAA where DNL exceeds 70 dB. The PTAA had purchased a large number of these properties by the end of 2005. Completion of this measure will be implemented as part of the NCP based on the DNL contours resulting from the adoption of the NCP. A property owner could decide not to sell a property. The PTAA could retain or dispose of any properties purchased. In any case, properties that are sold should be subject to avigation easements to assure that subsequent owners assume all burdens of noise exposure. FAA procedures for property acquisition, including the prescribed valuation procedures, and any applicable relocation assistance, apply to all acquisitions under this measure.

With the assistance of PTAA staff, the Part 150 Study consultants have identified the houses within the DNL 70 contour that PTAA owns already. If Alternative 2C is implemented, 10 houses would still need to be purchased. Based on prices for houses purchased as of the end of December 2005, it is estimated that the cost of completing this measure would be approximately $1.8 million, including both purchase price and relocation assistance. The overall cost of this measure would be reduced if properties are resold.

In its Record of Decision, the FAA suggested that individuals who did not wish to sell their property could instead decide to receive sound insulation and have the PTAA acquire an avigation easement. Sound insulation and acquisition of avigation easements are described in the next two measures.

Proposed Measure LU-1

Acquire Noise-Sensitive Properties where DNL Exceeds 70 dB. The PTAA will offer to acquire properties with houses or other noise-sensitive land uses where DNL with the 2014 NCP exceeds 70 dB.

3.5.2 Sound Insulation of Noise-Sensitive Structures where DNL Exceeds 65 dB

Sound insulation of residential properties can be a very useful measure to reduce potential impacts of aircraft noise on residential use and make the use of a structure compatible with the noise environment. Residential sound insulation programs are important elements in many Noise Compatibility Programs. In accordance with the mitigation program adopted in the FAA's Record of Decision and the analyses completed during this study, the study consultants recommended that the NCP include a sound insulation program for noise sensitive structures where DNL exceeds 65 dB. FAA-funded sound insulation programs require that modifications provide at least a 5-decibel improvement in the noise reduction provided by a structure and assurance that the post-insulation interior noise exposure from aircraft noise will not exceed DNL 45. Houses that already have an indoor DNL of 45 or less are generally not eligible for sound insulation. Houses that were built after 31 December 2001, the date of the FAA's Record of Decision are also not eligible for sound insulation.

Residences that meet current energy efficiency requirements in North Carolina often provide sufficient noise reduction to reduce interior noise exposure to 45 dB or less without additional treatment. These residences provide a noise reduction of 20 dB or more. The scope of any sound insulation project in the vicinity of PTIA would depend on the number of residences that are exposed to a DNL of 65 dB, but which provide insufficient noise reduction to lower interior levels to DNL 45.

Sound insulation programs usually require that the landowner provide an avigation easement at the completion of treatment. The easements allow the airport proprietor to conduct aircraft activities that make noise on the site. A committee member suggested that easements contain limits on the life of the easement and contain a noise cap. While caps are sometimes placed on the noise exposure over particular properties, a limitation on the duration of the easement is contrary to the concept of an easement, which is designed to continue for as long as the airport remains in operation.

Several members of the Advisory Committees have proposed that sound insulation be provided where the exposure level is below a DNL of 65 dB. As noted by other committee members, current federal law prohibits expenditure of federal funds for noise mitigation where DNL is lower than 65. The study consultants do not recommend extending the sound insulation program to areas where DNL is below 65.

The number of residences potentially eligible for a sound insulation program will be determined by the DNL contours that reflect the revised flight procedures adopted in the NCP. If Alternative 2C is implemented, approximately 123 houses would be exposed to DNL in excess of 65 dB. Of this number, 10 units are exposed to DNL in excess of 70. Assuming that the owners of the 10 units wish to have them purchased, the number of residential units in the sound insulation program would be 113. Using a range of $10,000 to $20,000 as the cost of sound insulation, the sound insulation program would cost between $1.13 million and $2.26 million, if all of the units met sound insulation criteria and if all of the eligible property owners participated. As discussed above, sound insulation treatment would provide at least a 5 dB reduction in the indoor levels of aircraft noise.

While houses of worship and schools are also classified by the FAA as noise sensitive structures, there is only one church within the 65 DNL contours for all alternatives and there are no schools. The cost for sound insulating the church is still to be determined.

Proposed Measure LU-2

Sound Insulation of Noise-Sensitive Structures where DNL Exceeds 65 dB. The PTAA will offer to sound insulate eligible residences and other noise-sensitive structures intended for public use or assembly (i.e., schools, houses of worship and hospitals) where DNL with the 2014 NCP exceeds 65 dB. The PTAA will require property owners participating in the program to grant an avigation easement to the PTAA upon completion of the treatment.

3.5.3 Optional Acquisition of Avigation Easements where DNL Exceeds 65 dB

Avigation easements that allow aircraft overflights and associated noise can be used to remedy existing incompatibilities or to prevent future incompatible development. It is noted in the discussion of sound insulation that easements will be acquired in conjunction with a sound insulation program. In that case, the easement assures an airport proprietor that the building owner will not seek additional compensation for the overflights and noise. Easements can also be acquired when there is an existing incompatible use and the airport does not have a sound insulation program or the property was not eligible for sound insulation. Where there is no existing development, an easement may be acquired to prevent future, incompatible development.

As noted in connection with the discussion of sound insulation, a committee member suggested that easements contain limits on the life of the easement and contain a noise cap. While easements caps are sometimes placed on the noise exposure over particular properties, a limitation on the duration of the easement is contrary to the concept of an easement, which is designed to continue for as long as the airport remains in operation.

This measure could be offered as an alternative, in appropriate cases, to homeowners in areas above DNL 65 who were not participating in the programs outlined in Proposed

Measures LU-1 and LU-2. PTAA would decide, at its option, whether to make the offer in a particular case depending on the circumstances of the individual residence and the neighborhood in question and dependent upon the availability of grant funding from the FAA. No estimate can be given at this time for the cost of this measure. However, since easements would be acquired in lieu of the assistance offered in Proposed Measures LU-1 and LU-2, the costs of this measure would be offset by reductions in those programs, and no additional costs should be assigned to this measure.

The PTAA would administer the program, including making the choice as to the properties to include, obtaining grant funding and running all aspects of the program.

Proposed Measure LU-3

Optional Acquisition of Avigation Easements for Noise-Sensitive Structures where DNL Exceeds 65 dB. The PTAA may at its option offer to acquire noise easements for selected residences where the DNL with the 2014 NCP exceeds 65 dB.

3.5.4 Other Assistance at PTAA's Option for Owners of Residential Properties where DNL Exceeds 65 dB

There are two additional forms of assistance that could be offered by PTAA, in appropriate cases, to homeowners in areas between DNL 65 and 70 who are not participating in the sound insulation program and wish to sell their houses. PTAA would decide, at its option, whether to offer either of these measures in a particular case depending on the circumstances of the individual residence and the neighborhood in question and dependent on the availability of grant funding from the FAA.

Sales Assistance. Under this program, also called "Transaction Assistance," PTAA would offer to reimburse the real estate commission incurred by the homeowner in a market sale of the property. The property would be listed and sold subject to an avigation easement to be conveyed to PTAA at the closing of the sale.

Purchase Assurance. Under this program, PTAA would offer to purchase the property, based on an appraisal to be obtained by PTAA, if a homeowner is unable to sell the property on the market following a good faith effort to do so. PTAA would then resell the property, subject to an avigation easement, either for continued residential use or for an alternative non-residential use, as appropriate for the location.

There would likely be a significant delay in implementing the Purchase Assurance program because of the delay in obtaining FAA grant funding. FAA grants for acquisition are used first in areas with high DNL levels and only after such areas have been acquired would funds be available for lower exposure levels.

As in the case of the preceding land-use measures, any Sales Assistance or Purchase Assurance offered by PTAA would be conducted in accordance with the FAA procedures for the program in question.

Proposed Measure LU-4

Other Assistance for Owners of Residential Property where DNL Exceeds 65 dB. The PTAA may at its option offer assistance in the form of Sales Assistance or in the form of Purchase Assurance to owners of selected residential property where the DNL with the 2014 NCP exceeds 65 dB. Homeowners participating in the Sales Assistance Program would grant an avigation easement to the PTAA upon the closing of the sale.

3.5.5 Compatible Land Use Zoning where DNL exceeds 65 dB

Throughout the history of noise issues at airports, the FAA and airport proprietors have sought to get land in areas around airports to be zoned so that future development will be compatible with noise from airport operations. Such foresighted planning benefits the airport and the overall community and is highly desirable. Zoning is not permanent. Local jurisdictions can change zoning or grant variances that allow incompatible development. Zoning in the entire area around PTIA should encourage development that is compatible with the anticipated, long-term noise environment. This approach will benefit the surrounding communities and PTIA.

Under this measure, the PTAA would cooperate with local land use authorities to assure compatible use zoning around the airport. Major efforts have already been made to control the land-use around PTIA including the long-established Airport Overlay District around PTIA, the recent adoption of the Airport Area Plan by local jurisdictions and other land use planning by jurisdictions around the airport. Each jurisdiction would need to implement the zoning for land over which it has zoning authority based on criteria that it deems to be appropriate.

The primary benefit of compatible use zoning is avoidance of new, incompatible uses. This is a great benefit to the people who thereby avoid living in areas where they may find the noise environment undesirable. It is also a benefit to the overall community and the airport, because community planning and airport planning function in concert. Costs are involved for communities in the airport vicinity as well as for the PTAA. The costs are all associated with administration and should not require the addition to staff either in the communities or at the airport.

Proposed Measure LU-5

Pursue Compatible Use Zoning where DNL Exceeds 65 dB. The PTAA will work with land use authorities of jurisdictions in the vicinity of the airport to adopt compatible use zoning.

3.6 MEASURES INCLUDED IN NCP INVOLVING NOISE PROGRAM MANAGEMENT

Three potential measures involving noise program management were evaluated:

- Establish a Noise Monitoring Function at PTIA
- Publish DNL Contours for Levels Lower than 65 dB
- Install and Operate an Aircraft Noise and Operations Monitoring System

All three measures are recommended for inclusion in the NCP.

3.6.1 Establish a Noise Monitoring Function at PTIA

In accordance with the FAA's Record of Decision, the NCP for PTIA will include mitigation measures that will require management and monitoring. For example, one measure will be installation and operation of an aircraft noise and operations monitoring system. It is not known whether this function can be assigned to existing staff or whether a new staff position will be required. Therefore, no estimate can be given at this time of the cost of this measure.

Proposed Measure NM-1

Establish a Noise Monitoring Function at PTIA. The PTAA will establish a noise monitoring function within the PTAA with responsibilities that include: to monitor aircraft noise; to provide a point of contact within the PTAA for issues related to aircraft noise; to serve as a liaison with the community for such issues; and to keep air carriers and the public informed about compliance with measures in the NCP.

3.6.2 Publish DNL Contours for DNL 60.

Several committee members suggested that noise contours be published for levels below DNL 65 even though mitigation measures will not apply below that level. Comments included a proposal that the DNL 55 contour be published. Publication of noise exposure information below DNL 65 could assist property owners, potential property purchasers and land use authorities to understand the aircraft noise environment around the airport more fully than is possible when information is published only at the higher noise levels.

The PTAA has published DNL 60 contours in connection with previous studies of aircraft noise. In addition, the Airport Area Plan, which was developed by local jurisdictions, adopted DNL 60 as the lower limit for noise contours, and the City of Greensboro uses 60 DNL to define its Airport Overlay District. Although it was suggested that the DNL 55 contours also be published, it is not clear that there is any particular benefit in publishing

contours below DNL 60. As noted above, previous studies have determined that DNL 60 is the appropriate limit.

The study consultants recommend that PTAA publish DNL 60 contours for local dissemination and use in addition to the contours for DNL 65 and DNL 70. Publication at a scale of 1 inch equals 2,000 feet would assure the presence of adequate detail. It would also be beneficial to publish study contours on the PTAA web site.

The primary benefit of this measure is that noise information would be widely disseminated and thus be available to existing residents, potential residents and regional planners. Costs for implementation of this measure are limited to the costs of publication. Contour information down to DNL 60 is available at no additional cost when contours are being prepared. Up-to-date local mapping, including existing roads, has already been prepared by the study consultants and would be available at no additional cost.

It should be noted that under FAA guidelines, all land uses including residential use, are regarded as being compatible with DNL levels below 65 dB.

Proposed Measure NM-2

Publish DNL Contours for DNL 60 and Above. When the PTAA publishes aircraft noise contours, it will publish contours at 5-dB intervals for values of DNL of 60 dB and above. The most recent contours will be published on the PTAA web site. The contours will be updated as required by FAR Part 150.

3.6.3 Install and Operate an Aircraft Noise and Operations Monitoring System

Aircraft noise and operations monitoring systems have become useful tools that airport proprietors can have in their noise offices. These systems allow an airport to determine the effectiveness of key elements of a Noise Compatibility Program such as noise exposure in the airport environs, runway use, flight corridors use and compliance with noise abatement procedures. The Final EIS for Runway 5L/23R and the FedEx Hub anticipated that a noise and operations monitoring system would be installed at the airport and a requirement for such a system was included as a mitigation requirement in the FAA's Record of Decision. It is recommended that such a system be included in the NCP.

Operations monitoring is the most important element of the noise and operations monitoring system for PTIA. With such a system PTAA staff can monitor operations information such as runway use, flight corridor use and aircraft altitude. With full-time monitoring of aircraft operations, the PTAA can develop noise contours for operations at PTIA virtually automatically. It is proposed that the system be installed with a modest number of permanent remote microphones (6 to 8) located at or near the monitoring locations used during the studies for the EIS and the Part 150. In addition to the permanent monitors, the system would have one or two portable monitors that provide the same functions that the permanent monitors do and that can be placed at locations where short-

term measurements are needed. The number and locations of the noise monitors would be determined during design of the noise monitoring system. These microphones will provide information on aircraft noise and non-aircraft noise in areas of the community around the ends of the two parallel runways. Contemporary monitoring systems can accommodate additional microphones, if they are needed.

Operations monitoring would be based on use of radar that provides coverage well beyond the area examined in this study. The radar would allow modeling of aircraft noise levels within the radar coverage area.

Based on bids received for recent procurements at other airports, it is estimated that the noise and operations monitoring equipment installation for PTIA with related consulting will cost between $800,000 and $1,100,000. This estimate covers the costs for system design, specification and a competitive procurement. The design and installation of an aircraft noise and operations monitoring system that is part of an approved NCP is eligible for grant funding by the FAA. Costs of system operation and maintenance are not eligible for FAA grants. Typically, an annual maintenance contract for a system costs between 10 percent and 15 percent of the system cost. As noted in the discussion of Measure NM-1, no estimate can be made at this time of any change in personnel costs that may be incurred by PTAA for the operation of the system, because the function might be performed by existing personnel.

Committee members have requested that the PTAA report measured values of DNL and SEL. All contemporary noise and operations monitoring systems measure values of SEL and DNL at each microphone location. DNL values would typically be reported quarterly. It would be feasible to publish SEL data for conditions of interest to the PTAA and to others in the vicinity of PTIA. The nature and extent of this information that is regularly published by the PTAA would need to be determined after the monitoring system is in use and specific data needs are identified.

Proposed Measure NM-3

Install and Operate an Aircraft Noise and Operations Monitoring System. The PTAA will install and operate an aircraft noise and operations monitoring system to monitor aircraft noise and aircraft operations in the vicinity of the airport. The system will reflect state-of-the-art technology. It is expected that the system will have six or more permanent monitoring microphones and one or two portable monitoring microphones. To the extent feasible, the permanent microphones will be at locations used during the Part 150 study. Summaries of the monitoring results will be reported regularly on the PTAA web site.

3.7 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 operational Alternative 2C, as discussed fully above. Figure 14 shows the Final 2014 DNL contours for operational Alternative 2C (with the NCP) in comparison with the Final 2014 DNL contours for Base Case Alternative 1 (without the NCP). Figure 15 shows the final NEM for 2014 with the NCP. (i.e. the alternative 2C contours by themselves, without the inclusion of the base case contours.) Table 16 shows the incompatible land uses for 2014 with the NCP. The benefits from use of Alternative 2C are achieved primarily through implementation of the head-to head operations with preferential runway use and flight corridor use identified by Alternative 2C. Proposed Measures NA-3, NA-4, NA-5, NA-6 and NA-7 are the key measures that work in combination to implement Alternative 2C and achieve these results.

Table 15

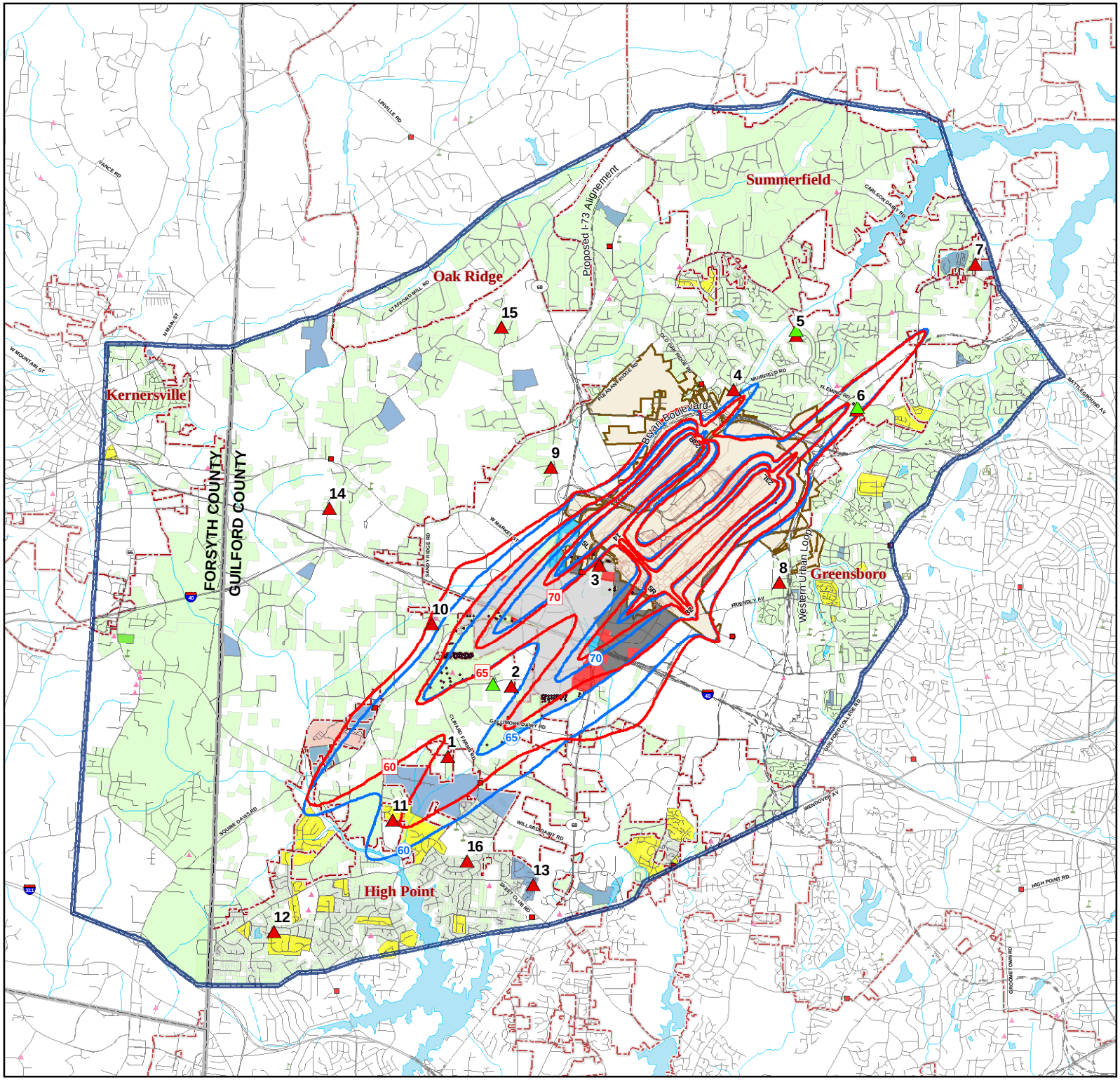
Forecast Condition (2014) Annual Average Daily Aircraft Operations
Piedmont Triad International Airport
Updated Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	21.62	0.00	21.62	21.19	0.43	21.62
Commuter	77.17	12.56	89.74	71.79	17.95	89.74
Cargo – FedEx	13.06	31.81	44.88	7.09	37.79	44.88
Cargo – Other	4.35	1.37	5.72	1.91	3.81	5.72
GA	68.28	6.15	74.43	68.28	6.15	74.43
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	186.94	52.03	238.98	172.70	66.27	238.98

TABLE 16

Incompatible Land Uses (2014) with NCP Based on Operational Alternative 2C
Piedmont Triad International Airport
Based on Updated Operations Forecast

Incompatible Uses	DNL 65-70	DNL 70-75	DNL > 75	Total
Land Area (sq. mi.)	2.66	0.79	0.09	3.54
Residents	314	30	0	344
Residences	112	12	0	124
Houses of Worship	0	0	0	0
Schools	0	0	0	0



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- 2014 Forecast A Alternative 1 DNL Contours
- 2014 Forecast A Alternative 2C DNL Contours
- Study Area Boundary
- Airport Boundary
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Agricultural/Residential Zoning

Off-Airport Landuse within DNL 65

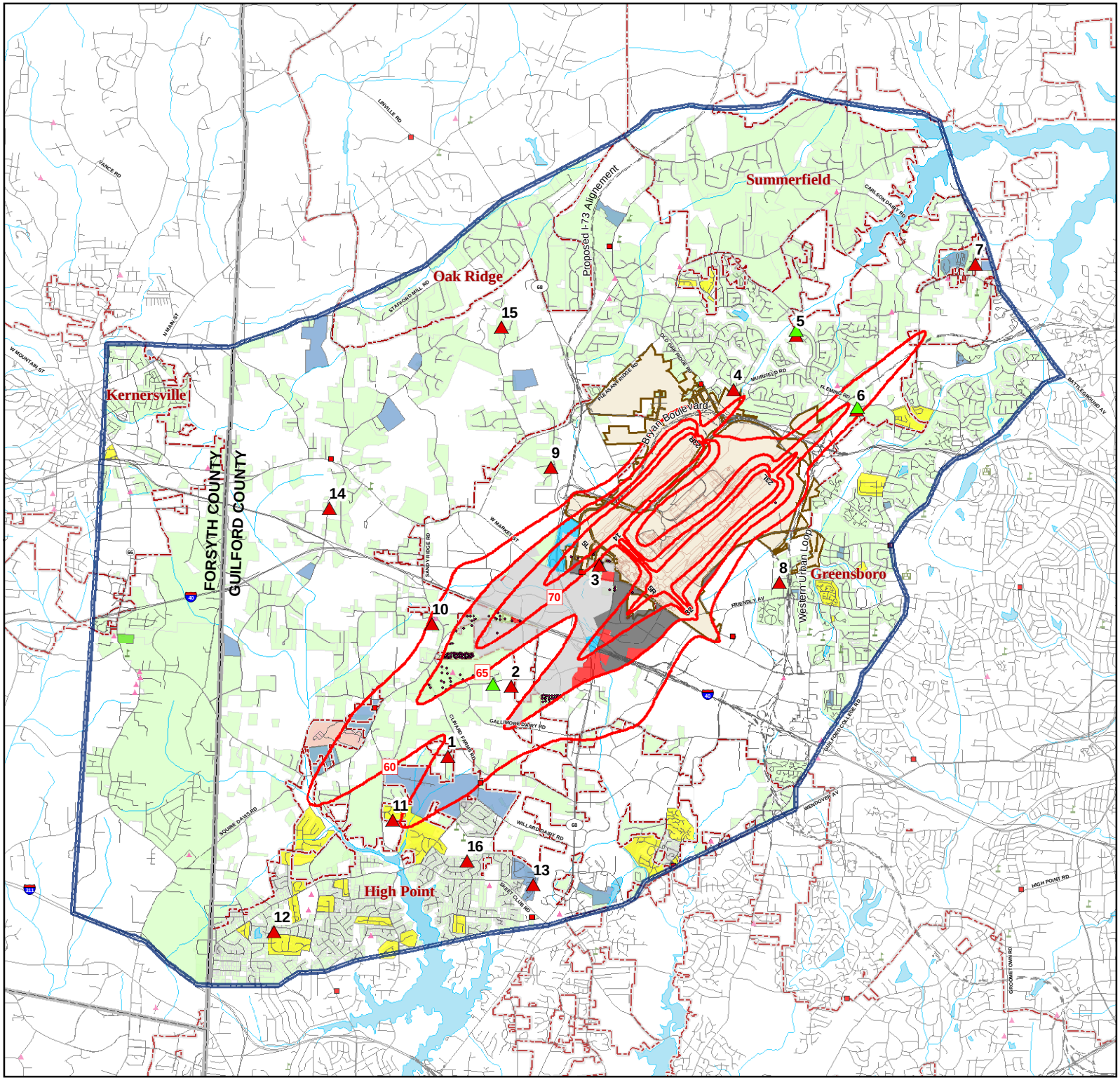
- Agricultural/Residential
- Commercial
- Office
- Light Industrial
- Heavy Industrial
- Residences

0 4,000 8,000 12,000 Feet

DNL Contour
Final 2014 Forecast A
Alternative 1
and
Final 2014 Forecast A
Alternative 2C
(2014 NEM with NCP Measures)

Figure 14

andrew s. harris, inc.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

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- Study Area Boundary
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- 2004 Noise Measurement Location
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- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Agricultural/Residential Zoning

Off-Airport Landuse within DNL 65

- Agricultural/Residential
- Commercial
- Office
- Light Industrial
- Heavy Industrial
- Residences

0 4,000 8,000 12,000 Feet

DNL Contour 2014 NEM with NCP Measures (Final 2014 Forecast A Alternative 2C)

Figure 15

andrew s. harris, inc.

3.8 OVERVIEW OF PROPOSED MEASURES IN NCP

This chapter of the report has presented detailed discussions of NCP development. The measures presented in this section are those adopted by the PTAA at its meeting on 16 January 2007. Personnel of the FAA Air Traffic Control Tower at the airport participated in the study. In addition, they reviewed all the measures involving flight procedures prior to adoption by the PTAA. (This was an informal review. Formal review will be conducted by the FAA when this document is submitted for that purpose.)

To provide an overview of all proposed measures and key aspects of implementation, Table 17, contains the text of all measures proposed in the NCP along with information related to implementation of the measures. The implementation information is as follows:

- Responsible Party – The entity responsible for implementation of the measure
- Cost to Airport – The estimated cost to the PTAA for implementation
- Cost to Local Governments – The estimated cost to local governments for implementation
- Cost to Users – The estimated cost to users for implementation
- Implementation Target – The desired date of implementation

Table 17 goes here

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, estimates obtained during interviews with GSO Air Traffic Control Tower personnel 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 2006 and 2014 baseline 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 PTAA also provides information for DNL 60 . The baseline 2006 contours show the noise exposure for the year of submission of the Part 150 study for the Airport. The baseline 2014 contours show the noise exposure projected for the first year during which the FedEx hub is expected to be at full operation. The baseline contours show conditions based on existing operations and procedures (2006) and forecast future operations with new runway 5L/23R in use (2014) with operating procedures assumed in the development of noise contours in the EIS. No noise abatement actions proposed in the Noise Compatibility Program are reflected in the baseline contours.

Section 4 provides detailed operations information used in developing the 2014 NEM noise exposure contours for the Noise Compatibility Program and in the analysis of alternative runway use 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 6.1. 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. 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 typically incorporate measurements of the on-site noise environment to provide information about the existing noise environment. The study for the EIS also included on-site measurements for the same purpose. 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. Rather, values in the noise model are based on large-scale measurement programs associated with aircraft certification.

Project consultants conducted noise monitoring at 16 locations during August 2-15, 2004. Six of the sites repeated locations from the 1999 measurement program undertaken for the EIS noise study. Ten additional locations were identified for the Part 150 Study, many of which were selected in response to requests from members of the Advisory Committees.

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

RECEIVED
OCT - 2 2006
HARRIS MILLER
MILLER & HANSON INC

September 26, 2006

Mr. Robert Mentzer Jr.
Harris Miller Miller & Hanson Inc.
77 South Bedford Street
Burlington, MA 01803

Dear Sirs:

The Office of Environment and Energy has reviewed the proposed substitutions submitted for aircraft modeling for the Part 150 study for Piedmont Triad International Airport (PTIA).

Our office approves the use of the INM standard type GV in modeling both Canadair RJ700 Regional Jet (CRJ700) and Canadair RJ900 Regional Jet (CRJ900), and concurs with your proposal.

Our office recommends the use of INM standard type EMB145 instead of CL600 as substitution for the Embraer 140 (EMB140).

Please understand that approvals listed above are limited to this particular Part 150 study for Piedmont Triad International Airport (PTIA). Any additional projects or non-standard INM input will require separate approval.

Sincerely,

Sandy R Liu

Sandy Liu
AEE/Noise Division

The project consultants conducted the measurement program using portable noise monitors capable of extended, continuous, unattended operation. All of the monitors met American National Standards Institute (ANSI) S1.4-1983 standards for Type I (precision) sound level meters. The units measured a broad range of noise values, including cumulative exposure metrics, such as hourly equivalent noise level (L_{eq}) and the Day-Night Average Sound level (DNL or L_{dn}), and single event metrics, such as the maximum level (L_{max}) and Sound Exposure Level (SEL). Measurement durations ranged from two to eight days. Altogether at the 16 sites, the project consultants collected approximately 74 days (1,778 hours) of measurement data.

2.3.2 Measurement Objectives

The objectives of the noise measurements were to provide:

1) Samples of aircraft single event noise levels at representative community locations to compare the relative noisiness of different types of operations and aircraft types.
2) Samples of DNL for comparison with modeled noise contours and to illustrate day-to-day variation.
3) Samples of hourly noise levels (L_{eq}) and other statistical noise measures to illustrate variation in noise exposure from hour to hour, and associated with different airport operating modes and levels of activity.
4) Information on noise exposure associated with non-aircraft noise sources.
5) Noise-related information in response to specific concerns that Advisory Committee members have identified and which may be useful in assessing alternative means of addressing these concerns.

2.3.3 Measurement Site Selection

Two sets of criteria – area and local – determined the location of noise monitors:

Area Criteria

1) Sites were located near existing, anticipated or potential flight corridors.
2) Sites were in typical neighborhoods and other sensitive areas.
3) Sites were selected to provide information on noise levels produced by aircraft activity including arrivals, departures, pattern activity, takeoff roll and thrust reverse.
4) Sites were selected to provide representative data from areas where complaints are generated and where community members may be concerned about the existing or future noise environment.

Local Criteria

1) Site selection took into account non-aircraft noise sources such as busy roads.
2) Site access was considered for monitor deployment, servicing and observation.
3) Locations needed to assure reasonable security from theft or vandalism.

Measurement Locations

Figure A-1 presents the locations of the sixteen noise monitoring locations for the 2004 Part 150 measurement program. Sites 1-6 were located either at or close to the measurement sites used in the EIS measurement program[7]. Appendix B-1 of the EIS describes that measurement program and summarizes its results. The ten additional sites were numbered 7-16. Table A-1 provides the addresses of all measurement sites.

The noise measurement sites are described in the following paragraphs.

Site 1, 4532 Walpole Road, High Point

Site 1 was located southwest of the Airport on Walpole Road in High Point, approximately 17,000 feet (3.25) miles south of the arrival threshold to Runway 05 and approximately 1,300 feet (0.25 miles) north of the extended runway centerline. This site was located off of a dead-end gravel road. The primary flight operations recorded at this site were arrivals to Runways 05 and departures from Runway 23. Measurements were conducted for eight days at Site 1 based on the site's proximity to the Airport and to the Runway 5/23 extended centerline.

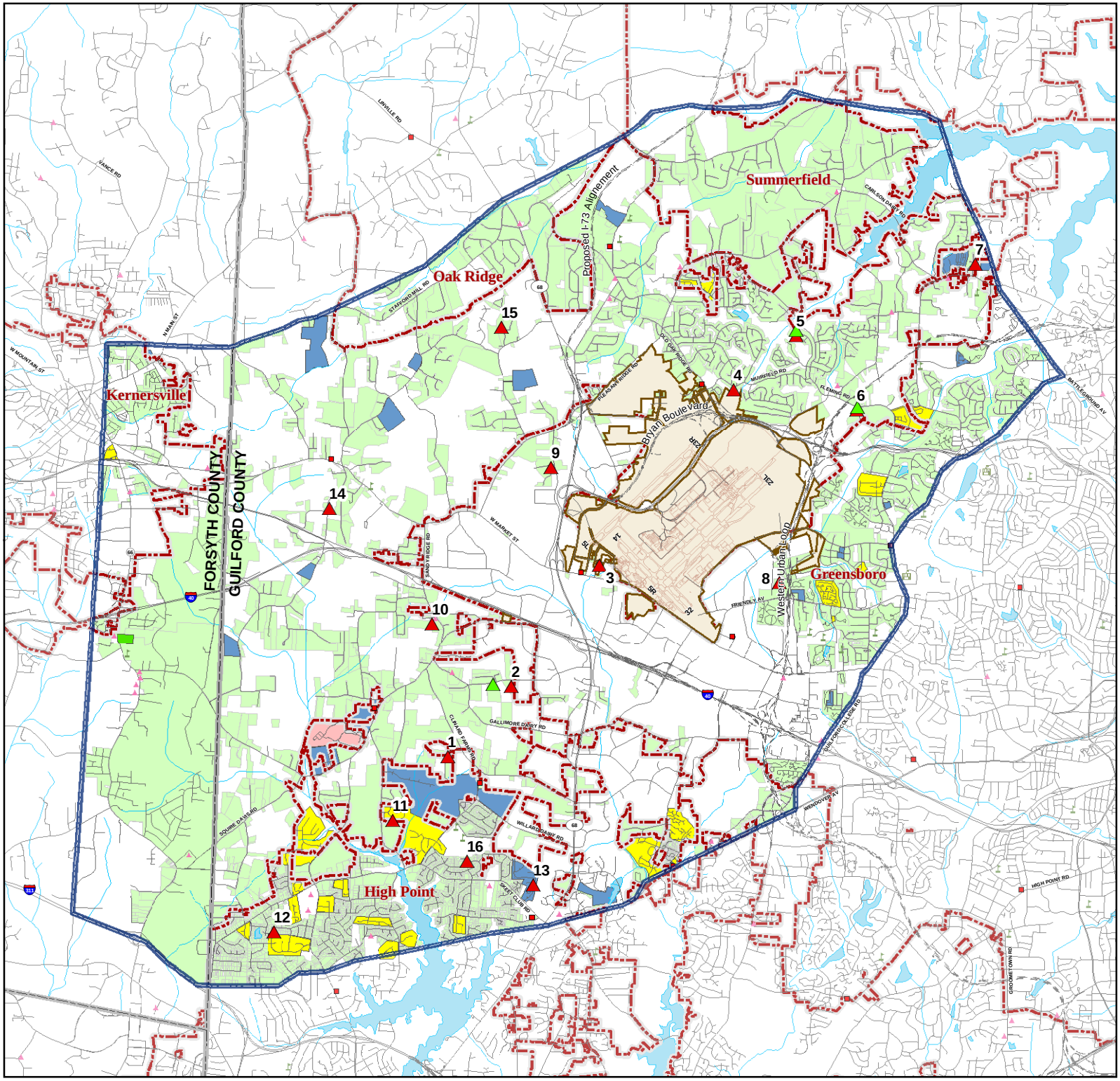
Site 2, 8027 Thorndike Road, High Point

Site 2 was located southwest of the Airport on Thorndike Road in High Point, approximately 12,000 feet (2.25) miles south of the arrival threshold to Runway 05 and approximately 2,500 feet (0.5 miles) north of the extended runway centerline. Arrivals to Runways 05 and departures from Runway 23 were audible at this site. Measurements were conducted for two days at Site 2.

Site 3, 112 Arrow Road, Greensboro

Site 3 was located southwest of the Airport on Arrow Road in Greensboro approximately 1,300 feet (0.25 miles) south of the arrival threshold to Runway 05 and approximately 4,000 feet (0.75 miles) north of the extended runway centerline. The primary flight operations recorded at this site were arrivals to Runways 05 and departures from Runway 23. This site was selected in part to provide information on ground noise very near to the Airport and to obtain information on current noise levels in an area that will be affected by operations on the new runway. Measurements were conducted for two days at Site 3.

[7] This study repeated measurements at the same locations used in the 1999 measurement program at Sites 1, 3, and 4. Because the original location was unavailable, nearby locations were substituted for Sites 2, 5, and 6. Table 1 and Figure 1 provide location information for both the 1999 and the 2004 sites.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- Study Area Boundary
- Airport Boundary
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

Noise Monitoring Locations NEM and Part 150

Figure A-1

andrew s. harris, inc.

Table A-1

1999 EIS and 2004 Part 150 Noise Monitoring Sites

Site	Address	Monitoring Year(s)	
1	4532 Walpole Road, High Point	1999	2004
2 (EIS)	8109 Thorndike Road, High Point	1999	
2 (Pt. 150)*	8027 Thorndike Road, High Point		2004
3	112 Arrow Road, Greensboro	1999	2004
4	6504 Lytham Court, Greensboro	1999	2004
5 (EIS)	3916 Sagamore Drive, Greensboro	1999	
5 (Pt. 150)*	3905 Sagamore Drive, Greensboro		2004
6 (EIS)	3200 Clarkson Road, Greensboro	1999	
6 (Pt. 150)*	2101 Fleming Road, Greensboro		2004
7	4502 Laurel Run Drive, Greensboro		2004
8	302 Grassy Meadow Court, Greensboro		2004
9	709 Brigham Road, Greensboro		2004
10	8201 Partridge Road, Colfax		2004
11	4321 Oakton Court, High Point		2004
12	3898 Fairstone Place, High Point		2004
13	3732 Pemberton Way, High Point		2004
14	321 South Bunker Hill Road, Colfax		2004
15	4103 Brynwood Drive, Greensboro		2004
16	3303 Timberwolf Avenue, High Point		2004
*Site selected as nearby alternate to 1999 EIS site			

Site 4, 6504 Lytham Court, Greensboro

Site 4 was located north of the Airport on Lytham Court approximately 2,500 feet (0.5 miles) north of the arrival threshold to Runway 23 and approximately 5,800 feet (1.1 miles) north of the extended runway centerline. This site was chosen because it is close to the extended centerline of the new runway. Measurements were conducted at Site 4 for four days.

Site 5, 3905 Sagamore Drive, Greensboro

Site 5 was located north of the Airport on Sagamore Drive. The site was located approximately 8,000 feet (1.5 miles) north of the arrival threshold to Runway 23 and approximately 6,600 feet (1.25 miles) north of the extended runway centerline. Measurements were conducted at Site 5 for 8 days due to the site's proximity to the future Runway 5/23 extended centerline in this built-up residential area, and also because an equipment malfunction interrupted measurements at this site during the EIS data collection.

Site 6, 2101 Fleming Road, Greensboro

Site 6 was located northeast of the Airport on Flemming Road. The site was located approximately 6,600 feet (1.25 miles) north of the arrival threshold to Runway 23 and approximately 1,300 feet (0.25 miles) south of the extended runway centerline. The primary flight operations at this site were arrivals to Runway 23 and departures from Runway 05. Measurements were conducted at Site 6 for eight days because of the site's proximity to the Airport and to the Runway 5/23 extended centerline.

Site 7, 4502 Laurel Run Drive, Greensboro

This site was located northeast of the Airport under the extended centerline for Runway 5/23, approximately 16,500 feet (approximately three miles) from the runway end. It is in a location most affected by Runway 23 arrivals, and to a lesser extent by Runway 5 departures. This measurement provided representative information on the effect of approaches from and departures to the northeast near the outer edge of the study area. Measurements were conducted at Site 7 for eight days based on this site's proximity to the Runway 5/23 extended centerline.

Site 8, 302 Grassy Meadow Court, Greensboro

This site was located southeast of the Airport, adjacent to the ramp area that abuts Runway 5/23. Measurements at this location provided information on sideline noise associated with takeoff roll and with the use of thrust reversers on landing. It also provided an off-airport location for assessing the effect of ground operations, including taxiing, engine starts, and engine run-ups. Measurements were conducted for two days at Site 8. Similar to Sites 3 and 4, shorter-term measurements were judged sufficient for considering ground-noise issues at this site.

Site 9, 709 Brigham Road, Greensboro

This site was west of the Airport, under the Runway 14/32 extended centerline. This site provides information on noise levels in Part 150 Study Zone 5, including noise associated with Runway 14 arrivals and 32 departures. Measurements were conducted at Site 9 for two days. Similar to Sites 3, 4, and 8, shorter-term measurements were considered sufficient for assessing ground-noise issues at this site and the relatively limited level of activity on Runway 14/32.

Site 10, 8201 Partridge Road, Colfax

This site was southwest of the Airport, under the area affected by Runway 23 departure turns to the west. It provided a basis for evaluating future noise levels in the context of existing conditions. Measurements were conducted at Site 10 for 8 days based on this site's proximity to the Airport and the Runway 23 departure flight tracks.

Site 11, 4321 Oakton Court, High Point

This site was located southwest of the Airport under the Runway 5/23 extended centerline, approximately 19,500 feet (approximately 3.75 miles) from the runway end. It was most affected by Runway 23 departures and to a lesser extent by Runway 5 arrivals. The operations at Site 11 essentially are the mirror image of those at Site 7. Runway 23 is currently the primary departure runway at the Airport, and the EIS projected that it will continue in that role for non-FedEx operations when the new runway is constructed. In addition, FedEx night operations will operate in a largely "head-to-head" fashion to and from the southwest. Measurements of individual operations over this site also provided a basis for illustrating noise levels that would be associated with comparable operations at an equivalent location under the southwest extended centerline of the new runway. Measurements were conducted at Site 11 for eight days based on this site's proximity to the Airport and to the Runway 23 departure flight tracks.

Site 12, 3898 Fairstone Place, High Point

This site was southwest of the Airport under the extended centerline for Runway 5/23, approximately 31,000 feet (approximately six miles) from the runway end. It was in line with Site 11 and affected by generally the same categories of operations, in an area where future FedEx operations will be concentrated. This measurement location provided representative information on the effect of approaches and departures to and from the southwest at the outer edge of the study area and augmented measurements at Sites 1, 2, and 11, at a more distant location from the Airport. Measurements were conducted for four days at Site 12.

Site 13, 3732 Pemberton Way, High Point

Site 14, 321 South Bunker Hill Road, Colfax

Site 15, 4103 Brynwood Drive, Greensboro

These measurement locations were selected to provide baseline information on existing noise levels near major thoroughfares some distance from the Airport. Shorter-term measurements of four days at Site 13, two days at Site 14, and three days at Site 15 were judged sufficient to evaluate a baseline of existing noise along these highway corridors.

Site 16, 3303 Timberwolf Avenue, High Point

This site was located southwest of the Airport approximately 5,000 feet southeast of the Runway 5/23 extended centerline, about 19,500 feet (approximately 3.75 miles) from the runway end. It was most affected by Runway 23 departures turning left. Measurements were conducted for two days at Site 16.

2.3.4 Measurement Results

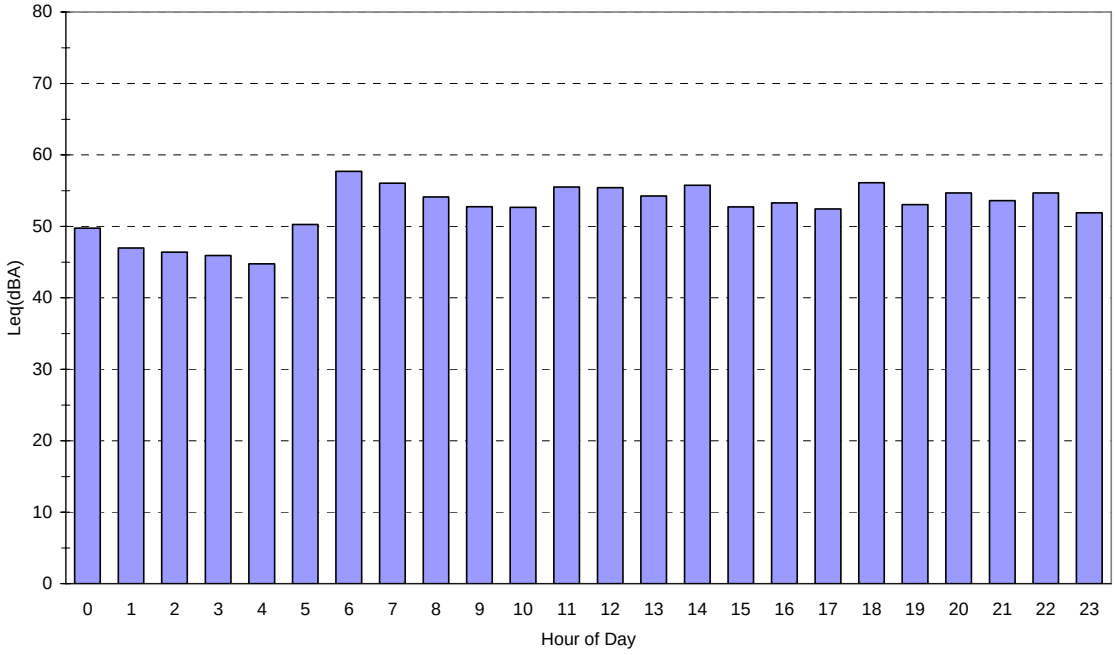
The noise data were analyzed to provide DNL values and hourly equivalent noise levels at all sites. Table A-2 provides a summary of the measurement duration and measured DNL values at each site. The sixteen graphs after Table A-2 show the average hourly equivalent levels at the sites.

Table A-2

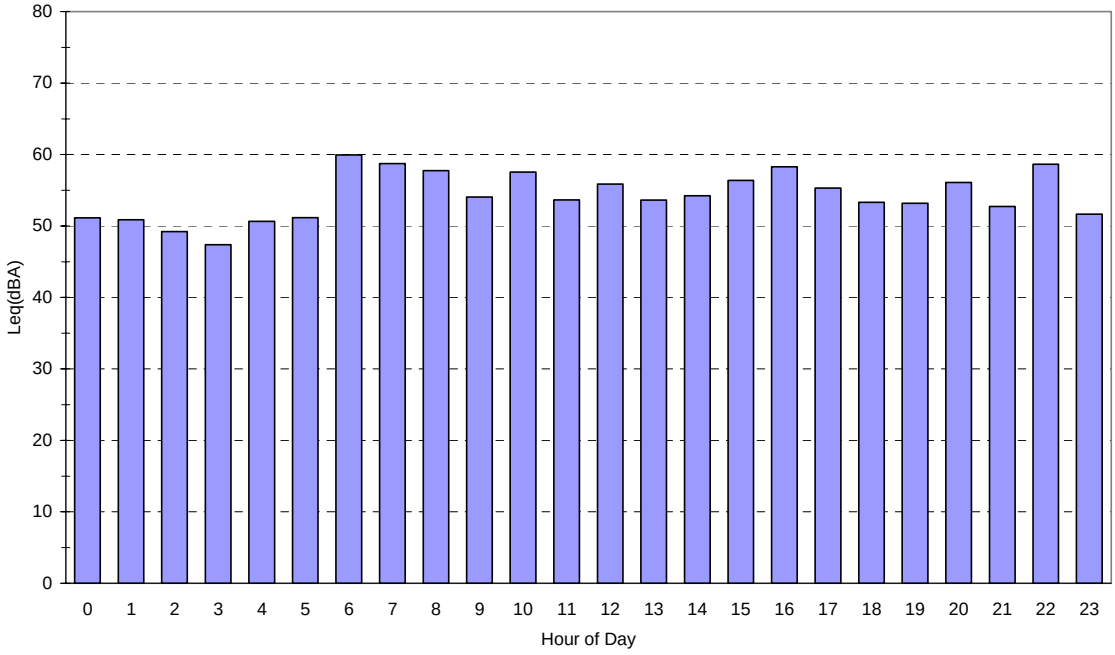
Summary of 2004 Measured DNL Values

Site	Address	Dates/Days Monitored	Average DNL	Minimum DNL	Maximum DNL
1	4532 Walpole Road, High Point	Aug. 3-11 (8 days)	58.8	56.7	60.6
2	8027 Thorndike Road, High Point	Aug. 11-13 (2 days)	61.1	60.9	61.2
3	112 Arrow Road, Greensboro	Aug. 2-4, Aug. 13-14 (2 days)	66.9	66.5	67.3
4	6504 Lytham Court, Greensboro	Aug. 2-4 Aug. 13-15 (4 days)	62.5	60.8	63.4
5	3905 Sagamore Drive, Greensboro	Aug. 2-10 (8 days)	56.4	52.7	58.1
6	2101 Fleming Road, Greensboro	Aug. 2-7, Aug. 9-11 (8 days)	64.7	61.6	66.4
7	4502 Laurel Run Drive, Greensboro	Aug. 5-13 (8 days)	58.7	54.3	60.8
8	302 Grassy Meadow Court, Greensboro	Aug. 10-12 (2 days)	56.0	55.5	56.5
9	709 Brigham Road, Greensboro	Aug. 12-14 (2 days)	55.8	51.7	57.9
10	8201 Partridge Road, Colfax	Aug. 4-13 (8 days)	60.6	58.2	62.4
11	4321 Oakton Court, High Point	Aug. 4-13 (8 days)	58.2	55.4	61.7
12	3898 Fairstone Place, High Point	Aug. 3-5, Aug. 13-15 (4 days)	57.8	56.3	59.0
13	3732 Pemberton Way, High Point	Aug. 6-10 (4 days)	60.0	57.1	60.1
14	321 South Bunker Hill Road, Colfax	Aug. 10-12 (2 days)	62.1	60.9	62.9
15	4103 Brynwood Drive, Greensboro	Aug. 11-14 (3 days)	60.6	58.3	62.4
16	3303 Timberwolf Avenue, High Point	Aug. 12-14 (2 days)	57.9	56.1	59.2
Results include adjustments for extensive duration nighttime insect noise.					

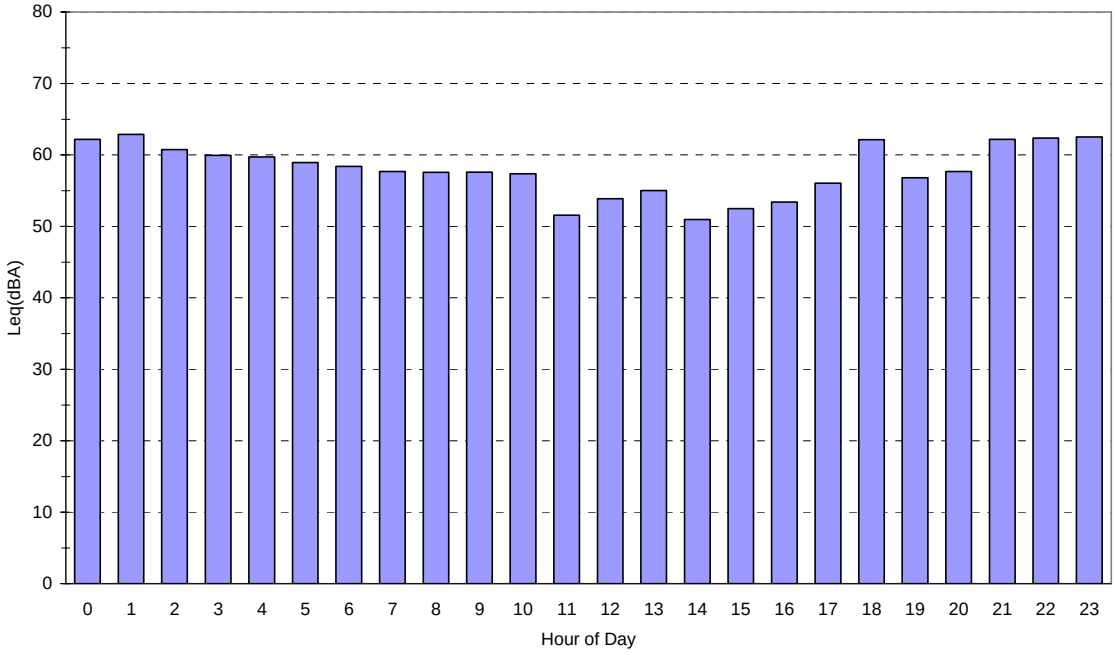
Average Hourly Noise Levels
Site 01



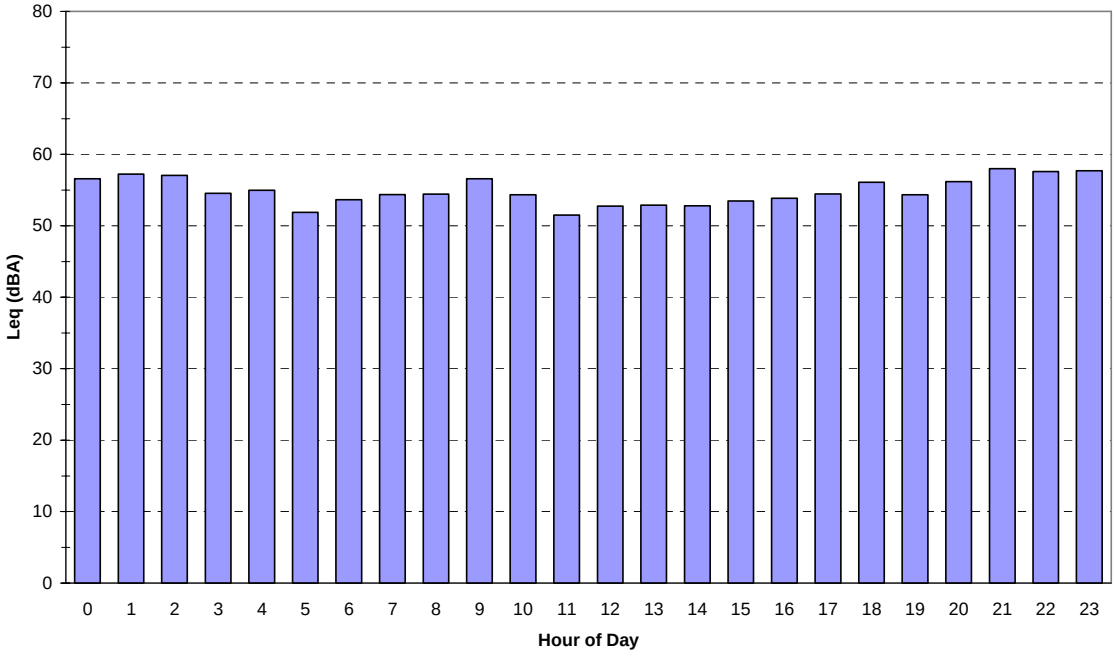
Average Hourly Noise Levels
Site 02



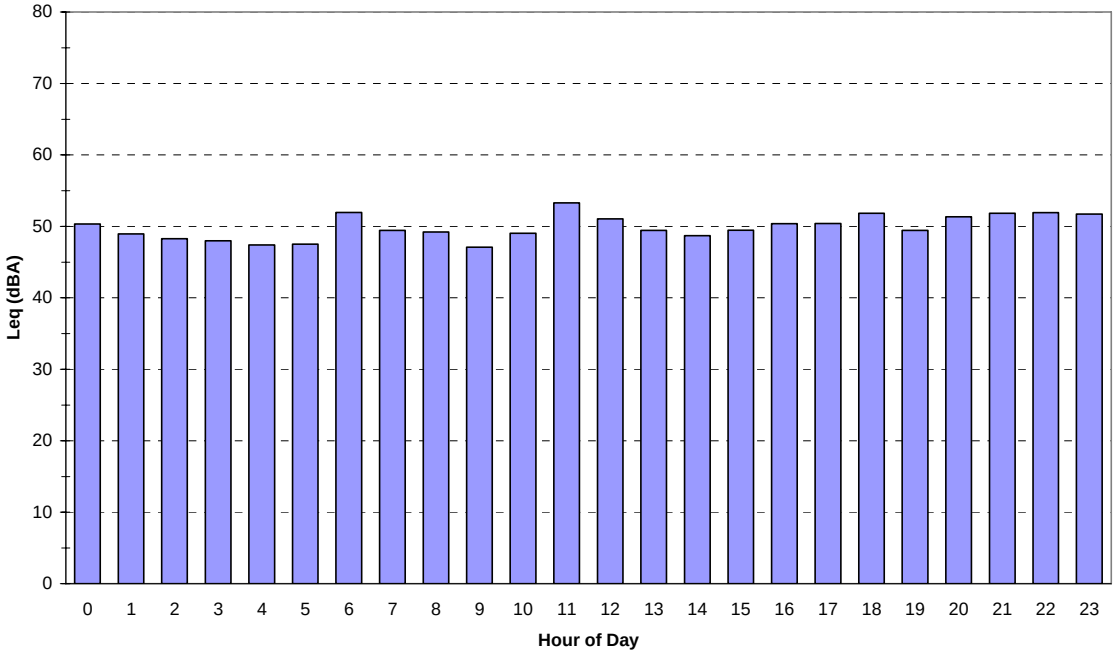
Average Hourly Noise Levels
Site 03



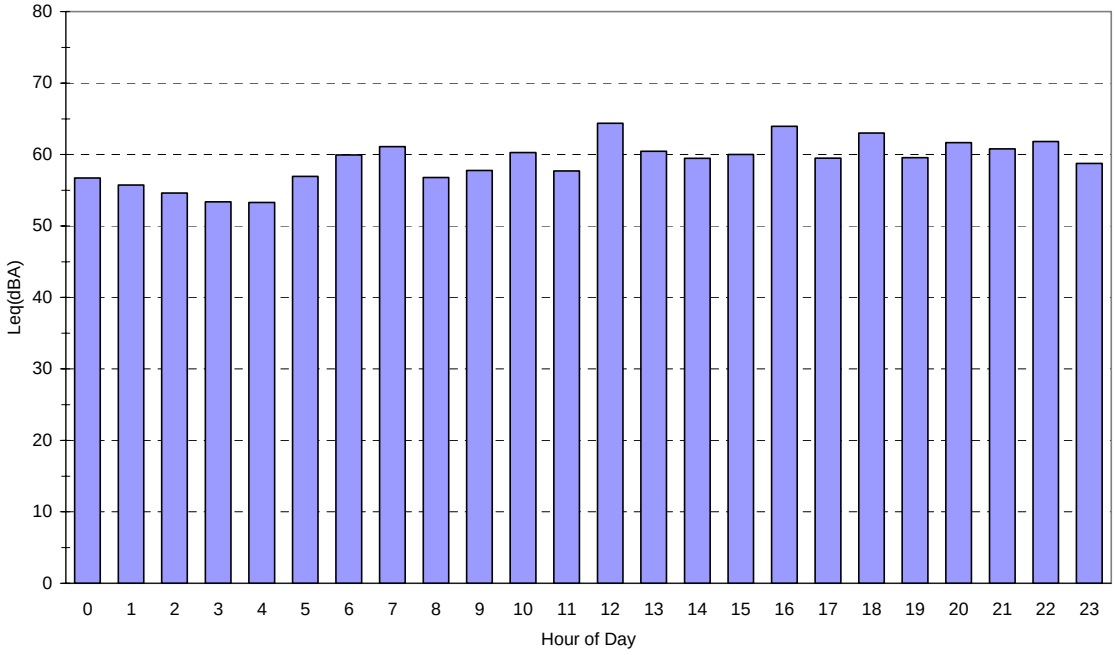
Average Hourly Noise Levels
Site 04



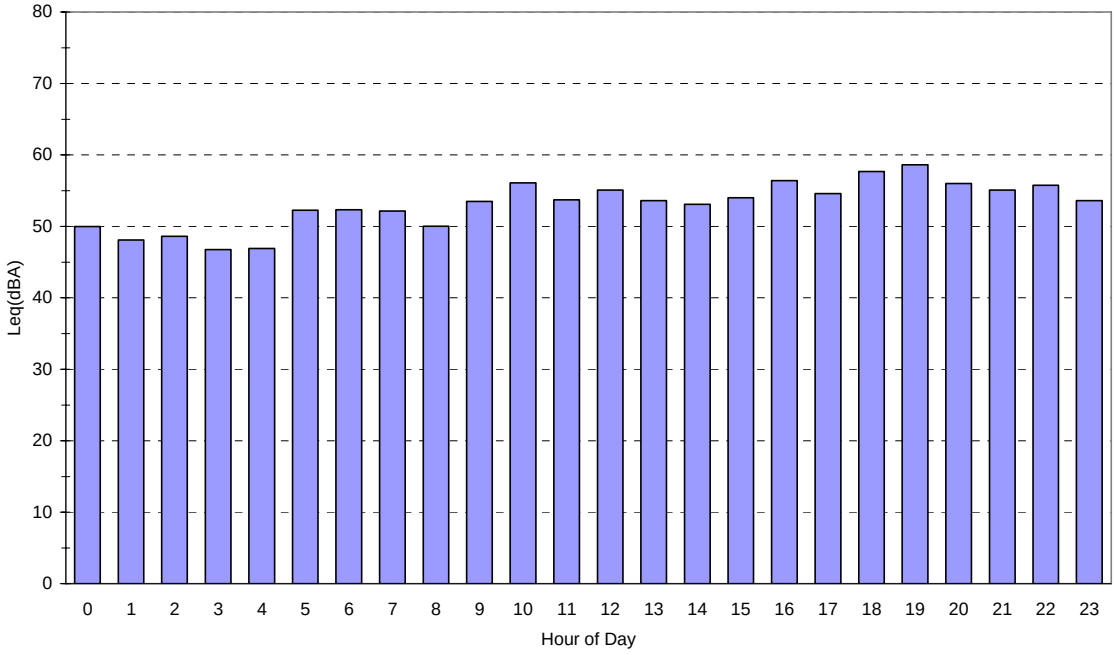
Average Hourly Noise Levels
Site 05



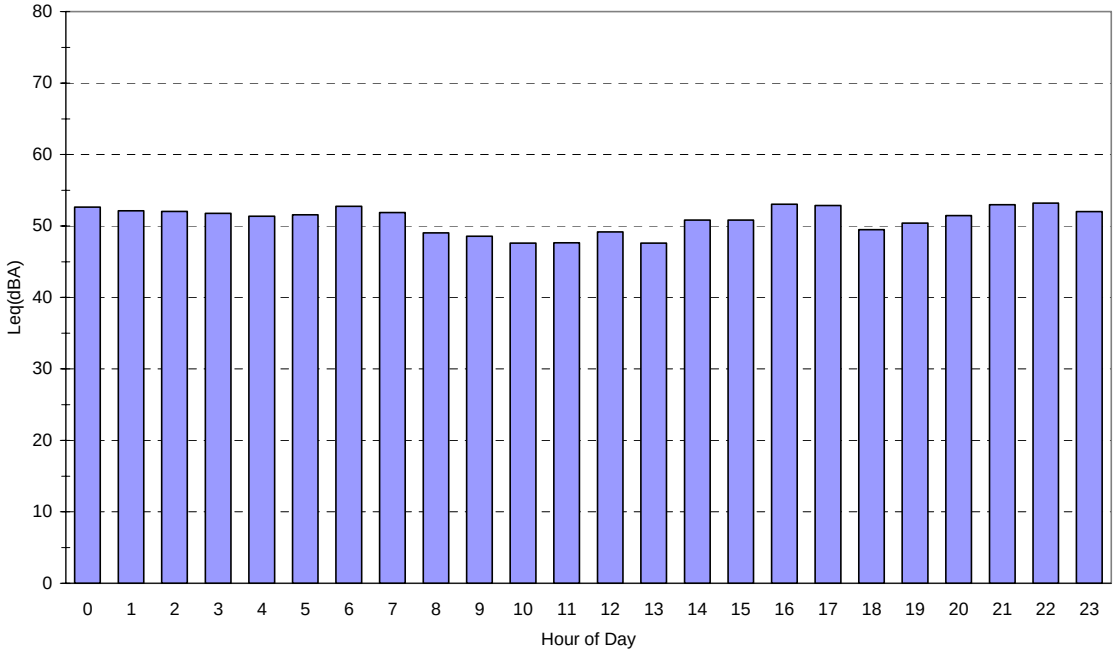
Average Hourly Noise Levels
Site 06



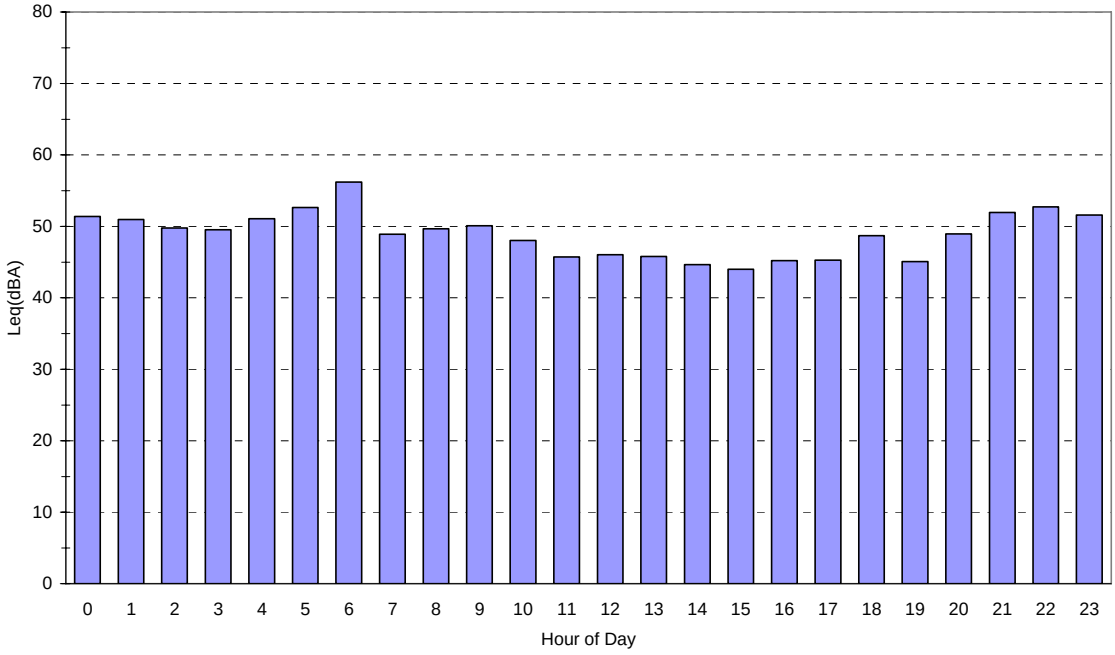
Average Hourly Noise Levels
Site 07



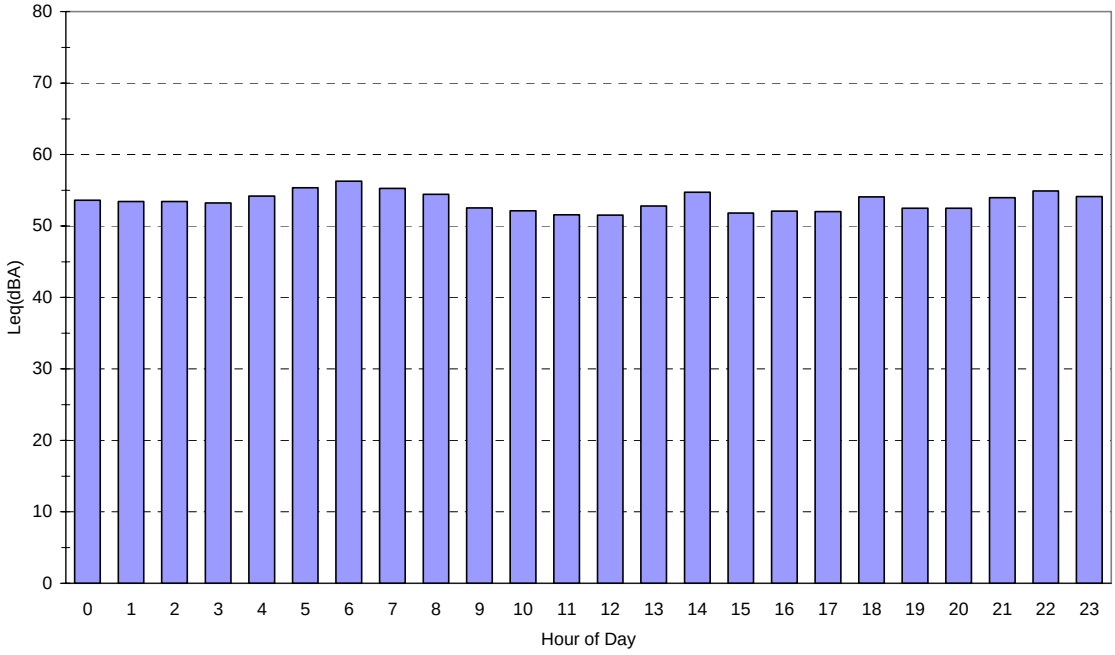
Average Hourly Noise Levels
Site 08



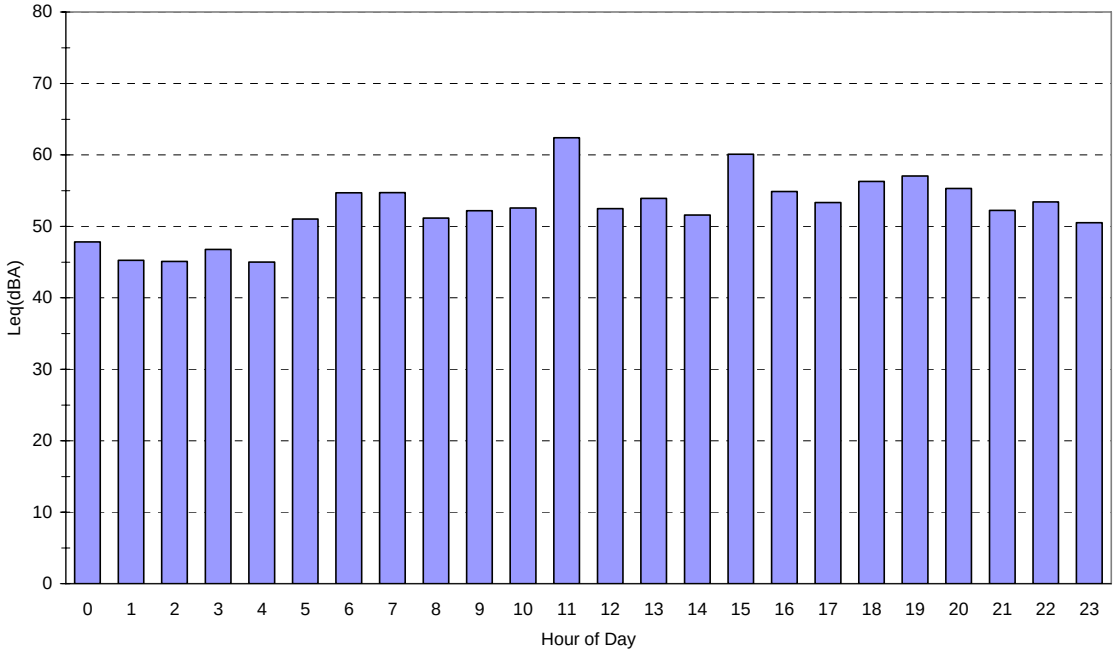
Average Hourly Noise Levels
Site 09



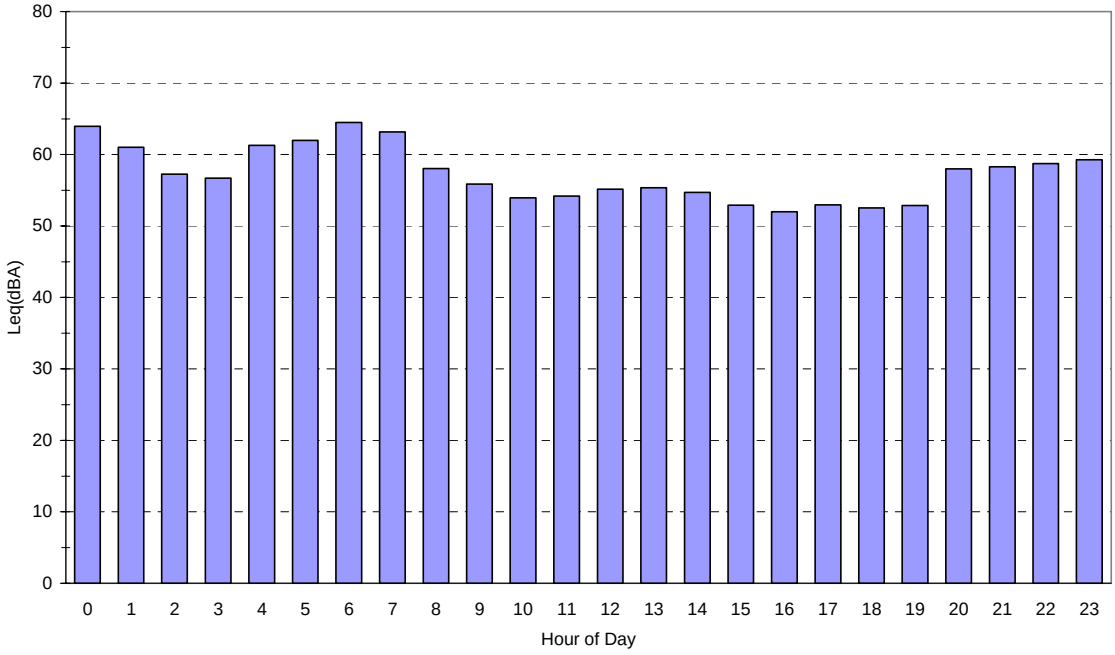
Average Hourly Noise Levels
Site 10



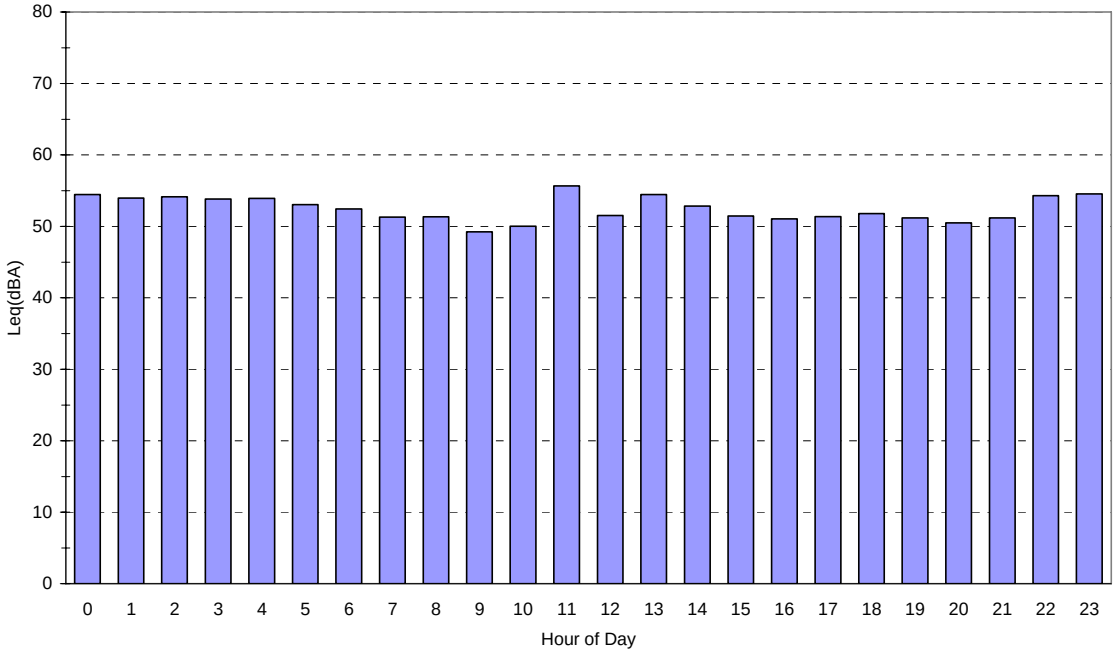
Average Hourly Noise Levels
Site 11



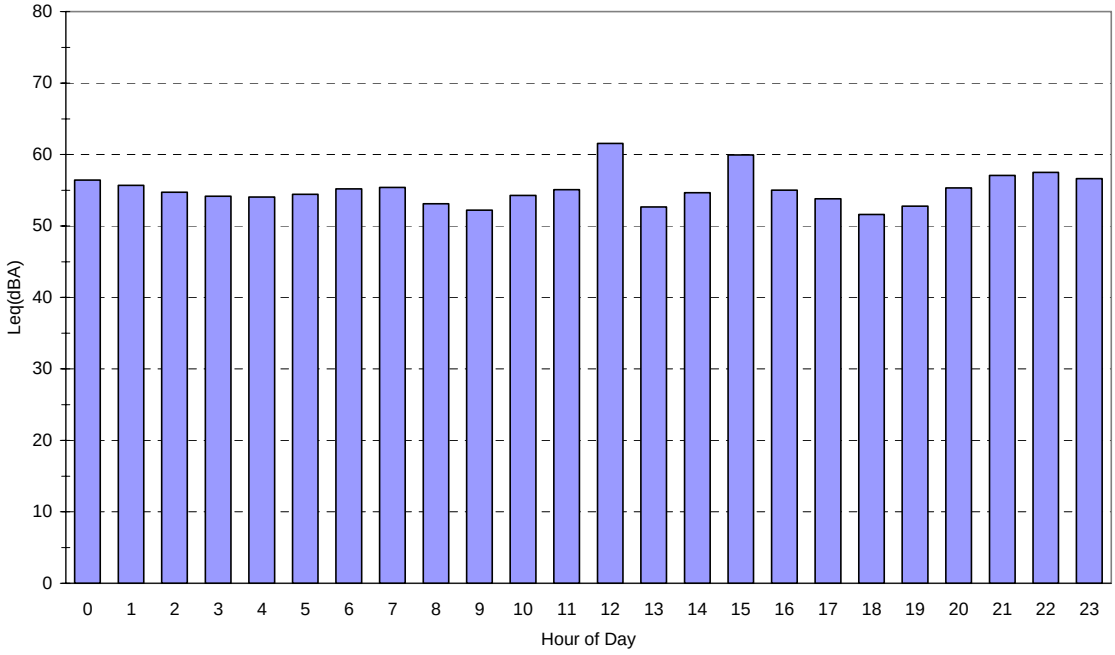
Average Hourly Noise Levels
Site 12



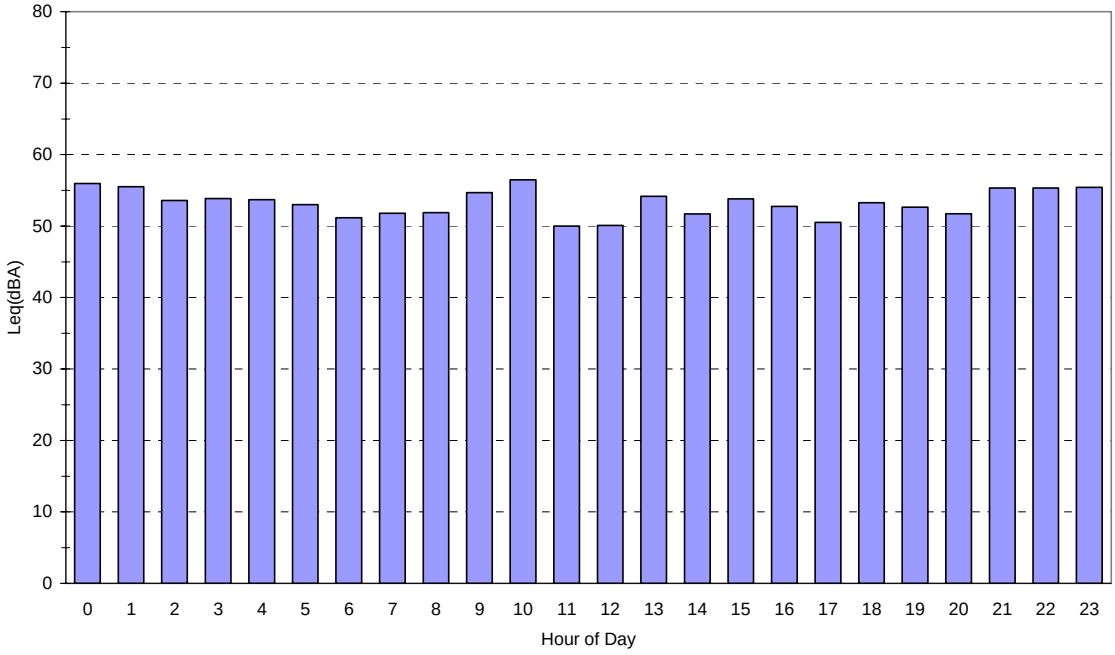
Average Hourly Noise Levels
Site 13



Average Hourly Noise Levels
Site 14



Average Hourly Noise Levels
Site 15



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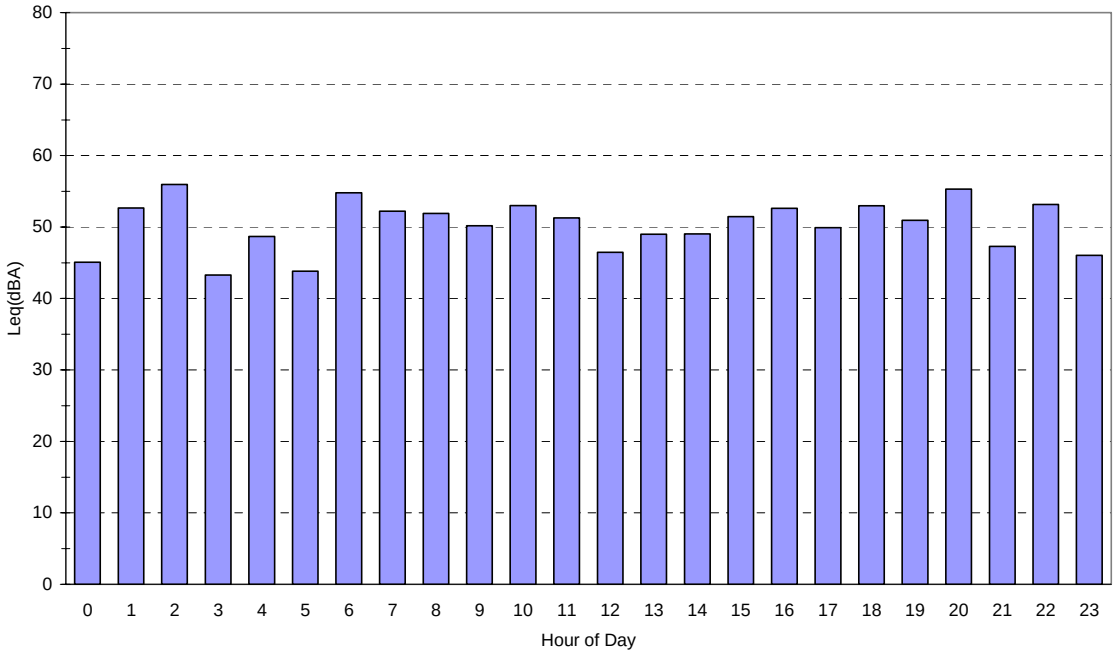
Average Hourly Noise Levels
Site 16



3 INPUT FOR BASE CASE NOISE EXPOSURE MAPS FOR 2006 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 during 2006. Contours are included for 2006. FAR Part 150 studies typically include future contours for five years after the year of submission. However, FAA policy concerning future-year contours recognizes that there are often good reasons for adopting a future year later than five years. In the case of this study for PTIA, the year of greatest concern in the communities around PTIA is the year when the FedEx hub is expected to be fully built out, 2014. For that reason, 2014 was adopted as the future year for this study.

3.2 OPERATIONS INFORMATION FOR 2006

This section of the report contains detailed information from the updated operations forecast about numbers of operations in 2006, as well as information about runway use and flight corridors in that year. .

3.2.1 Flight Operations for 2006 Base Case

During 2006, the yearly average daily number of takeoffs and landings is forecast to be 335.82. 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 early 2006 and anticipated changes during the remainder of 2006. Table A-4 contains detailed numbers of aircraft operations by aircraft type within each user group for 2006.

TABLE A-3

Existing Condition (2006) Yearly Average Daily Aircraft Operations by User Group
Piedmont Triad International Airport
Updated Operations Forecast

	Arrivals			Departures		
User Group	Day	Night	Total	Day	Night	Total
Air Carrier	18.34	0.00	18.34	17.97	0.37	18.34
Commuter	62.81	10.22	73.03	58.43	14.61	73.03
Cargo – FedEx	0.94	2.30	3.25	0.51	2.73	3.25
Cargo – Non-FedEx	3.30	1.04	4.34	1.45	2.89	4.34
GA	60.90	5.47	66.37	60.90	5.47	66.37
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	148.74	19.17	167.91	141.71	26.20	167.91

TABLE A-4

Existing Condition (2006) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
Air Carrier	737300	0.77	0	0.75	0.02	0	1.53
	737500	1.04	0	1.01	0.02	0	2.07
	737800	0	0	0	0	0	0
	7373B2	0.27	0	0.26	0.01	0	0.54
	737N17	2.96	0	2.9	0.06	0	5.92
	A319	1.04	0	1.01	0.02	0	2.07
	GV	6.36	0	6.23	0.13	0	12.72
	MD82	0.77	0	0.75	0.02	0	1.53
	MD83	5.15	0	5.05	0.1	0	10.3
Air Carrier Subtotal		**18.34**	**0**	**17.97**	**0.37**	**0**	**36.68**
Cargo (Non Fed Ex)	727QF	0.02	0.01	0.01	0.02	0	0.06
	757PW	0.44	0.14	0.19	0.38	0	1.15
	757RR	0.39	0.12	0.17	0.34	0	1.02
	A300	1.34	0.42	0.59	1.17	0	3.51
	DC870	0.03	0.01	0.01	0.03	0	0.08
	DC93LW	1.09	0.34	0.48	0.95	0	2.86
Cargo (Non Fed Ex) Subtotal		**3.3**	**1.04**	**1.45**	**2.89**	**0**	**8.67**
Cargo (Fed Ex)	727EM2	0	0.27	0	0.27	0	0.55
	A300	0.08	0.36	0.17	0.27	0	0.89
	A310	0.05	1.07	0.17	0.96	0	2.25
	ATR72	0.17	0.27	0.17	0.27	0	0.89
	DC1010	0.64	0.32	0	0.96	0	1.91
Cargo (Fed Ex) Subtotal		**0.94**	**2.3**	**0.51**	**2.73**	**0**	**6.49**
Commuter	CL601	32.77	5.33	30.48	7.62	0	76.21
	EMB135	20.82	3.39	19.37	4.84	0	48.42
	EMB145	4.78	0.78	4.45	1.11	0	11.11
	GV	4.44	0.72	4.13	1.03	0	10.32
Commuter Subtotal		**62.81**	**10.11**	**58.43**	**14.61**	**0**	**146.06**

TABLE A-4 (continued)

Existing Condition (2006) Yearly Average Daily Aircraft Operations
by INM Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
GA	737300	0.17	0.02	0.17	0.02	0	0.38
	A300	0.03	0	0.03	0	0	0.06
	BEC58P	4.76	0.53	4.76	0.53	3.9	14.48
	CIT3	0.91	0.1	0.91	0.1	0	2.02
	CL601	0.79	0.09	0.79	0.09	0	1.76
	CNA172	5.24	0.58	5.24	0.58	4.29	15.93
	CNA206	3.33	0.37	3.33	0.37	2.73	10.14
	CNA441	2.57	0.29	2.57	0.29	0	5.71
	CNA500	2.04	0.23	2.04	0.23	0	4.54
	CNA750	0.62	0.07	0.62	0.07	0	1.39
	DHC6	3.12	0.35	3.12	0.35	0	6.94
	EMB120	0.43	0.05	0.43	0.05	0	0.95
	EMB145	0.06	0.01	0.06	0.01	0	0.13
	FAL20	0.79	0.09	0.79	0.09	0	1.76
	GASEPF	6.19	0.69	6.19	0.69	5.07	18.83
	GASEPV	9.05	1.01	9.05	1.01	7.41	27.51
	GII	0.06	0.01	0.06	0.01	0	0.13
	GIIB	0.11	0.01	0.11	0.01	0	0.25
	GIV	0.17	0.02	0.17	0.02	0	0.38
	GV	0.06	0.01	0.06	0.01	0	0.13
	IA1125	0.2	0.02	0.2	0.02	0	0.44
	LEAR25	0.96	0.11	0.96	0.11	0	2.14
	LEAR35	2.32	0.26	2.32	0.26	0	5.17
	MD81	0.03	0	0.03	0	0	0.06
	MU3001	5.19	0.58	5.19	0.58	0	11.53
GA Subtotal		**49.21**	**5.47**	**49.21**	**5.47**	**23.39**	**132.75**
Military	AC95	0.07	0.01	0.07	0.01	0.61	0.77
	BEC200	0.11	0.01	0.11	0.01	0.61	0.85
	BEC45	0.11	0.01	0.11	0.01	0.61	0.85
	CNA210	0.07	0.01	0.07	0.01	0.61	0.77
	CNA560	0.04	0	0.04	0	0	0.08
	CNA650	0.25	0.03	0.25	0.03	0	0.56
	F15A	0.14	0.02	0.14	0.02	0	0.32
	GASEPF	0.43	0.05	0.43	0.05	0	0.96
Military Subtotal		**1.23**	**0.14**	**1.23**	**0.14**	**2.44**	**5.17**
2006 Operations Total		135.83	19.17	128.79	26.2	25.83	335.82

3.2.2 Runway Use Percentages for 2006 Base Case

Runway use for 2006 was based on the runway use developed during the data acquisition task undertaken in 2004. It was assumed that the runway use with existing runways would be the same in 2006 as it was during 2004. Table A-5 shows the runway use for 2006.

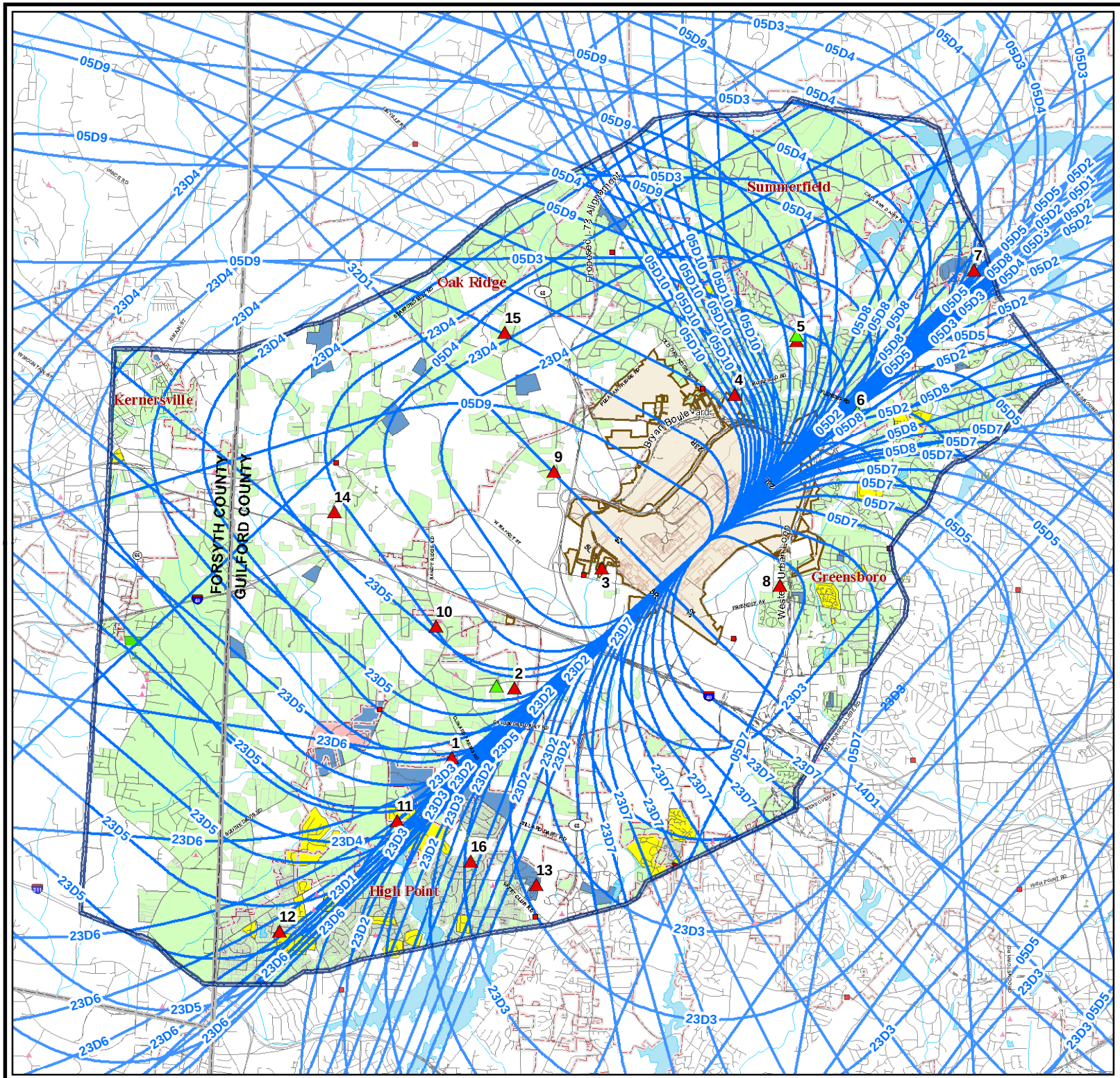
TABLE A-5

RUNWAY USE
2006
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
5	15%	15%	15%	15%
23	75%	75%	75%	75%
14	9%	9%	9%	9%
32	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%

3.2.3 Flight Tracks for 2006 Base Case

Flight tracks for 2006 are shown in Figures A-2 (departure tracks) and A-3 (arrival tracks). Flight track use is shown in Table A-6.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

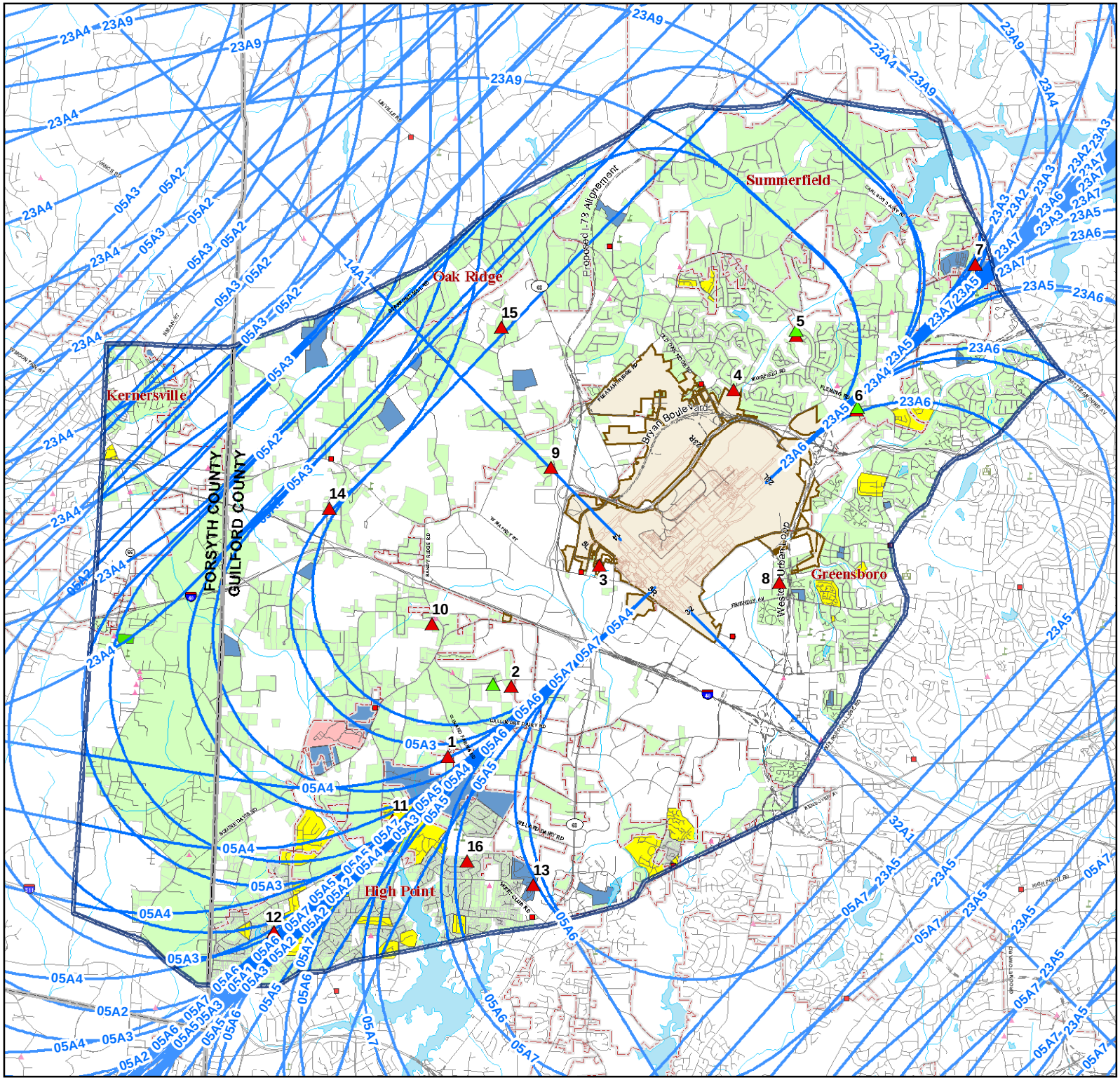
- Departure Flight Tracks 2006 Base Case
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

Departure Flight Tracks 2006 Base Case

Figure A-2

andrew s. harris, inc.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- Arrival Flight Tracks 2006 Base Case
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

Arrival Flight Tracks 2006 Base Case

Figure A-3

andrew s. harris, inc.

Table A-6

Flight Track Use – 2006
Piedmont Triad International Airport

Departures		Modeling Group													
		Passenger Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05D2	8.4%	8.4%			12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05D3	26.0%	26.0%	37.5%	37.5%	50.0%	50.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05D4	13.0%	13.0%					3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05D5	46.1%	46.1%	62.5%	62.5%			10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05D7	5.2%	5.2%					1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05D8	0.7%	0.7%					2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05D9	0.7%	0.7%			6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05D10					31.3%	31.3%					3.6%	3.6%		
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23D1													100.0%	100.0%
	23D2	43.0%	43.0%	68.8%	68.8%	12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23D3	9.4%	9.4%					55.4%	55.4%	45.4%	45.4%	45.4%	45.4%		
	23D4							2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23D5	29.9%	29.9%	31.3%	31.3%	87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23D6	17.8%	17.8%					2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group													
		Passenger Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05A2	5.7%	5.7%					50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05A3	0.0%	0.0%			66.7%	66.7%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05A4	74.0%	74.0%	100.0%	100.0%			30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05A5	17.9%	17.9%					3.1%	3.1%	5.3%	5.3%	13.4%	13.4%		
	05A6	2.4%	2.4%					4.5%	4.5%	13.8%	13.8%	7.5%	7.5%		
	05A7					33.3%	33.3%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23A2	3.3%	3.3%					49.9%	49.9%	18.3%	18.3%	26.1%	26.1%		
	23A3	0.8%	0.8%			60.0%	60.0%	10.3%	10.3%	4.3%	4.3%	16.9%	16.9%		
	23A4	69.1%	69.1%	76.9%	76.9%	13.3%	13.3%	30.1%	30.1%	53.8%	53.8%	16.9%	16.9%		
	23A5	18.7%	18.7%					2.0%	2.0%	2.2%	2.2%	12.7%	12.7%	50.0%	50.0%
	23A6	1.6%	1.6%					3.3%	3.3%	11.8%	11.8%	12.0%	12.0%	50.0%	50.0%
	23A7	0.8%	0.8%					3.6%	3.6%	8.6%	8.6%	12.7%	12.7%		
	23A9	5.7%	5.7%	23.1%	23.1%	26.7%	26.7%	0.8%	0.8%	1.1%	1.1%	2.8%	2.8%		
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14A1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32A1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

3.3 OPERATIONS INFORMATION FOR 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 477.96. Table A-7 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-8 contains detailed numbers of aircraft operations by aircraft type within each user group for 2014. During the noise analyses for 2014, two versions of the FedEx fleet mix were considered. The first version, called Forecast A, assumed that FedEx would still have Boeing 727 aircraft in its fleet. The second, called Forecast B, assumed that the Boeing 727 aircraft would have been replaced in 2014 by aircraft that are acoustically equivalent to Boeing 737-300 aircraft. Forecast A and Forecast B are discussed in Section 2.1.2 of the main document. Table A-8 includes 727s in the FedEx fleet (Forecast A).

TABLE A-7

Future Condition (2014) Yearly Average Daily Aircraft Operations by User Group
Piedmont Triad International Airport
Updated Operations Forecast

Aircraft Type	2014					
	Arrivals			Departures		
	Day	Night	Total	Day	Night	Total
Air Carrier	21.62	0.00	21.62	21.19	0.43	21.62
Commuter	77.17	12.56	89.74	71.79	17.95	89.74
Cargo FedEx	13.06	31.81	44.88	7.09	37.79	44.88
Cargo Non-FedEx	4.35	1.37	5.72	1.91	3.81	5.72
General Aviation	68.28	6.15	74.43	68.28	6.15	74.43
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	186.94	52.03	238.98	172.70	66.27	238.98

TABLE A-8

Future Condition (2014) Yearly Average Daily Aircraft Operations by INM Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast
(Forecast A)

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
Air Carrier	737300	0.9	0	0.89	0.02	0	1.81
	737500	1.22	0	1.2	0.02	0	2.44
	737800	3.49	0	3.42	0.07	0	6.98
	7373B2	0.32	0	0.31	0.01	0	0.63
	737N17	0	0	0	0	0	0
	A319	1.22	0	1.2	0.02	0	2.44
	GV	7.5	0	7.35	0.15	0	15
	MD82	0.9	0	0.89	0.02	0	1.81
	MD83	6.07	0	5.95	0.12	0	12.14
Air Carrier Subtotal		**21.62**	**0**	**21.19**	**0.43**	**0**	**43.25**
Cargo (Non Fed Ex)	727QF	0.03	0.01	0.01	0.03	0	0.08
	757PW	0.58	0.18	0.25	0.5	0	1.51
	757RR	0.51	0.16	0.22	0.45	0	1.34
	A300	1.76	0.55	0.77	1.54	0	4.63
	DC870	0.04	0.01	0.02	0.03	0	0.1
	DC93LW	1.43	0.45	0.63	1.26	0	3.77
Cargo (Non Fed Ex) Subtotal		**4.35**	**1.37**	**1.91**	**3.81**	**0**	**11.44**
Cargo (Fed Ex)	727EM2[8]	0	3.78	0	3.78	0	7.56
	A300	1.14	5	2.36	3.78	0	12.28
	A310	0.74	14.85	2.36	13.23	0	31.18
	ATR72	2.36	3.78	2.36	3.78	0	12.28
	DC1010	8.82	4.41	0	13.23	0	26.45
Cargo (Fed Ex) Subtotal		**13.06**	**31.81**	**7.09**	**37.79**	**0**	**89.75**
Commuter	CL601	40.26	6.55	37.46	9.36	0	93.64
	EMB135	25.58	4.16	23.8	5.95	0	59.5
	EMB145	5.87	0.96	5.46	1.37	0	13.66
	GV	5.45	0.89	5.07	1.27	0	12.68
Commuter Subtotal		**77.17**	**12.56**	**71.79**	**17.95**	**0**	**179.47**

[8] FedEx 727EM2 aircraft are in Forecast A. Forecast B replaces the 727EM2 aircraft with an equal number of 737300 aircraft.

TABLE A-8 (continued)

Future Condition (2014) Yearly Average Daily Aircraft Operations by Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast
(Forecast A)

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
GA	737300	0.22	0.02	0.22	0.02	0	0.48
	A300	0.04	0	0.04	0	0	0.08
	BEC58P	5.36	0.6	5.36	0.6	4.3	16.21
	CIT3	1.15	0.13	1.15	0.13	0	2.56
	CL601	1.01	0.11	1.01	0.11	0	2.24
	CNA172	5.9	0.66	5.9	0.66	4.73	17.83
	CNA206	3.75	0.42	3.75	0.42	3.01	11.35
	CNA441	2.89	0.32	2.89	0.32	0	6.43
	CNA500	0.79	0.09	0.79	0.09	0	1.76
	CNA750	2.59	0.29	2.59	0.29	0	5.76
	DHC6	3.51	0.39	3.51	0.39	0	7.81
	EMB120	0.48	0.05	0.48	0.05	0	1.07
	EMB145	0.07	0.01	0.07	0.01	0	0.16
	FAL20	1.01	0.11	1.01	0.11	0	2.24
	GASEPF	6.97	0.77	6.97	0.77	5.59	21.07
	GASEPV	10.18	1.13	10.18	1.13	8.17	30.8
	GII	0.07	0.01	0.07	0.01	0	0.16
	GIIB	0.14	0.02	0.14	0.02	0	0.32
	GIV	0.22	0.02	0.22	0.02	0	0.48
	GV	0.07	0.01	0.07	0.01	0	0.16
	IA1125	0.25	0.03	0.25	0.03	0	0.56
	LEAR25	0.61	0.07	0.61	0.07	0	1.36
	LEAR35	1.48	0.16	1.48	0.16	0	3.28
	MD81	0.04	0	0.04	0	0	0.08
	MU3001	6.58	0.73	6.58	0.73	0	14.63
GA Subtotal		55.38	6.15	55.38	6.15	25.79	148.87
Military	AC95	0.07	0.01	0.07	0.01	0.61	0.77
	BEC200	0.11	0.01	0.11	0.01	0.61	0.85
	BEC45	0.11	0.01	0.11	0.01	0.61	0.85
	CNA210	0.07	0.01	0.07	0.01	0.61	0.77
	CNA560	0.04	0	0.04	0	0	0.08
	CNA650	0.25	0.03	0.25	0.03	0	0.56
	F15A	0.14	0.02	0.14	0.02	0	0.32
	GASEPF	0.43	0.05	0.43	0.05	0	0.96
Military Subtotal		1.23	0.14	1.23	0.14	2.44	5.17
2014 Operations Total		172.83	52.03	158.59	66.27	28.23	477.95

3.3.2 Runway Use Percentages for 2014 Base Case (Alternative 1)

Table A-8 shows the runway use used to model the 2014 Base Case (referred to here as "Alternative 1"). This runway use reflects the conditions modeled for 2014 in the EIS. It assumes head-to-head operations and equal nighttime use of the two parallel runways by all aircraft types and for all destinations.

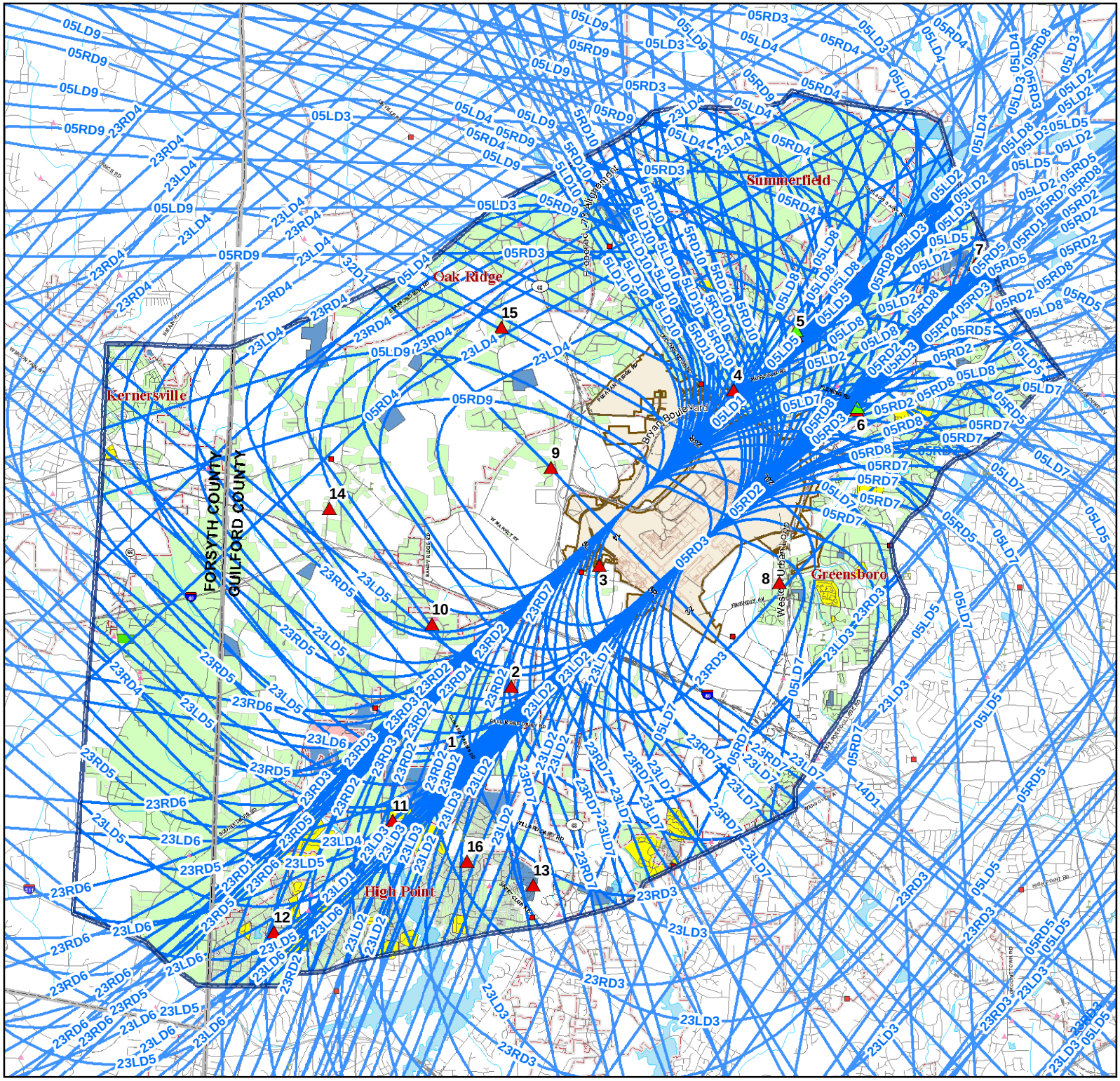
TABLE A-9

RUNWAY USE
2014 Base Case (Alternative 1)
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
All Non-FedEx Aircraft				
5R	15%	5%	15%	5%
5L	0%	0%	0%	0%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Jets				
5R	15%	47.50%	15%	2.50%
5L	0%	47.50%	0%	2.50%
23L	75%	2.50%	75%	47.50%
23R	0%	2.50%	0%	47.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Props				
5R	15%	47.50%	15%	2.50%
5L	0%	47.50%	0%	2.50%
23L	75%	2.50%	75%	47.50%
23R	0%	2.50%	0%	47.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%

3.3.3 Flight Tracks for Year 2014 Base Case (Alternative 1)

Flight tracks for the 2014 Base Case (Alternative 1) are shown in Figures A-4 (departure tracks) and A-5 (arrival tracks). Flight track use is shown in Table A-10.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

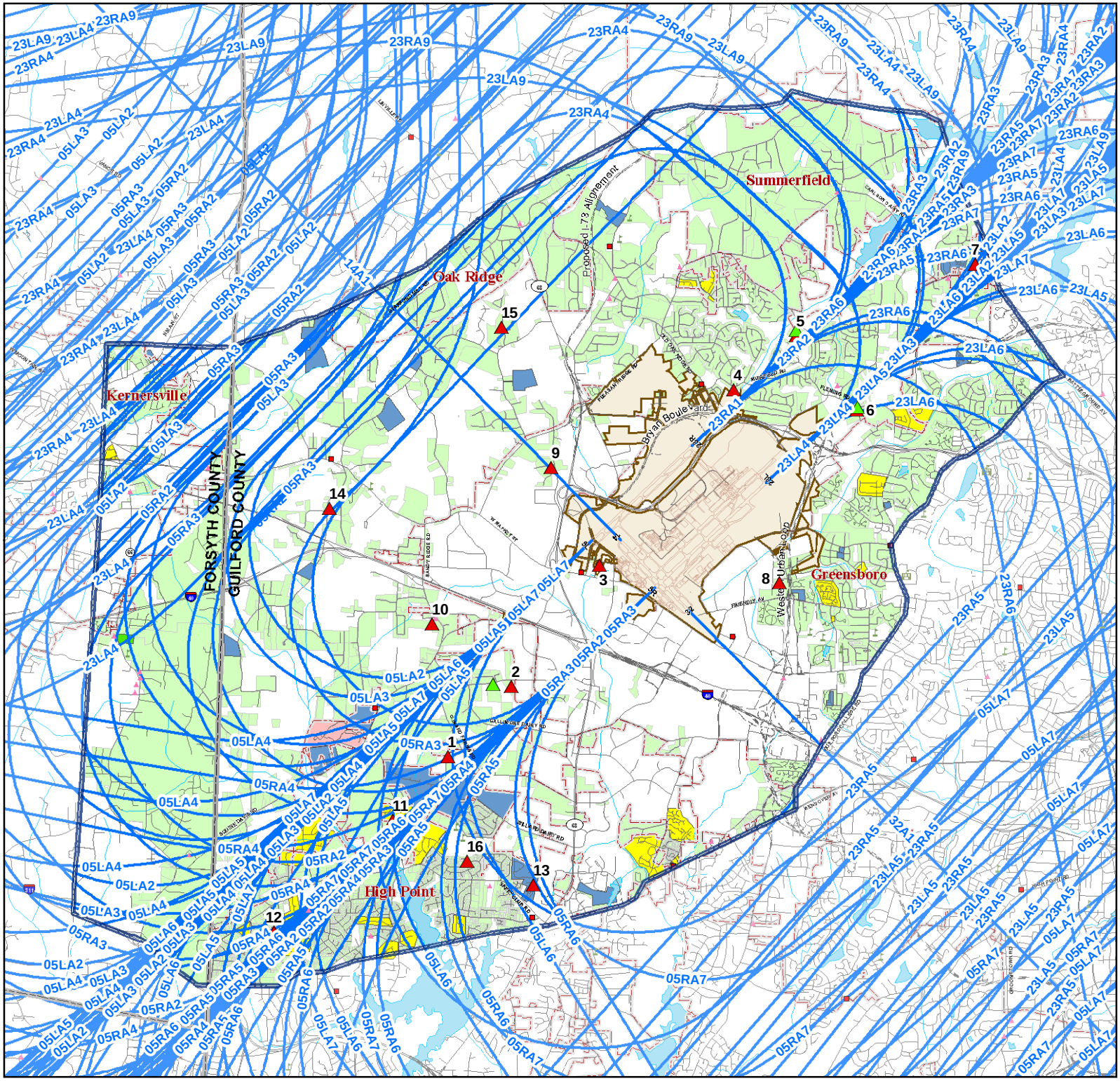
- Departure Flight Tracks 2014 Base Case
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

Departure Flight Tracks 2014 Base Case

Figure A-4

andrew s. harris, inc.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- Arrival Flight Tracks 2014 Base Case
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

Arrival Flight Tracks 2014 Base Case

Figure A-5

andrew s. harris, inc.

Table A-10

Flight Track Use – 2014 Base Case (Alternative 1)
Piedmont Triad International Airport

Departures		Modeling Group													
		Passenger Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%	1.0%		50.0%	50.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%	9.0%	34.3%			10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%					1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%					2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%			6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10					31.3%	31.3%					3.6%	3.6%		
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23 (23L)	23LD1													50.0%	50.0%
	23LD2	43.0%	43.0%	9.0%	34.3%	12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%	40.5%	22.2%	30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4							2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%	1.0%		57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%	49.5%	43.5%			2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
5L	05LD2	8.4%	8.4%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%	1.0%		50.0%	50.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%	9.0%	34.3%			10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%					1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%					2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%			6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10					31.3%	31.3%					3.6%	3.6%		
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23R	23RD1													50.0%	50.0%
	23RD2	43.0%	43.0%			12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%					55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4			40.5%	22.2%			2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%	1.0%		87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%	49.5%	43.5%			2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8			9.0%	34.3%										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Arrivals		**Modeling Group**													
		Passenger Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%					50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%					3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%			17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23 (23L)	23LA2	3.3%	3.3%					49.9%	49.9%	18.3%	18.3%	26.1%	26.1%		
	23LA3	0.8%	0.8%	20.0%	20.0%	63.0%	63.0%	10.3%	10.3%	4.3%	4.3%	16.9%	16.9%		
	23LA4	69.1%	69.1%	40.0%	40.0%	7.0%	7.0%	30.1%	30.1%	53.8%	53.8%	16.9%	16.9%		
	23LA5	18.7%	18.7%					2.0%	2.0%	2.2%	2.2%	12.7%	12.7%	33.0%	33.0%
	23LA6	1.6%	1.6%	40.0%	40.0%			3.3%	3.3%	11.8%	11.8%	12.0%	12.0%	33.0%	33.0%
	23LA7	0.8%	0.8%			17.0%	17.0%	3.6%	3.6%	8.6%	8.6%	12.7%	12.7%	34.0%	34.0%
	23LA9	5.7%	5.7%			13.0%	13.0%	0.8%	0.8%	1.1%	1.1%	2.8%	2.8%		
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
5L	05LA2	5.0%	5.0%					50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05LA3	1.0%	1.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05LA4	74.0%	74.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05LA5	17.0%	17.0%					3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05LA6	2.0%	2.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05LA7	1.0%	1.0%			17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

4 OPERATIONS INFORMATION FOR THE 2014 NEM WITH THE NOISE COMPATIBILITY PROGRAM (NCP) AND FOR ANALYSES OF ALTERNATIVE RUNWAY USE 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 2C) and for alternative runway use 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-11 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-12 contains detailed numbers of aircraft operations by aircraft type within each user group for 2014. During the noise analyses for 2014, two versions of the FedEx fleet mix were considered. The first version, called Forecast A, assumed that FedEx would still have Boeing 727 aircraft in its fleet. The second, called Forecast B, assumed that the Boeing 727 aircraft would have been replaced in 2014 by aircraft that are acoustically equivalent to Boeing 737-300 aircraft. Forecast A and Forecast B are discussed in Section 2.1.2 of the main document. Table A-12 includes FedEx 727s (Forecast A).

TABLE A-11
Future Condition (2014) Yearly Average Daily Aircraft Operations by User Group
Piedmont Triad International Airport
Updated Operations Forecast

Aircraft Type	2014					
	Arrivals			Departures		
	Day	Night	Total	Day	Night	Total
Air Carrier	21.62	0.00	21.62	21.19	0.43	21.62
Commuter	77.17	12.56	89.74	71.79	17.95	89.74
Cargo FedEx	13.06	31.81	44.88	7.09	37.79	44.88
Cargo Non-FedEx	4.35	1.37	5.72	1.91	3.81	5.72
General Aviation	68.28	6.15	74.43	68.28	6.15	74.43
Military	2.45	0.14	2.58	2.45	0.14	2.58
Total	186.94	52.03	238.98	172.70	66.27	238.98

TABLE A-12

Future Condition (2014) Yearly Average Daily Aircraft Operations by Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast
Forecast A

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
Air Carrier	737300	0.9	0	0.89	0.02	0	1.81
	737500	1.22	0	1.2	0.02	0	2.44
	737800	3.49	0	3.42	0.07	0	6.98
	7373B2	0.32	0	0.31	0.01	0	0.63
	737N17	0	0	0	0	0	0
	A319	1.22	0	1.2	0.02	0	2.44
	GV	7.5	0	7.35	0.15	0	15
	MD82	0.9	0	0.89	0.02	0	1.81
	MD83	6.07	0	5.95	0.12	0	12.14
Air Carrier Subtotal		**21.62**	**0**	**21.19**	**0.43**	**0**	**43.25**
Cargo (Non Fed Ex)	727QF	0.03	0.01	0.01	0.03	0	0.08
	757PW	0.58	0.18	0.25	0.5	0	1.51
	757RR	0.51	0.16	0.22	0.45	0	1.34
	A300	1.76	0.55	0.77	1.54	0	4.63
	DC870	0.04	0.01	0.02	0.03	0	0.1
	DC93LW	1.43	0.45	0.63	1.26	0	3.77
Cargo (Non Fed Ex) Subtotal		**4.35**	**1.37**	**1.91**	**3.81**	**0**	**11.44**
Cargo (Fed Ex)	727EM2[9]	0	3.78	0	3.78	0	7.56
	A300	1.14	5	2.36	3.78	0	12.28
	A310	0.74	14.85	2.36	13.23	0	31.18
	ATR72	2.36	3.78	2.36	3.78	0	12.28
	DC1010	8.82	4.41	0	13.23	0	26.45
Cargo (Fed Ex) Subtotal		**13.06**	**31.81**	**7.09**	**37.79**	**0**	**89.75**
Commuter	CL601	40.26	6.55	37.46	9.36	0	93.64
	EMB135	25.58	4.16	23.8	5.95	0	59.5
	EMB145	5.87	0.96	5.46	1.37	0	13.66
	GV	5.45	0.89	5.07	1.27	0	12.68
Commuter Subtotal		**77.17**	**12.56**	**71.79**	**17.95**	**0**	**179.47**

[9] FedEx 727EM2 aircraft are in Forecast A. Forecast B replaces the 727EM2 aircraft with an equal number of 737300 aircraft.

TABLE A-12 (continued)

Future Condition (2014) Yearly Average Daily Aircraft Operations by Aircraft Type
Piedmont Triad International Airport
Updated Operations Forecast
Forecast A

Aircraft Category	INM Aircraft Type	Arrivals		Departures		TGO	Total
		Day	Night	Day	Night	Day	
GA	737300	0.22	0.02	0.22	0.02	0	0.48
	A300	0.04	0	0.04	0	0	0.08
	BEC58P	5.36	0.6	5.36	0.6	4.3	16.21
	CIT3	1.15	0.13	1.15	0.13	0	2.56
	CL601	1.01	0.11	1.01	0.11	0	2.24
	CNA172	5.9	0.66	5.9	0.66	4.73	17.83
	CNA206	3.75	0.42	3.75	0.42	3.01	11.35
	CNA441	2.89	0.32	2.89	0.32	0	6.43
	CNA500	0.79	0.09	0.79	0.09	0	1.76
	CNA750	2.59	0.29	2.59	0.29	0	5.76
	DHC6	3.51	0.39	3.51	0.39	0	7.81
	EMB120	0.48	0.05	0.48	0.05	0	1.07
	EMB145	0.07	0.01	0.07	0.01	0	0.16
	FAL20	1.01	0.11	1.01	0.11	0	2.24
	GASEPF	6.97	0.77	6.97	0.77	5.59	21.07
	GASEPV	10.18	1.13	10.18	1.13	8.17	30.8
	GII	0.07	0.01	0.07	0.01	0	0.16
	GIIB	0.14	0.02	0.14	0.02	0	0.32
	GIV	0.22	0.02	0.22	0.02	0	0.48
	GV	0.07	0.01	0.07	0.01	0	0.16
	IA1125	0.25	0.03	0.25	0.03	0	0.56
	LEAR25	0.61	0.07	0.61	0.07	0	1.36
	LEAR35	1.48	0.16	1.48	0.16	0	3.28
	MD81	0.04	0	0.04	0	0	0.08
	MU3001	6.58	0.73	6.58	0.73	0	14.63
GA Subtotal		55.38	6.15	55.38	6.15	25.79	148.87
Military	AC95	0.07	0.01	0.07	0.01	0.61	0.77
	BEC200	0.11	0.01	0.11	0.01	0.61	0.85
	BEC45	0.11	0.01	0.11	0.01	0.61	0.85
	CNA210	0.07	0.01	0.07	0.01	0.61	0.77
	CNA560	0.04	0	0.04	0	0	0.08
	CNA650	0.25	0.03	0.25	0.03	0	0.56
	F15A	0.14	0.02	0.14	0.02	0	0.32
	GASEPF	0.43	0.05	0.43	0.05	0	0.96
Military Subtotal		1.23	0.14	1.23	0.14	2.44	5.17
2014 Operations Total		**172.83**	**52.03**	**158.59**	**66.27**	**28.23**	**477.95**

4.1.2 Runway Use for Year 2014 NEM with the NCP (Alternative 2C)

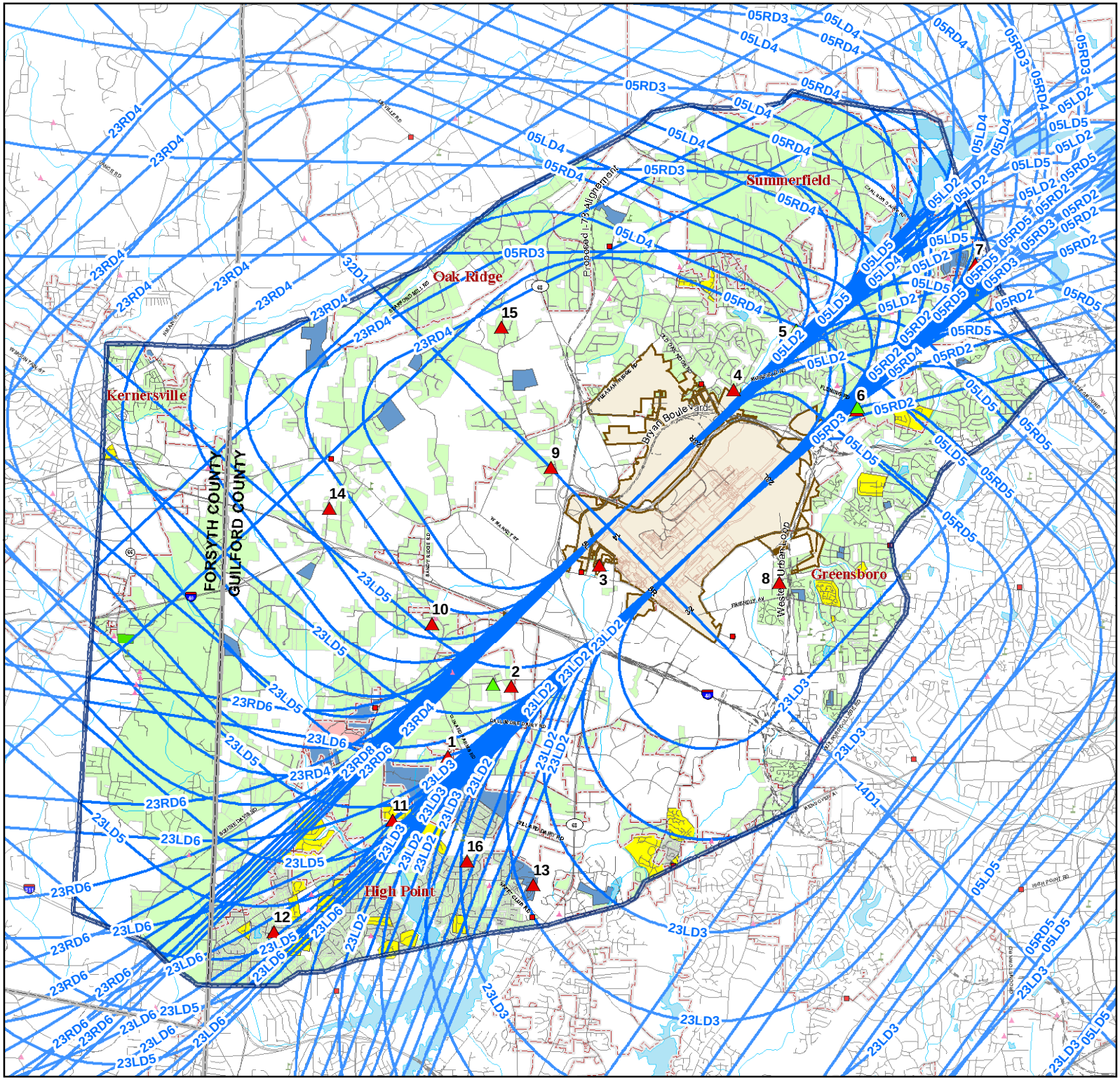
Table A-13 shows the runway use for the 2014 NEM with the NCP (Alternative 2C).

Table A-13
RUNWAY USE
2014 NEM with NCP (Alternative 2C)
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
All Non-FedEx Aircraft				
5R	15%	5%	15%	5%
5L	0%	0%	0%	0%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx 727 Jets				
5R	15%	47.50%	15%	5.00%
5L	0%	47.50%	0%	0.00%
23L	75%	2.50%	75%	0.00%
23R	0%	2.50%	0%	95.0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
Non-727 FedEx Jets				
5R	15%	47.50%	15%	2.19%
5L	0%	47.50%	0%	2.81%
23L	75%	2.50%	75%	53.44%
23R	0%	2.50%	0%	41.56%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Props				
5R	15%	47.50%	15%	47.50%
5L	0%	47.50%	0%	47.50%
23L	75%	2.50%	75%	2.50%
23R	0%	2.50%	0%	2.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%

4.1.3 Flight Tracks for 2014 NEM with NCP (Alternative 2C)

Flight tracks for the 2014 NEM with NCP (Alternative 2C) are shown in three figures. Departure tracks for all departures except for FedEx night departures are the same as the 2014 Base Case Departure Tracks of Figure A-4. Arrival tracks for all aircraft the same as the 2014 Base Case Arrival Tracks of Figure A-5. Night FedEx departure tracks are shown in Figure A-6. Flight track use for the 2014 NEM with NCP (Alternative 2C) is shown in Table A-14.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- FedEx Departure Flight Tracks Alternatives 2A and 3A
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

FedEx Departure Flight Tracks Alternatives 2A and 3A

Figure A-6

andrew s. harris, inc.

Table A-14

Flight Track Use – 2014 NEM with NCP (Alternative 2C)
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N																
	05RD3N																
	05RD4N																
	05RD5N																
	05R_NRTH			0.405	0.222	0.405	0.222										
	05R_WEST			0.01		0.01											
	05R_SW			0.495	0.435	0.495	0.435										
	05R_S			0.09	0.343	0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD3N			0.405	39.0%	0.405	22.2%										
	23LD5N			0.01		0.01											
	23LD6N			0.495		0.495	43.5%										
	23LD8N			9.0%	61.0%	9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N																
	05LD3N																
	05LD4N																
	05LD5N																
	05L_NRTH			0.405	0.222	0.405	0.222										
	05L_WEST			0.01		0.01											
	05L_SW			0.495	0.435	0.495	0.435										
	05L_S			0.09	0.343	0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%							55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			0.405	0.0057	0.405	0.222										
	23RD5N			0.01		0.01											
	23RD6N			0.495	0.9943	0.495	0.435										
	23RD8N			0.09		0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night

4.1.4 Runway Use for Analyses of Alternative Runway Use Scenarios in 2014

This section contains tables of runway use used to model noise exposure for the one-way Case and three alternative runway use scenarios considered during development of the NCP. Table A-15 shows the runway use used to model one-way operations in 2014. It assumes equal nighttime use of the two parallel runways by all aircraft types and for all destinations. Flight track use for the one-way case is as shown in Table A-10.

TABLE A-15

RUNWAY USE
2014 One-Way Case
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
All Non-FedEx Aircraft				
5R	15%	5%	15%	5%
5L	0%	0%	0%	0%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Jets				
5R	15%	2.50%	15%	2.50%
5L	0%	2.50%	0%	2.50%
23L	75%	47.50%	75%	47.50%
23R	0%	47.50%	0%	47.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Props				
5R	15%	2.50%	15%	2.50%
5L	0%	2.50%	0%	2.50%
23L	75%	47.50%	75%	47.50%
23R	0%	47.50%	0%	47.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%

Table A-16 shows the runway use used to model head-to-head operations for Alternatives 2A, 2B, 2C and 2D in 2014. It assumes that equal numbers of aircraft use the two parallel runways at night. However, also it assumes that all 727s use runway 23R for departures at night when departures are on runways 23L and 23R and all 727s use runway 5R for departures at night when departures are on runway 5L and 5R.

TABLE A-16

RUNWAY USE
2014 Alternatives 2A, 2B, 2C and 2D
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
All Non-FedEx Aircraft				
5R	15%	5%	15%	5%
5L	0%	0%	0%	0%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx 727 Jets				
5R	15%	47.50%	15%	5.00%
5L	0%	47.50%	0%	0.00%
23L	75%	2.50%	75%	0.00%
23R	0%	2.50%	0%	95.0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
Non-727 FedEx Jets				
5R	15%	47.50%	15%	2.19%
5L	0%	47.50%	0%	2.81%
23L	75%	2.50%	75%	53.44%
23R	0%	2.50%	0%	41.56%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Props				
5R	15%	47.50%	15%	47.50%
5L	0%	47.50%	0%	47.50%
23L	75%	2.50%	75%	2.50%
23R	0%	2.50%	0%	2.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%

Table A-17 shows the runway use used to model head-to-head operations for Alternatives 3A, 3B and 3C in 2014. It assumes that equal numbers of aircraft use the two parallel runways at night. However, it assumes that all 727s bound for northern destinations use runway 23L for nighttime departures and all other 727s use runway 23R for at nighttime departures when departures are on runways 23L and 23R, and that all 727s use runway 5R for nighttime departures when departures are on runways 5L and 5R.

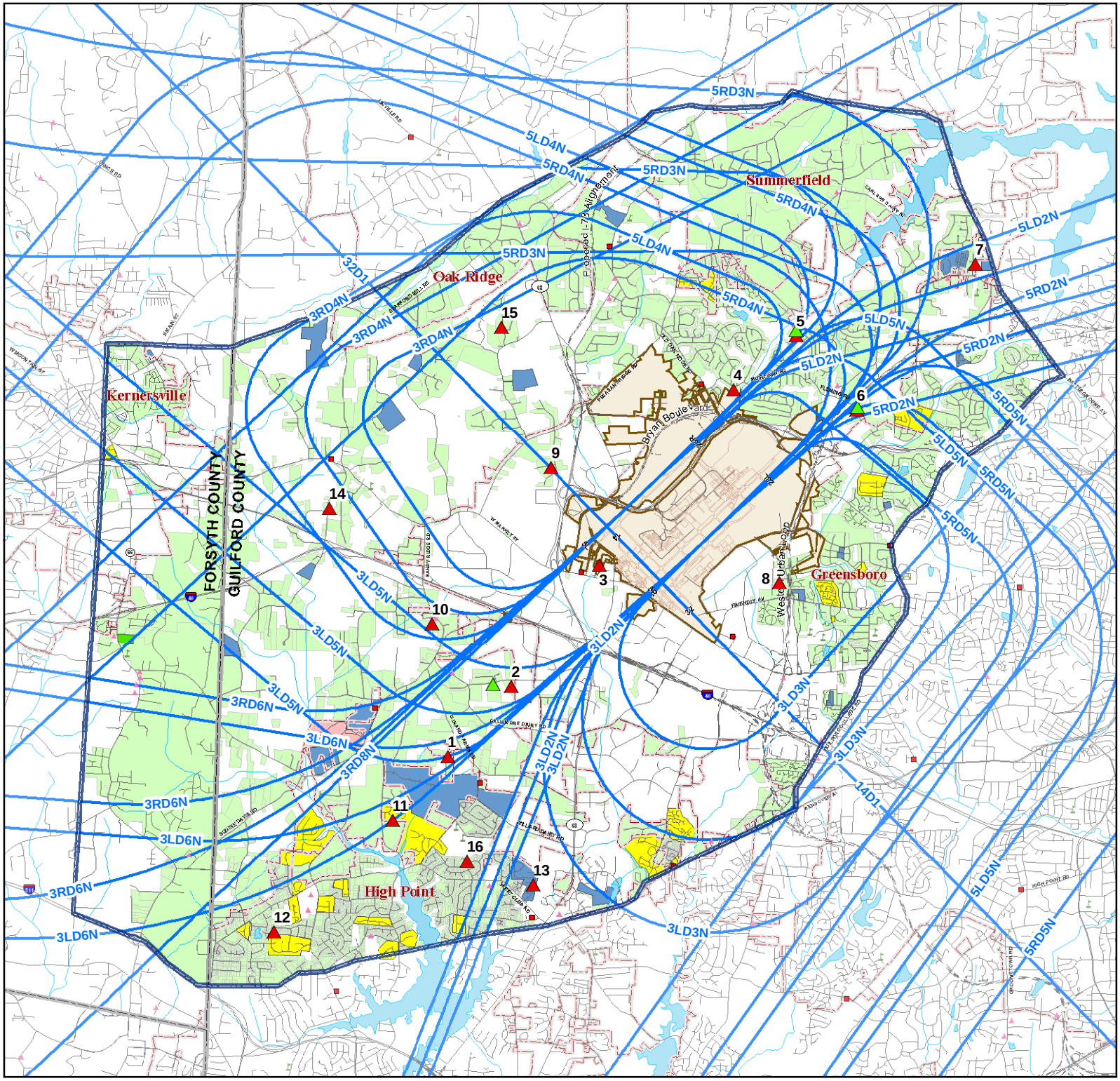
TABLE A-17

RUNWAY USE
2014 Alternatives 3A, 3B and 3C
Piedmont Triad International Airport

Runway	Percent Runway Utilization			
	Arrivals		Departures	
	Day	Night	Day	Night
All Non-FedEx Aircraft				
5R	15%	5%	15%	5%
5L	0%	0%	0%	0%
23L	75%	95%	75%	95%
23R	0%	0%	0%	0%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx 727 Jets				
5R	15%	47.50%	15%	5.00%
5L	0%	47.50%	0%	0.00%
23L	75%	2.50%	75%	21.09%
23R	0%	2.50%	0%	73.91%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
Non-727 FedEx Jets				
5R	15%	47.50%	15%	2.19%
5L	0%	47.50%	0%	2.81%
23L	75%	2.50%	75%	50.80%
23R	0%	2.50%	0%	44.20%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%
FedEx Props				
5R	0%	47.50%	15%	2.50%
5L	15%	47.50%	0%	2.50%
23L	0%	2.50%	75%	47.50%
23R	75%	2.50%	0%	47.50%
14	5%	0%	5%	0%
32	5%	0%	5%	0%
TOTAL	100%	100%	100%	100%

4.1.5 Flight Tracks for Analyses of Alternative Runway Use Scenarios in 2014

This section presents the flight tracks and flight track uses for the analyses of alternative runway use scenarios in 2014. Arrival flight tracks for all alternatives are as shown earlier for the 2014 Base Case in Figure A-5. Departure flight tracks for all operations except FedEx night operations are as shown earlier for the 2014 Base Case in Figure A-4. The runway use alternatives focused on the runways used by FedEx at night. Departure flight tracks for FedEx night operations are as shown in Figures A-7 through A-9. Figure A-7 shows flight tracks used by FedEx at night for Alternatives 2A and 3A. Figure A-8 shows flight tracks used by FedEx at night for Alternatives 2B and 3B. Figure A-7 shows flight tracks used by FedEx at night for Alternatives 2C, 2D and 3C. Flight track use for runway use alternatives 2A, 2B, 2C, 2D, 3A, 3B and 3B is in Tables A-18 through A-24.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- FedEx Departure Flight Tracks Alternatives 2B and 3B
- Study Area Boundary
- Airport Boundary
- Municipal Boundaries
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

FedEx Departure Flight Tracks Alternatives 2B and 3B

Figure A-7

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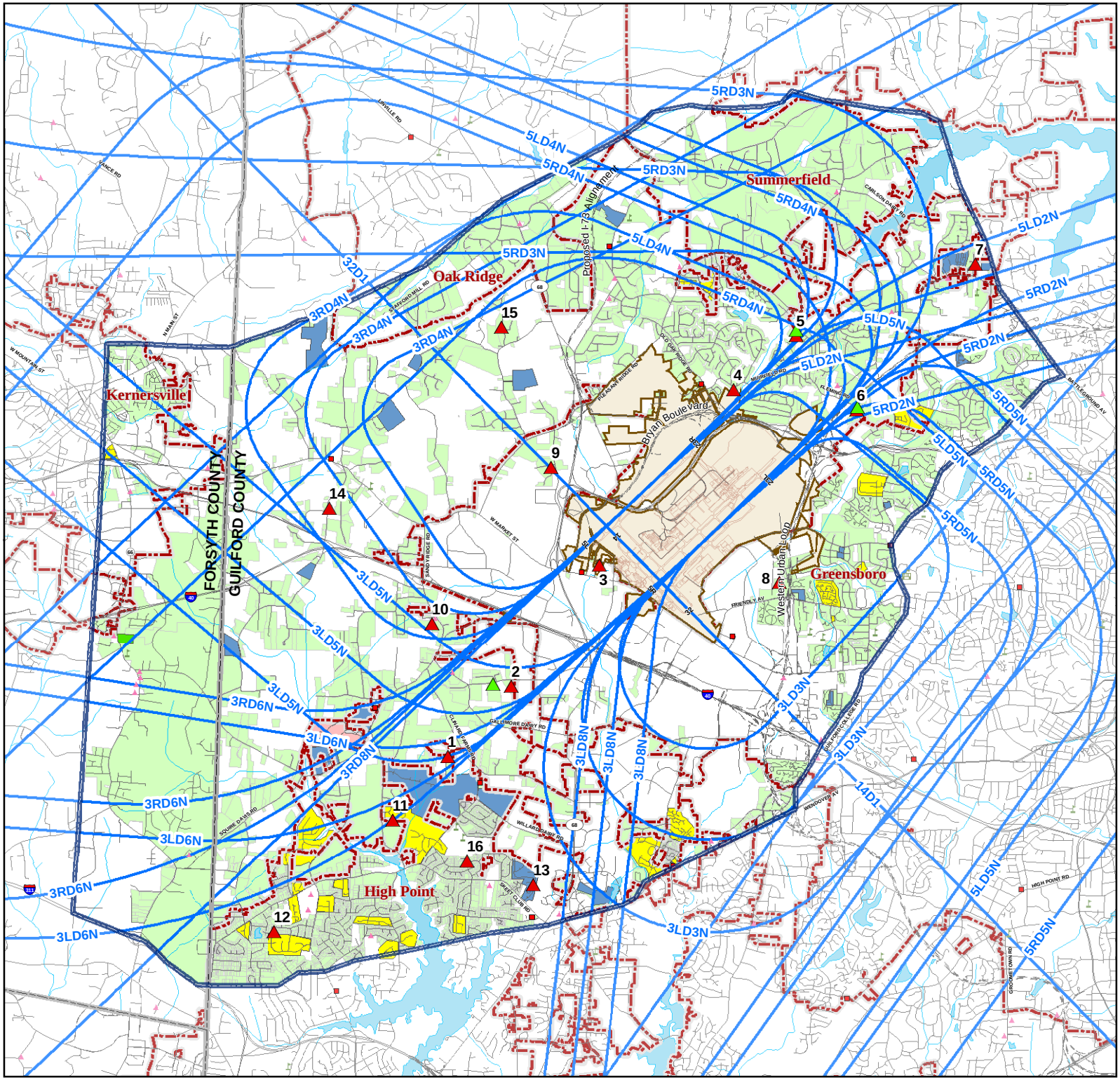


PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

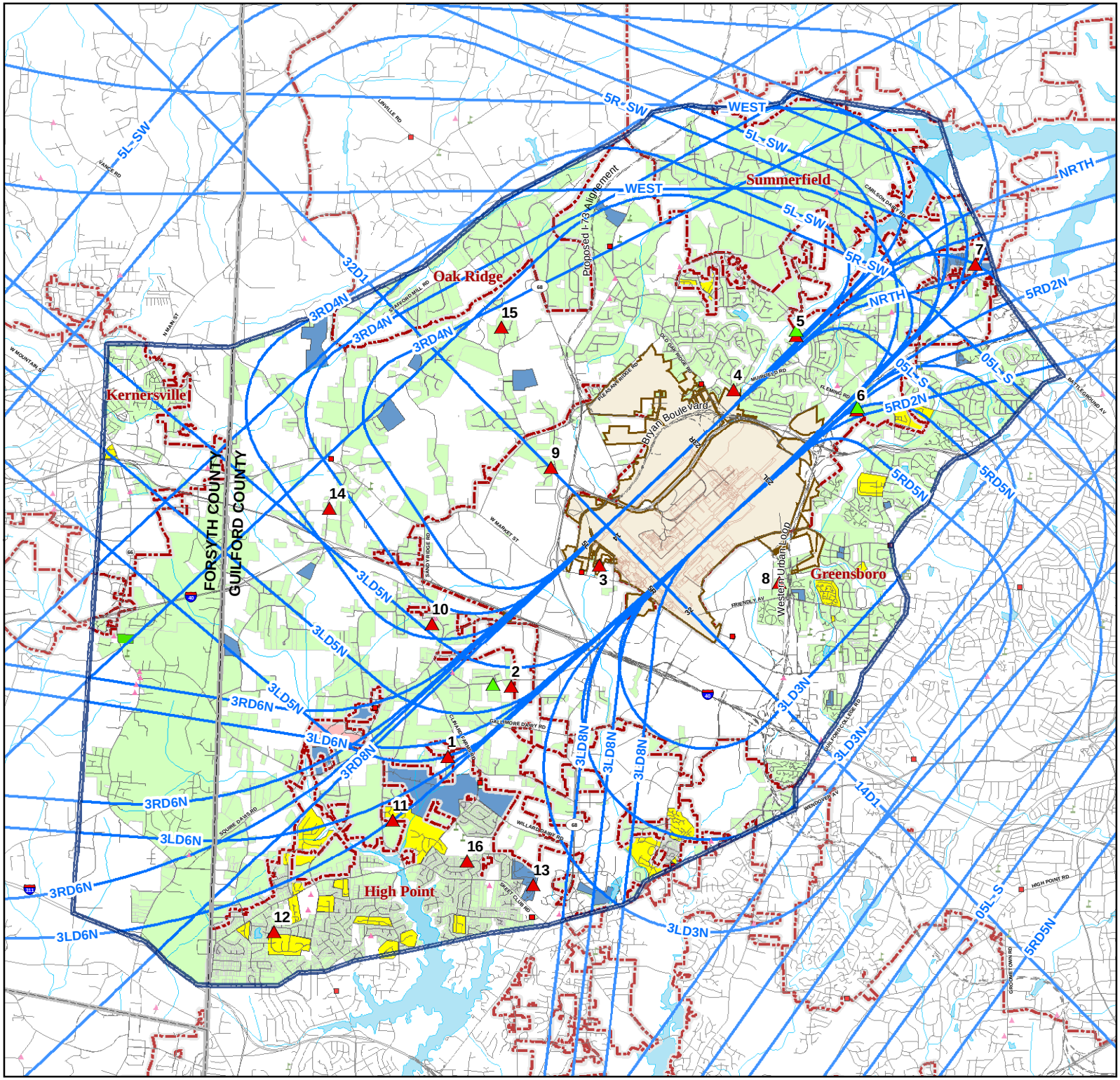
- FedEx Departure Flight Tracks Alternatives 2C, 3C, and 2D
- Study Area Boundary
- Airport Boundary
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

FedEx Departure Flight Tracks Alternatives 2C, 3C, and 2D

Figure A-8

andrew s. harris, inc.



PIEDMONT TRIAD INTERNATIONAL AIRPORT

PART 150 STUDY

- FedEx Departure Flight Tracks Alternatives 2C, 3C, and 2D
- Study Area Boundary
- Airport Boundary
- County Boundaries
- 2004 Noise Measurement Location
- 1999 Noise Measurement Location
- Churches
- Schools
- Colleges/Universities
- Fire Stations
- Existing Roads
- Proposed Roads
- Streams
- Water Bodies
- Moses Cone Medical Center
- Presbyterian Retirement Community
- Residential Built Since 12/31/2001
- Residential Under Construction
- Residential Zoning

0 4,000 8,000 12,000 Feet

FedEx Departure Flight Tracks Alternatives 2C, 3C, and 2D

Figure A-9

andrew s. harris, inc.

Table A-18

Flight Track Use – 2014 Alternative 2A
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%	40.5%	22.2%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%	1.0%		1.0%		25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%	49.5%	43.5%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%	9.0%	34.3%	9.0%	34.3%	25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N																
	05RD3N																
	05RD4N																
	05RD5N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%	9.0%	61.0%	9.0%	34.3%	12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%	40.5%	39.0%	40.5%	22.2%	30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%	1.0%		1.0%		57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%	49.5%		49.5%	43.5%			2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD2N																
	23LD3N																
	23LD5N																
	23LD6N																
	23LD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5L	05LD2	8.4%	8.4%	40.5%	22.2%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%	1.0%		1.0%		25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%	49.5%	43.5%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%	9.0%	34.3%	9.0%	34.3%	25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N																
	05LD3N																
	05LD4N																
	05LD5N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4			40.5%	0.6%	40.5%	22.2%			2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%	1.0%		1.0%		57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%	49.5%	99.4%	49.5%	43.5%			2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8			9.0%		9.0%	34.3%										
	23RD4N																
	23RD5N																
	23RD6N																
	23RD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%							3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%					17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-19

Flight Track Use – 2014 Alternative 2B
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N			40.5%	22.2%	40.5%	22.2%										
	05RD3N			1.0%		1.0%											
	05RD4N			49.5%	43.5%	49.5%	43.5%										
	05RD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD2N			9.0%	61.0%	9.0%	34.3%										
	23LD3N			40.5%	39.0%	40.5%	22.2%										
	23LD5N			1.0%		1.0%											
	23LD6N			49.5%		49.5%	43.5%										
	23LD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N			40.5%	22.2%	40.5%	22.2%										
	05LD3N			1.0%		1.0%											
	05LD4N			49.5%	43.5%	49.5%	43.5%										
	05LD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			40.5%	0.6%	40.5%	22.2%										
	23RD5N			1.0%		1.0%											
	23RD6N			49.5%	99.4%	49.5%	43.5%										
	23RD8N			9.0%		9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%							3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%					17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-20
Flight Track Use – 2014 Alternative 2C
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N																
	05RD3N																
	05RD4N																
	05RD5N																
	05R_NRTH			0.405	0.222	0.405	0.222										
	05R_WEST			0.01		0.01											
	05R_SW			0.495	0.435	0.495	0.435										
	05R_S			0.09	0.343	0.09	0.343										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD3N			0.405	39.0%	0.405	22.2%										
	23LD5N			0.01		0.01											
	23LD6N			0.495		0.495	43.5%										
	23LD8N			9.0%	61.0%	9.0%	34.3%										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N																
	05LD3N																
	05LD4N																
	05LD5N																
	05L_NRTH			0.405	0.222	0.405	0.222										
	05L_WEST			0.01		0.01											
	05L_SW			0.495	0.435	0.495	0.435										
	05L_S			0.09	0.343	0.09	0.343										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%							55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			0.405	0.0057	0.405	0.222										
	23RD5N			0.01		0.01											
	23RD6N			0.495	0.9943	0.495	0.435										
	23RD8N			0.09		0.09	0.343										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Arrivals		**Modeling Group**															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night

Table A-21
Flight Track Use – 2014 Alternative 2D
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N			0.405	0.222	0.405	0.222										
	05R_WEST			0.01		0.01											
	05R_SW			0.495	0.435	0.495	0.435										
	05RD3N																
	05RD4N																
	05RD5N			0.09	0.343	0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2																
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD3N			0.405	39.0%	0.405	22.2%										
	23LD5N			0.01		0.01											
	23LD6N			0.495		0.495	43.5%										
	23LD8N	43.0%	43.0%	9.0%	61.0%	9.0%	34.3%	12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	TOTAL	57.0%	57.0%	100.0%	100.0%	100.0%	100.0%	87.5%	87.5%	89.0%	89.0%	97.9%	97.9%	97.9%	97.9%	100.0%	100.0%
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N																
	05LD3N																
	05LD4N																
	05LD5N																
	05L_NRTH			0.405	0.222	0.405	0.222										
	05L_WEST			0.01		0.01											
	05L_SW			0.495	0.435	0.495	0.435										
	05L_S			0.09	0.343	0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%							55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			0.405	0.0057	0.405	0.222										
	23RD5N			0.01		0.01											
	23RD6N			0.495	0.9943	0.495	0.435										
	23RD8N			0.09		0.09	0.343										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		

Table A-22
Flight Track Use – 2014 Alternative 3A
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%	40.5%	22.2%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%	1.0%		1.0%		25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%	49.5%	43.5%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%	9.0%	34.3%	9.0%	34.3%	25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N																
	05RD3N																
	05RD4N																
	05RD5N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%	9.0%	58.5%	9.0%		12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%	40.5%	41.5%	40.5%	100.0%	30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%	1.0%		1.0%		57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%	49.5%		49.5%				2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD2N																
	23LD3N																
	23LD5N																
	23LD6N																
	23LD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5L	05LD2	8.4%	8.4%	40.5%	22.2%	40.5%	22.2%	12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%	1.0%		1.0%		25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%	49.5%	43.5%	49.5%	43.5%			3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%	9.0%	34.3%	9.0%	34.3%	25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N																
	05LD3N																
	05LD4N																
	05LD5N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4			40.5%		40.5%				2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%	1.0%		1.0%		57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%	49.5%	93.5%	49.5%	55.9%			2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8			9.0%	6.5%	9.0%	44.1%										
	23RD4N																
	23RD5N																
	23RD6N																
	23RD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%							3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%					17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-23
Flight Track Use – 2014 Alternative 3B
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N			40.5%	22.2%	40.5%	22.2%										
	05RD3N			1.0%		1.0%											
	05RD4N			49.5%	43.5%	49.5%	43.5%										
	05RD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD2N			9.0%	58.5%	9.0%											
	23LD3N			40.5%	41.5%	40.5%	100.0%										
	23LD5N			1.0%		1.0%											
	23LD6N			49.5%		49.5%											
	23LD8N																
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N			40.5%	22.2%	40.5%	22.2%										
	05LD3N			1.0%		1.0%											
	05LD4N			49.5%	43.5%	49.5%	43.5%										
	05LD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			40.5%		40.5%											
	23RD5N			1.0%		1.0%											
	23RD6N			49.5%	93.5%	49.5%	55.9%										
	23RD8N			9.0%	6.5%	9.0%	44.1%										
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Arrivals		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%							3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%					17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-24
Flight Track Use – 2014 Alternative 3C
Piedmont Triad International Airport

Departures		Modeling Group															
		Passenger Jet		FEDEX Jet		FEDEX 727 Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05RD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05RD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05RD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05RD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05RD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05RD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05RD10							31.3%	31.3%					3.6%	3.6%		
	05RD2N			40.5%	22.2%	40.5%	22.2%										
	05RD3N			1.0%		1.0%											
	05RD4N			49.5%	43.5%	49.5%	43.5%										
	05RD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23 (23L)	23LD1															50.0%	50.0%
	23LD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23LD3	9.4%	9.4%					30.0%	30.0%	55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23LD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23LD5	29.9%	29.9%					57.5%	57.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23LD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23LD3N			40.5%	41.5%	40.5%	100.0%										
	23LD5N			1.0%		1.0%											
	23LD6N			49.5%		49.5%											
	23LD8N			9.0%	58.5%	9.0%											
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
5L	05LD2	8.4%	8.4%					12.5%	12.5%	55.8%	55.8%	37.2%	37.2%	24.8%	24.8%		
	05LD3	26.0%	26.0%					25.0%	25.0%	25.7%	25.7%	26.6%	26.6%	6.8%	6.8%		
	05LD4	13.0%	13.0%							3.5%	3.5%	2.7%	2.7%	13.1%	13.1%		
	05LD5	46.1%	46.1%					25.0%	25.0%	10.8%	10.8%	24.8%	24.8%	5.0%	5.0%		
	05LD7	5.2%	5.2%							1.6%	1.6%	8.9%	8.9%	25.7%	25.7%		
	05LD8	0.7%	0.7%							2.7%	2.7%			11.3%	11.3%	33.3%	33.3%
	05LD9	0.7%	0.7%					6.3%	6.3%					9.9%	9.9%	66.7%	66.7%
	05LD10							31.3%	31.3%					3.6%	3.6%		
	05LD2N			40.5%	22.2%	40.5%	22.2%										
	05LD3N			1.0%		1.0%											
	05LD4N			49.5%	43.5%	49.5%	43.5%										
	05LD5N			9.0%	34.3%	9.0%	34.3%										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
23R	23RD1															50.0%	50.0%
	23RD2	43.0%	43.0%					12.5%	12.5%	11.0%	11.0%	2.1%	2.1%	2.1%	2.1%		
	23RD3	9.4%	9.4%							55.4%	55.4%	45.4%	45.4%	45.4%	45.4%	50.0%	50.0%
	23RD4									2.0%	2.0%	14.4%	14.4%	14.4%	14.4%		
	23RD5	29.9%	29.9%					87.5%	87.5%	29.0%	29.0%	18.6%	18.6%	18.6%	18.6%		
	23RD6	17.8%	17.8%							2.6%	2.6%	19.6%	19.6%	19.6%	19.6%		
	23RD8																
	23RD4N			40.5%		40.5%											
	23RD5N			1.0%		1.0%											
	23RD6N			49.5%	93.5%	49.5%	55.9%										
	23RD8N			9.0%	6.5%	9.0%	44.1%										
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
14	14D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
32	32D1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Arrivals		**Modeling Group**															
		Passenger Jet		FEDEX Jet		FEDEX Jet		Other Cargo Jet		Regional Jet		Corporate Jet		Non-Jet Aircraft		Military	
Runway	Track Name	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
5 (5R)	05RA2	5.0%	5.0%							50.2%	50.2%	29.8%	29.8%	37.3%	37.3%		
	05RA3	1.0%	1.0%	20.0%	20.0%	20.0%	20.0%	63.0%	63.0%	7.6%	7.6%	5.3%	5.3%	23.9%	23.9%		
	05RA4	74.0%	74.0%	40.0%	40.0%	40.0%	40.0%	20.0%	20.0%	30.7%	30.7%	36.2%	36.2%	10.5%	10.5%		
	05RA5	17.0%	17.0%							3.1%	3.1%	5.3%	5.3%	13.4%	13.4%	33.0%	33.0%
	05RA6	2.0%	2.0%	40.0%	40.0%	40.0%	40.0%			4.5%	4.5%	13.8%	13.8%	7.5%	7.5%	33.0%	33.0%
	05RA7	1.0%	1.0%					17.0%	17.0%	3.8%	3.8%	9.6%	9.6%	7.5%	7.5%	34.0%	34.0%
	TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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 portions of Guilford County and Forsyth County. Portions of the following cities are in the study area: Greensboro, High Point, Kernersville, Oak Ridge and Summerfield. As described in detail in Appendix C, representatives from these political jurisdictions were members of the Government Advisory Committee, one of the three Advisory Committees that participated in the Part 150 Study. The land use base map was developed from information obtained from these jurisdictions. The PTAA has land use authority over its own property. The other jurisdictions that have land use authority within the DNL 65 contours of the NEMs are the Cities of Greensboro and High Point (within their municipal boundaries) and Guilford County.

Figures 1 through 15 identify residential land use in three categories: existing land zoned for residential purposes, residential areas developed since December 31, 2001, the date of the Record of Decision for the EIS, and residential areas under construction in early 2006, and other land zoned for residential purposes. A large retirement community, the Presbyterian Retirement Community, is also identified. In addition to residential land use, schools, houses of worship, medical facilities and the one property that is eligible for the National Historic Register inside a DNL 65 contour are identified on the map. 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-25. 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-25
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[10], 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

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

Table A-25 (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-16

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-16

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

1 INTRODUCTION

As noted in Chapter Three of this document, FAR Part 150 requires that there be a discussion of all measures that were considered and were not recommended for inclusion in the NCP. The discussion must indicate why the measures were not recommended for inclusion. This appendix presents full discussions of all measures that were not recommended. These discussions were originally prepared for discussion at meetings of the Advisory Committees.

1.1 MEASURES INVOLVING THE AIRPORT PLAN

Two measures involving the airport plan were not recommended for inclusion in the NCP.

1.1.1 Noise Barriers near Runway Ends

This measure involves consideration of noise barriers to reduce noise levels from aircraft operations on the runways. As pointed out in Chapter Three's discussion of Measure NA-1, a barrier can provide meaningful reduction of noise if the barrier is near to the source or near to the receiver and is tall enough to break the line of sight between the source and the receiver. A barrier may be a wall or berm. A building may also act as a barrier. Barriers at airports must be constructed so that they comply with FAR Part 77, the regulation that restricts the placement and height of structures near runways.

Potential use of barriers or berms was considered near the northeast ends of runways 23L and 23R. Noise generated during the start of takeoff roll on Runways 23R and 23L will have the potential to affect residences near the northern ends of the runways. However, FAR Part 77 would limit possible locations and restrict the height of noise barriers near the end of either runway, possibly preventing a barrier from breaking the line-of-sight to aircraft on the runway from nearby residences. In addition, the near end of Runway 23R will be above the immediately surrounding terrain with the grade dropping away from the runway, further reducing the feasibility of an effective noise barrier. Finally, noise barriers are least effective at reducing low-frequency noise, such as that generated by aircraft at start of takeoff, especially if the barrier only marginally breaks the line of sight between aircraft and houses. After initial evaluation, the consultants recommended that noise barriers at the north end of runways 23L and 23R be dropped from further consideration.

Subsequently, at the committee meetings during June 2005 and during the email comment period, several committee members requested further consideration of barriers at the north runway ends. The consultants reexamined barrier options to reduce noise from departures on runways 23L and 23R. They considered both the potential effectiveness of barriers and their eligibility as measures for the PTIA NCP. Permanent barriers would need to comply with the obstruction limitations of FAR Part 77. The reduction in single-event noise from takeoffs would be only 5 to 7 dBA under the best conditions, when the areas to be protected are upwind of the barriers. When the area to be protected is downwind from the runway, which would be the case with respect to the areas northeast of PTIA under normal

wind conditions, there would be no noise reduction. Potential reduction in DNL values by a barrier would be less than the single-event reduction because of the mixture of takeoff and landing noise that comprises DNL. Although a retractable barrier might be closer to a runway, if such a barrier were feasible technically and financially feasible, factors such as wind direction would make a retractable barrier similarly ineffective under downwind conditions. There would be little or no low-frequency noise reduction from a departure-end barrier under any conditions. The low potential for barriers that could provide reliable reduction of noise from aircraft departing from runways 23L and 23R makes such barriers unsuitable parts of an NCP for PTIA.

There is a further factor that eliminates runway-end barriers from consideration at PTIA. That factor is that there are no noise sensitive land uses within the DNL 65 contour in these areas. For this reason, even if a barrier could reduce the DNL, there would be no change in the number of people exposed to DNL 65 or greater and there would be no noise abatement benefit from the barriers. Thus, no barrier would be eligible for inclusion in an NCP and eligible for subsequent implementation funding.

1.1.2 Effects of Changes to Existing Runway 5/23

Based on FAA requirements, the PTAA is considering methods to meet the Runway Safety Area requirements for existing runway 5/23. One of the proposed changes in the runway is to displace the runway threshold at the southwest end approximately 1,130 feet to the northeast and add up to 1,660 feet to the runway at the northeast end. Alternatives to this proposed change are also under consideration. While this change is not being proposed as a noise abatement measure, it may slightly change the aircraft noise environment associated with operations on the runway.

The precise noise effects of the changes have not yet been determined. The consultants for the runway will consider them. Because of the small change in runway location, it is anticipated that the change in noise exposure will be less than 1 dB at points closest to the airport and even less at greater distances. Such differences would be unnoticeable.

The PTIA will need to complete appropriate environmental processes for the proposed project and its alternatives before changing the length of runway 5/23. The environmental work will also include analysis of changes in noise exposure and identification of any potential noise impacts. Neither changes in runway length nor changes in runway location are contemplated as noise reduction measures in this study. For this reason, this measure is not recommended for inclusion in the NCP.

1.2 MEASURES INVOLVING AIRPORT AND AIRSPACE USE

Three of the measures that were considered in the Part 150 Study involving airport and airspace use are not recommended for inclusion in the NCP.

1.2.1 Use of Runway 5/23 for a Portion of Daytime Operations

Use of Runway 5L/23R for a Portion of Daytime Operations

The EIS assumed that the existing runway (to be called 5R/23L in the future) would continue to be used for essentially all daytime operations. Furthermore, it assumed infrequent use of runway 5L for night departures and infrequent use of runway 23R for night landings. Although, Runway 5L/23R will be available for use and may be selected by some operators, Runway 5R/23L will be the preferred runway during the daytime because nearly all aircraft will still use the main terminal and other facilities that are nearer to runway 5R/23L than to 5L/23R, and runway 5R/23L will continue to be the longest runway at PTIA. The possibility of daytime use of runway 5L/23R has been discussed in the Part 150 Study due to the absence of any restrictions on such use, not because it is a potential noise abatement measure. Continued use of runway 5R/23L for daytime operations will minimize noise exposure during the daytime. Furthermore, because it minimizes taxi time for nearly all daytime operations, it is the least expensive operational mode. For these reasons, daytime use of runway 5L/23R is not recommended for inclusion in the NCP.

1.2.2 Restrict Use of Aircraft Based on the Noise Characteristics of the Aircraft

Several Advisory Committee members requested consideration of a measure that would prevent flights by 727 aircraft. This type of prohibition would need to be based on the noisiness of the 727 and would prohibit 727 operations by prohibiting all aircraft making more than a specific amount of noise during departures. Departure noise is the appropriate value to use because 727 departure noise is louder than the departure noise for newer aircraft whereas arrival noise levels for 727s are similar to the arrival noise levels for large, new aircraft.

Although a FAR Part 150 program may propose this type of measure, an airport proprietor proposing a restriction based on aircraft noise levels must undertake a separate study that fulfills the additional requirements set forth under FAR Part 161 and receive FAA approval of the Part 161 Study before implementing the measure. Because 727s that operate at PTIA comply with Stage 3 requirements of FAR Part 36, any restriction of 727 operations would have to meet the most stringent requirements of FAR Part 161. Since promulgation of FAR Part 161 in 1991, no airport has successfully implemented a restriction on Stage 3

aircraft. A FAR Part 161 Study must incorporate a detailed cost-benefit analysis in addition to meeting the other requirements of Part 161. Therefore, if the PTAA sought to implement such a restriction, it would be necessary to prove that prohibition of 727 operations would be the most cost-effective method to achieve noise compatibility of those residences in areas around PTIA that would be noncompatible because of the operation of 727 aircraft.

Comparison of the noise sensitive land uses within the contours for 2014 with Forecasts A and B (Figure 1) shows that approximately 53 more houses are exposed to aircraft noise in excess of DNL 65 because a portion of FedEx night operations use 727 aircraft rather than quieter aircraft. (Of the 53 houses, 51 are exposed to DNL between 65 and 70 and two are exposed to DNL between 70 and 75.) Replacement of 727 operations with quieter aircraft would reduce the noise exposure of that group of houses. 51 houses would no longer be exposed to DNL greater than 65 and two houses would no longer be exposed to DNL between 70 and 75. The reduction in DNL value at the houses would range from 2 dB to 3 dB. Acquisition is the primary remedial measure for houses where DNL exceeds 70. Sound insulation of these houses is an alternative measure and is proposed in this document as Measure LU-1. A greater reduction in the internal noise environment would be achieved by improving the sound insulation provided by the houses, because sound insulation programs must provide at least a 5-dB reduction in interior noise levels from aircraft.

Costs were also estimated. Based on the costs of studies at other airports, a FAR Part 161 study in support on a noise-related restriction of 727 operations at PTIA would cost in excess of $1,000,000. In addition to these costs would be the costs to FedEx of replacing the 727s before they have depleted their useful service life with appropriate adjustments for the relative operating costs of the aircraft. The consultants have not estimated these costs to FedEx. Nonetheless, it is likely to be many millions of dollars. By comparison, based on the costs of treating house around the Charlotte airport, it is anticipated that sound insulation at PTIA would cost between $10,000 and $20,000 per residence. The total cost of sound insulating 51 houses would be between $510,000 and $1,020,000. Some additional cost would be incurred to purchase and eventually resell the 5 houses where DNL exceeds 70, with the exception of the houses that PTAA owns already or that the homeowners choose not to sell, but this cost would not add substantially to the total mitigation expense. Although the benefits from elimination of 727 operations would be less than the benefit from sound insulation, the costs associated with replacement of the 727s would be greatly in excess of the costs of the sound insulation alternative. Given the availability of the sound insulation alternative and its lower cost for greater benefits, it is not appropriate to contemplate implementation of a measure to prohibit 727 operations at PTIA. For these reasons, this measure has not be submitted as part of the proposed NCP for PTIA.

1.2.3 Landing Fee Surcharge Based on the Noise Characteristics of the Aircraft

Some Advisory Committee members requested consideration of a measure that would place a landing fee surcharge based on the noise of 727 aircraft. The purpose of the measure would be to discourage use of 727s by raising the cost of their use. As in the case of the previous measure that would prohibit operations based on the noise characteristics of 727s, the fee should be applicable to the aircraft that produce departure noise levels equivalent to or greater than those from a 727. While the goal of the measure is to make use of 727s financially unattractive, the level of surcharge required to achieve that goal is not known. Furthermore, to be truly effective, the measure would need to induce FedEx and any other 727 operators to completely cease use of 727s. In the case of FedEx night operations, complete replacement of all 727s with quieter aircraft, would be required to achieve the full DNL reduction of 2 dB to 3 dB that would result from outright prohibition as estimated in the previous section. Partial elimination of 727 operations would produce only a smaller reduction in DNL.

The requirements for acceptance of this measure are the same as the requirements for acceptance of the prohibition of 727 operations . That is, an airport proprietor proposing a restriction based on aircraft noise levels must undertake a study that fulfills the requirements set forth under FAR Part 161 and receive FAA approval of the study before implementing the measure. The study required for this measure would be the same as the study required for the prohibition.

The greatest potential benefit of this measure would be a reduction in DNL of 2 dB to 3 dB. If less than 100 percent of the 727 operations were eliminated, the benefits of the measure would be reduced. As was the case with the last previous measure, sound insulation is an alternative measure that would produce an interior reduction in DNL from aircraft of at least 5 dB.

The costs associated with the measure would be at least as much as the costs associated with the previous measure. They would include at least $1,000,000 for the FAR Part 161 study plus the costs to FedEx of replacing the 727s before they have depleted their useful service life with appropriate adjustments for the relative operating costs of the aircraft. The costs of the sound insulation alternative would also be as described in the previous section. Given the availability of the sound insulation alternative and its lower cost for greater benefits, it is not appropriate to contemplate implementation of a measure to discourage 727 operations at PTIA by instituting a landing fee surcharge based on the noise characteristics of the aircraft. For these reasons, this measure has not be submitted as part of the proposed NCP for PTIA.

APPENDIX C:

RECORD OF PUBLIC INVOLVEMENT PROGRAM

INTRODUCTION

This Appendix C documents the public participation process that was the central element of the PTIA Part 150 Study both in the development of the Noise Exposure Maps produced by the study and the recommended Noise Compatibility Program. The material in this Appendix is presented in two principal sections:
1) A description of the process and of the groups and individuals who participated in the process;
2) The information that was communicated to the public from the initiation of the study through its conclusion.

1.1 DESCRIPTION OF THE PROCESS AND PARTICIPANTS

The public participation portion of the Part 150 Study was designed to ensure that the Noise Exposure Maps and related aviation forecasts were subject to public review and comment and that the Noise Compatibility Program reflected the interests of the community. The PTIA Part 150 Study relied on three principal techniques to provide the community with an ample opportunity to be heard:

1) advisory committees;
2) public information workshops; and
3) a formal public hearing.

Each of these forums facilitated the active and direct participation of members of the public and provided the opportunity to submit comments and questions. The forums were supplemented with newsletters and a website, as well as substantial media coverage.

From the start, the public participation process included broad representation of airport stakeholders. Three separate advisory committees were formed. One was formed for each of the following groups:

- residents living near the airport (Citizens Advisory Committee),
- organizations that fly from the airport (Airport Users Advisory Committee) and,
- government officials from the seven jurisdictions surrounding the airport and officials from the Federal Aviation Administration and Air Traffic Control (Government Advisory Committee).

These committees met quarterly for the duration of the study and provided comment and information between committee meetings through an open e-mail discussion. The project manager also provided project updates to committee members between committee meetings.

The advisory committee meetings, particularly the citizens' advisory committee meetings, were typically well attended and included active participation by committee members and lively discussion. Members of the general public were invited to the Advisory Committee meetings, and some availed themselves of the invitation.

At each of the advisory committee meetings, Part 150 consultants provided the committees with initial guidance and detailed analysis. Consultants then worked with the committees to reach an understanding of how to proceed with the development of the Noise Compatibility Program.

Throughout the process, the consultants worked with Piedmont Triad Airport Authority staff to ensure that the sponsor's interests were properly represented.

The public at large also had the opportunity to participate actively and directly in the process. In addition to being invited to attend the meetings of the Advisory Committees, the public also had the opportunity to attend a series of four Public Workshops that were held at various sites around the Airport over the course of the Study. A public Hearing was also held at the end of the Study Process for members of the public to submit both oral and written comments concerning the draft Noise Exposure Maps, the final forecast of aircraft operations used in the Study, and the proposed Noise Compatibility Program developed by the project consultants.

1.2 PUBLIC INFORMATION

Throughout the course of the Part 150 Study, complete information was provided to the general public concerning the process through several different sources.

Part 150 newsletters were published regularly and each newsletter was mailed to nearly 10,000 residents who live in the area around the airport, including the neighborhoods northeast of the airport and North High Point, areas where residents had expressed concern about the airport expansion project. Newsletters were also made available to citizens at the airport and delivered to elected government officials in jurisdictions surrounding the airport.

The Piedmont Triad Part 150 Study website (PTIPart150.com) provided a venue for citizens to access information, provide comment and pose questions. A number of citizens took advantage of the online opportunity to comment; many more visited the site. Over the course of the study the website had more than 2,000 visitors.

Finally, the media covered the process thoroughly, publishing and broadcasting more than 120 news stories about the process over the two-year period that the study was underway. Newspaper editorials confirmed the consensus in support of the Noise Compatibility Program at the end of the committee process.

1.3 TIME LINE

A "Part 150 Timeline" summarizing the PTIA Part 150 study appears at the end of this Appendix.

1.4 SUMMARY

The PTIA Part 150 process provided numerous opportunities for participation by citizens, airport users and government officials. As a result, the Noise Exposure Maps were subject to review and comment by all interested parties. The active involvement of the community also shaped the development of the Noise Compatibility Program.

2 DESCRIPTION OF THE PROCESS

2.1 THE ADVISORY COMMITTEES

The Part 150 process included three advisory committees, which met seven times each over the course of nearly two years to review and guide the work of the consultants.

- The Citizen Advisory Committee was composed of citizens who live in areas around the airport. Alternate members were also selected to provide for flux in committee membership.
- The Airport Users Advisory Committee was composed of representatives of companies and organizations that use the airport's aviation services.
- The Government Advisory Committee was composed of elected and appointed officials, including planning directors from the seven jurisdictions surrounding the Piedmont Triad International Airport.

The Part 150 Study at the Piedmont Triad International Airport is unusual in that it deals with conditions that don't yet exist. The Study was mandated by the Record of Decision approving a new parallel runway and FedEx mid-Atlantic hub at the airport. The runway and hub facility, first announced in April 1998, are not expected to become operational until 2009. Nevertheless, these projects were the subject of much highly publicized debate before and during the three and one half years it took to complete the Environmental Impact Statement for the airport expansion project and have created much concern among residents living near the airport.

Given the intensity of public interest in the project, consultants took great care at the outset of the study to ensure that advisory committees represented a balance of perspectives. The area around the airport was divided into six zones from which the citizens' advisory committee representatives were selected. Elected governmental bodies were enlisted to help with the selection of the committee members. These elected officials were asked to consider not only geographic, racial and gender diversity but also to include committee members who had opposed the FedEx project as well as those who had supported it.

The Airport Users Committee was composed of representatives from each of the air carriers and major aircraft operators at the airport, including the passenger carriers, FedEx and the other all-cargo carriers and the two Fixed Base Operators. Others, including companies that store and fly aircraft from the airport, and maintenance and repair stations operating at the airport also sat on this committee.

Government advisory committee representatives were chosen from all seven jurisdictions surrounding the airport, including elected officials and planning professionals, who were consulted frequently throughout the process. Federal Aviation Administration representatives also sat on the committee.

The three advisory committees (each composed of 23–30 members) met separately, but typically on the same day, or within a 24-hour period. Meetings were working sessions, but the public was invited to attend to listen to discussion and members of the public were given the opportunity to comment at the and of each advisory committee meeting. The advisory committee meetings were led by project manager Andy Harris and included presentations by land use experts, acoustical engineers, community acoustical consultants and by experts in forecasting aviation activity. The advisory committee members also attended field tests where sound levels of arriving and departing aircraft were measured and recorded at various points around the airport.

The proposed Noise Exposure Maps, aviation forecasts and successive documents for review, including drafts of the Noise Compatibility Program, were provided to committee members by e-mail in advance of committee meetings to allow members time for study and review. Committee members occasionally offered their own versions of documents for discussion as well.

Committee members were actively engaged in the process, particularly the citizens and government advisory committee members. They attended meetings and provided prolific e-mail discussion, offering their views, data and comment as the study progressed. Consultants catalogued suggestions made by committee members at the meetings and by e-mail response. Committee members were typically allowed a two-week period after each meeting to offer additional comments by e-mail. Consultants incorporated committee suggestions and responded to comments in subsequent drafts of documents presented to the committees. Thus, an iterative process was developed to ensure that the final Noise Compatibility Program took into account the objectives of the community.

At the final meeting, citizen advisory committee members expressed broad approval of the draft document. Additional comments were allowed for a one-month period following the final set of meetings. In general, those comments refined points agreed to in the final set of committee meetings.

Meetings were held at the Airport Marriott, centrally located among the various jurisdictions from which committee members were selected.

The Citizen Advisory Committee met on the following dates and times:

June 6, 2004 - 7 pm
September 14, 2004 – 7 pm
December 7, 2004 – 7 pm
March 8, 2005 – 7 pm
June 14, 2005 – 7 pm
September 13, 2005 – 7 pm
January 24, 2006 – 7 pm

The Government Advisory Committee met on the following dates and times:

June 7, 2004 – 10 am

September 15, 2004 – 10 am
December 8, 2004 – 10 am
March 9, 2005 – 10 am
June 14, 2005 – 10 am
September 13, 2005 – 10 am
January 24, 2006 – 10 am

The Airport Users Advisory Committee met on the following dates and times:
June 7, 2004 – 1 pm
September 15, 2004 - 1 pm
December 9, 2004 – 1 pm
March 9, 2005 – 1 pm
June 14, 2005 – 1 pm
September 13, 2005 – 1 pm
January 24, 2006 – 1 pm (no meeting/lack of attendance)

A brief summary of each of the seven sets of meetings follows:

Meeting 1: June 6 & 7, 2004

As one aspect of the FAR Part 150 Study, three advisory committees were formed to consider the noise impact of the expansion of the Piedmont Triad International Airport. The committees provide the perspective of citizens, government agencies and airport users to the airport noise analyses and resulting noise management plan. The Citizens Advisory Committee, the Government Advisory Committee and the Airport Users Advisory Committee each held their initial meeting in June 2004.

The initial meetings set the groundwork for the involvement of committee members in the Part 150 Study. The project team described the scope of work of the Study, the roles of the consultants and advisory committees, and an estimated timetable. Committee members introduced themselves, described their interest in the Study, and noted their concerns and perspectives. The meetings also served as a tutorial on measuring aircraft noise.

Meeting 2: September 14 & 15, 2004

For two weeks in August, engineers monitored 16 locations around the Piedmont Triad International Airport for aircraft noise, gathering 1,800 hours of noise measurements. The results of the noise monitoring were presented in September to members of the three advisory committees working with airport consultants to develop a plan to reduce airport noise.

During the committee meetings, held September 14 and 15, members learned that the noise measurements on average did not vary significantly from the noise measurement results reported in the Federal Aviation Administration Environmental Impact Statement study (EIS). The Part 150 Study monitored 16 sites around the airport; six of the sites were identical to

sites monitored for the EIS. Other sites were added in anticipation of the construction of the new runway. Committee members suggested some sites, which were also monitored.

Following the Citizen Advisory Committee meeting on the evening of September 14, 2004, about 20 committee members visited two noise monitoring sites to get first-hand exposure to aircraft noise. The outing was an opportunity for citizens to listen to actual aircraft departures and arrivals to better understand how a noise monitor captures and calculates the various noise measurements. Along with the committee members, airport staff, the consultant team and several reporters visited two sites, one northeast of the airport at the intersection of Fleming Road and Clarkson Road; the other on Walpole Road off of Clinard Farm Road southwest of the airport.

"The measurement numbers that we talk about in our meetings aren't useful to the committee members unless they understand how we derive the various measurements, and more important, what various decibel levels actually sound like," explained Andy Harris, the project's lead consultant. "The field trip was an excellent opportunity to put the numbers we've been talking about into perspective."

Meeting 3: December 7 & 8, 2004

In December, members of the Part 150 advisory committees reviewed data that will be the foundation of their efforts in the coming months. Each of the three committees looked at operations forecasts for 2006 and 2011 and maps of flight tracks based on current radar data. This information feeds into the development of noise contours, which, in turn, are the basis of the noise mitigation program. Committee members were also presented with a final analysis of noise measurements from the August 2004 monitoring of PTIA flights.

Much of the discussion involved understanding how noise is measured and perceived, and distinguishing between *monitoring* noise and *modeling* noise in a Part 150 Study.

Meeting 4: March 8 & 9, 2005

During the March meetings, the three advisory committees discussed updated noise contours – developed for projected airport use in 2006, 2011, and 2014. (In March 2005, the Part 150 Study team changed its future forecast year from 2011 to 2014. the 2014 date reflects FedEx operations running at full capacity and is key to evaluating the eventual effects of aircraft noise).

Also in March, the committees began to examine the array of options for noise mitigation. The range of the mitigation measures they discussed fell into four broad categories:

- Measures involving the airport plan;
- Measures involving the use of the airport facilities and surrounding airspace;
- Measures involving land use around the airport; and
- Noise program management

Committee members were engaged in discussion, asking questions to better understand each mitigation measure and its possible benefit for area residents. Following the meetings, committee members participated in an open e-mail discussion. For three weeks, they reviewed the planned measures and submitted comments and recommendations. The consultants noted the comments and reviewed all suggestions.

Meeting 5: June 14, 2005

In June, the committees began to develop a specific noise mitigation program to propose for PTIA. Taking into consideration the noise contours, FAA regulations, as well as safety concerns and operational efficiency, they reviewed possible options for reducing the noise impact of the new FedEx hub. The measures under review included:

- Noise barriers at various sites around the airport
- Preferential runway use (in addition to head-to-head operations at night)
- Flight corridors for aircraft departure
- Restrictions on use of auxiliary power sources
- Abatement approach and departure procedures
- Sound insulation of residences and other noise sensitive land uses where DNL exceeds 65 dB
- Noise easement purchase where DNL exceeds 65 dB
- Property acquisition where DNL exceeds 70 dB
- Compatible use zoning
- Establishing a noise function at PTIA to manage implementation of the Noise Compatibility Program
- Installing and operating an aircraft noise and operations monitoring system
- Examining sales assistance options
- Publishing DNL contours for levels lower than 65 dB

Committee members discussed the consultants' analyses and assessments, asked challenging questions, and offered additional suggestions. Another round of open e-mail exchange followed the June meetings and additional information was gathered through discussions with the FAA, FedEx and others.

Meeting 6: September 13, 2005

During the September committee meetings, the process of discussing and refining specific mitigation measures continued. The committees reviewed mitigation measures that <u>were not</u> recommended by the consultant team and mitigation measures that <u>were</u> recommended.

Many questions were raised and new ideas proposed as discussion focused on the details of the proposed Noise Compatibility Program. Committee members asked that the consultants complete several tasks before the next meeting. The consultants also agreed to provide updated maps, to evaluate departure procedures suggested by committee members and to clarify approach procedures, among other tasks.

In addition to agreeing to follow up on these recommendations, the consultants also promised to refine and finalize the analysis of noise abatement procedures that will be included in the Noise Compatibility Program and to assemble a complete draft of the proposed Noise Compatibility Program for presentation to the Committees.

Meeting 7: January 24, 2006

At their final meetings January 24, 2006, members of the citizens and government committees discussed the measures to be included in the final draft of the Noise Compatibility Program. (Only two people attended the scheduled Airport Users Advisory Committee. Project consultants reviewed the new material with those two participants, but suspended the scheduled meeting.) Responding to suggestions and concerns voiced by committee members in September, the project consultants had made several key changes that eased key concerns for residents of North High Point, while maintaining the most important benefits the areas northeast of the airport.

The revised plan clearly specifies preferred runway use, including directing 727s and other retrofitted aircraft to depart over the areas with the fewest residences. While most of the aircraft using PTIA (including FedEx planes) are the newer, more quiet jets, this change will provide a meaningful benefit.

Another key change is the narrowing of recommended departure corridors. This change is intended to keep aircraft within a small band of airspace on departure. The draft Noise Compatibility Program designates a southbound departure corridor over NC Highway 68.

A full set of the measures discussed at the January 2006 meetings appears in the draft Noise Compatibility program.

At the close of the meeting, consultant Andy Harris acknowledged the commitment and efforts of the committee members. “Your patience with the process and your contributions to the work are greatly appreciated,” he told committee members. Members of the Citizens Committee expressed approval with applause at the conclusion of the presentation of the amended noise measures.

This Section includes the following supporting documents:

A Consultant Group
B Letter sent to government officials to solicit participation in committee selection
C Map of the six zones from which citizen advisory committee members were recruited
D A list of committee members
E Welcome letter sent to committee members
F Scope of work
G Spread sheet of attendees at committee meetings

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B. Committee member selection process

The following letter was sent to the mayors of Greensboro, High Point, Winston-Salem, Kernersville, Oak Ridge and Summerfield and the County Commissioners chairs of Forsyth County and Guilford County. All of the jurisdictions provided members for the Citizens Advisory Committee and the Government Advisory Committee.

DRAFT OF LETTER TO MAYORS

AND CHAIRMEN OF BOARDS OF COUNTY COMMISISIONERS
SOLICITING MEMBERS FOR THE CITIZENS ADVISORY COMMITTEE

The Piedmont Triad Airport Authority (PTAA) is beginning its Airport Noise Compatibility Study, also called a Part 150 study, which will seek to reduce the noise impacts of airport operations including the operations that will result from the current airport expansion project and the new FedEx hub scheduled to begin operations at the airport sometime prior to June 2009.

We need your help in forming a citizens committee – Airport Neighborhood Advisory Committee – that will be a key component of this study.

The committee will be composed of 24 people chosen from six separate zones surrounding the airport. (See enclosed map.) Four persons will be chosen from each zone. If a zone is located in an incorporated area, we are requesting that the mayor appoint residents from that zone. If the zone is in an unincorporated area, we are asking the Chairman of the County Commissioners to make the appointments. In your case, we respectfully request that you appoint residents to the zones where your jurisdiction is impacted. (See enclosed grid.) Once the appointments are made, we would appreciate a letter from you naming the appointees and providing us with their address and telephone numbers.

PTAA seeks for the citizens committee to include a broad spectrum of community interest. In selecting committee members we ask that you consider

- Diversity of interests,
- Geographical proximity to the airport,
- Gender and racial diversity.

PTAA would also like to ensure that the committee represent all viewpoints on the airport expansion project. We believe that those who have opposed the project should be included, as should those who have supported it.

Members of the Airport Neighborhood Advisory Committee will be asked to provide input to the FAR Part 150 Study about the interests and concerns of their neighborhood. Their participation will include opportunities to review and comment on all aspects of the study, including analyses of noise exposure and noise impacts, recommendation and analyses of potential noise abatement measures, and review and critique of the proposed and recommended Noise Compatibility Program.

It is anticipated that there will be eight meetings of the Airport Neighborhood Advisory Committee during the FAR Part 150 Study. These meetings will be held quarterly over the next two years. Additional opportunities for participation will also be provided through several Public Meetings and through a Public Hearing that will be scheduled near the end of the study period.

In addition to the Airport Neighborhood Advisory Committee, two other committees will be appointed to provide input on the Part 150 study:

- An Airport User Advisory Committee
- A Government Agency Advisory Committee.

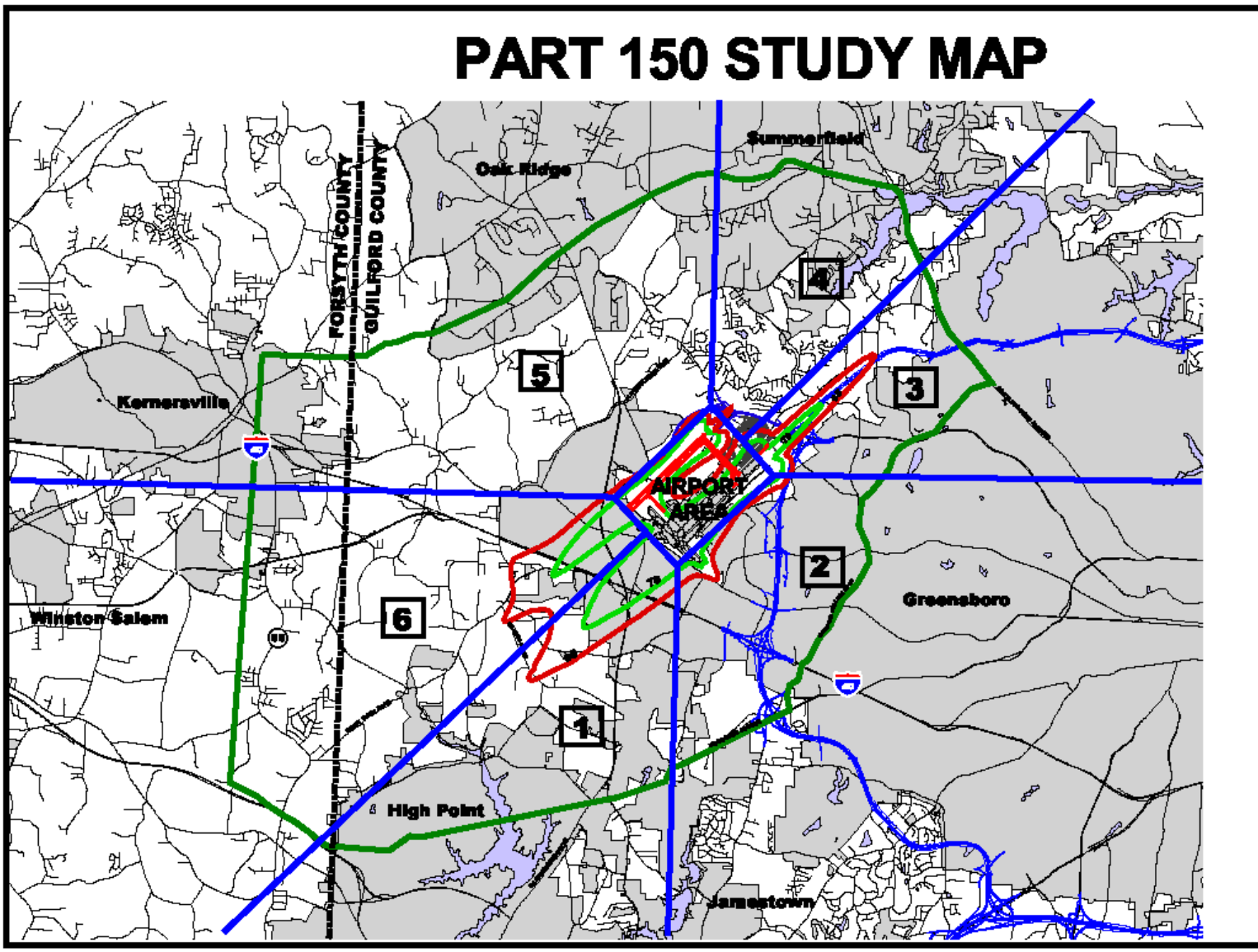
We also need your help is selecting members for the Government Agency Advisory Committee. This committee will consist of the planning director, the city or county manager and the mayor or commissioners chairman or his or her designee from each jurisdiction.

We look forward to [name of jurisdiction]'s participation in this important study. Thank you for assisting us as we assemble these committees. PTAA plans to have the first meetings of the Advisory Committees during May. Please assist us to meet this schedule by providing the names of members you select by 23 April 2004. If you have any questions about our request, please call me at 336-665-5600. We will be in touch in the near future to provide further detail.

Sincerely yours,

Ted Johnson
Executive Director
PIEDMONT TRIAD AIRPORT AUTHORITY

C.


PART 150 STUDY MAP
Oak Ridge
Summerfield
FORSYTH COUNTY
GUILFORD COUNTY
Kernersville
AIRPORT AREA
Greensboro
Winston Salem
High Point
Jamestown
1
2
3
4
5
6

D. Citizens Advisory Committee

(includes all original members and alternate members)

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Greensboro, NC 27409

Becky Smothers
City of High Point
Post Office Box 230
High Point, NC
27261

Curtis Swisher
Town of Kernersville
Post Office Box 308
Kernersville, NC
27285-0308

Airport Users Advisory Committee

Ken Barnette
American Eagle
6415 Bryan Blvd.
Greensboro, NC 27409

Jacques Blondeau
Cessna Aircraft, Inc.
615 Service Center Drive
Greensboro, NC 27410

Millie Bragg
US Postal Service
6321-G East Bryan
Greensboro, NC 27425

Keith Carroll
6321 Bryan Blvd. J, 2-16
Greensboro, NC 27425

Jerry Carter
Dasher Express
7600 Airline Drive, I-4
Greensboro, NC 27409

Jim Cook
Bill Davis Racing
300 Old Thomasville Road
High Point, NC 27260

John Elrod
Airborne Express
717 North Regional Road
Greensboro, NC 27409

Paul Eney
US Customs and Border Protection
532 C. North Regional Road
Greensboro, NC 27409

Scott Evans
United Airlines
6415 Bryan Blvd.
Greensboro, NC 27425

Joe Fagan
FedEx Corporation
6313-A Bryan Blvd.
Greensboro, NC 27409

Ed Frye
GTCC
260 North Regional Road
Greensboro, NC 27409

Corey Gearheardt
Gearbuck Aviation
Post Office Box 35078
Greensboro, NC 27425

James Griffith
Jefferson Pilot
Post Office Box 35772
Greensboro, NC 27425

Hamp Haucke
Timco
623 Radar Road
Greensboro, NC 27409

Jeff Henson
Continental Airlines
6415 Bryan Blvd.
Greensboro, NC 27409

Rick Jaquet
Delta Airlines
6415 Bryan Blvd.
Greensboro, NC 27409

Frank Jirik
Northwest Airlines
6415 Bryan Blvd.
Greensboro, NC
27409

David Johnson
Tradewinds
Post Office Box 35327
Greensboro, NC 27425

Rick Klemann
Emery Worldwide
Post Office Box 35783
Greensboro, NC 27425

Jeff Mann

AirTran Airways
6415 Bryan Blvd.
Greensboro, NC 27409

Paul Mitsonis

US Airways
Post Office Box 35007
Greensboro, NC 27425

David Newell

VF Corporation
6431 Bryan Blvd
Greensboro, NC 27409

Dave Pollard

FAA GSO ATCT
6429 Bryan Blvd.
Greensboro, NC 27409

Christian Sasfai

Piedmont Hawthorne
Post Office Box 8227
Greensboro, NC 27419

Tommy Smith

UPS
7600 Airline Drive
Greensboro, NC 27409

Scott Stewart

Atlantic Aero
Post Office Box 35408
Greensboro, NC 27425

Jim Verre

FAA Flight Standards
6433 Bryan Blvd.
Greensboro, NC 27409

E. Project Manager Letter to Committee Members

DATE

NAME
ADDRESS
CITY, STATE ZIP

Dear NAME:

The Piedmont Triad Airport Authority (PTAA) is beginning its Airport Noise Compatibility Study, also called a FAR Part 150 study, which will seek to reduce the noise impacts of airport operations including the operations that will result from the current airport expansion project and the new FedEx hub scheduled to begin operations at the airport sometime prior to June 2009.

I understand you have agreed to be a part of a citizens committee, the Airport Citizens Advisory Committee - that will be a key component of this study. As the noise control consultant and leader of the Part 150 Study, I thank you for your willingness to get involved and contribute to this important process.

First, let me assure you that you do not have to prepare or learn anything prior to our first meeting. Our initial meeting – to be on Tuesday, June 8, 2004 from 7 p.m. – 8:30 p.m. at the Airport Marriott, Salon D – will be an orientation to the Part 150 Study process and the role of the Airport Citizens Advisory Committee. This packet of information provides you general information about the committee and the Part 150 process.

The Airport Neighborhood Advisory Committee is composed of 24 people chosen from six separate zones surrounding the airport (refer to the enclosed map). Four people represent each zone. Committee members were selected by local officials to include a broad spectrum of community interest, including all viewpoints on the airport expansion project. Geographical proximity to the airport, gender and racial diversity were taken into account. A list of the committee members is attached.

Regarding time commitment, we anticipate that there will be eight meetings of the Airport Citizens Advisory Committee during the Part 150 Study. These meetings will be held quarterly over the next two years. The only other requirements of your time will be reviewing reports and materials prior to each meeting and interacting (at your discretion) with others in the community.

Finally, what can you expect? You and your fellow committee members will be asked to provide your input about the interests and concerns of your neighborhoods. You will be given the opportunity to review and comment on all aspects of the study, such as analyses of noise exposure, noise impacts and potential noise abatement measures. You will be able to propose noise abatement measures and suggest refinements to measures proposed by other participants in the study. You will be asked to review and critique the proposed and recommended Noise Compatibility Program.

In your role you will learn a great deal about the airport expansion project, how airport sound is measured, and how flight patterns and other airport protocols are set. Neighbors and friends may turn to you for information or to voice their perspective. You may be asked by the media to discuss the process or your opinions. All of the committee's meetings are open to the public; anyone can sit in and listen. While there will be a period for public comments during each meeting, our meetings are working sessions and not subject to general public participation.

I look forward to meeting with you in June. Meanwhile, if you have any questions about the committee and your role, please call me at 978.526.0005 or send an email to andy@asharrisinc.com. Again, thank you for participating in this important project.

Sincerely,

3 Andrew S. Harris

Andrew S. Harris, Inc.
Consultants in Noise Control at Airports

F. SCOPE OF WORK FOR THE PART 150 STUDY

1. Administer FAR Part 150 Study

The work associated with a FAR Part 150 Study involves coordination among the many study tasks and on-going work with study participants. This task, primarily undertaken by the Project Manager, provides the resources required to fulfill the coordination requirements of the study.

There are two sub-tasks:

1.1 Develop Detailed Scope of Work and Submit Detailed Cost Proposal

The initial administrative task is development of the detailed Scope of Work for the study through discussions with the PTAA and with project consultants. After completion of the Scope of Work, a detailed Cost Proposal will be prepared. The Scope of Work and Cost Proposal will form the basis for the PTAA's Grant Application to the FAA and the contract between the PTAA and the Consultant.

1.2 Administer the FAR Part 150 Study

The long-term administrative task is to coordinate the work of all study tasks and to provide study liaison with the PTAA. This work includes all technical and financial administration. The Project Manager will be the lead person for this task.

2. Develop and Implement Comprehensive Public Involvement Program

An open, objective and inclusive public involvement program that continues throughout the entire study process is the single most critical element of the Part 150 Study's success. The consultant shall interpret the term "public" in the broadest possible sense, to include aviation, land use, business, and government interests, in addition to residents.

The public involvement program will include the following elements:

- *Meetings of Advisory Committees:* Residents of the area around GSO, aircraft operators using GSO and government agencies are three key groups concerned about the Part 150 Study process. The PTAA will establish committees representing these groups during the Part 150 Study: an Airport Neighborhood Advisory Committee, an Airport User Advisory Committee and a Government Agency Advisory Committee. The Consultant will schedule approximately 8 meetings for each of these committees, based on a kick-off meeting and one meeting every three months during the Study's two-year duration. All meetings of the Advisory Committees will be open to the public.

- *Community Information Meetings:* Meetings with the Advisory Committees will assure that representatives of interested groups will be well informed and engaged in the study process. Community Information Meetings will be held at key points throughout the Study to provide opportunities for the general public to give its input and learn how the Study is progressing.

The Consultant will schedule five Community Information Meetings during the Study.

- *Study Newsletters:* Newsletters supply information to individuals and groups that are interested in the Study. They are the logical vehicle to report progress of the Project and announce meetings. The Consultant shall prepare six newsletters during the Study, one each in advance of the five Community Information Meetings and the Public Hearing.

- *Briefings to Special Interest Groups:* As appropriate, the Consultant will assist the PTAA staff in preparing and providing briefings to special interest groups, such as government bodies, business interests, pilot groups, etc. These briefings will be timed to coincide with regularly scheduled trips to GSO to limit costs.

- *Public Hearing:* The PTAA will have a Public Hearing upon completion of the draft report for the FAR Part 150 Study.

In summary, the Consultant will complete the following sub-tasks for the Public Involvement Program:

Task 2.1 Define Public Involvement Program

The Consultant staff will develop details of the Public Involvement Program for presentation during the first meetings with the three Advisory Committees.

Task 2.2 Support Advisory Committee Process

The Consultant will schedule, prepare for, conduct and document all Advisory Committee Meetings.

Task 2.3 Assist in Community Information Meetings

The Consultant will schedule, prepare for, conduct and document the Community Information Meetings.

Task 2.4 Prepare Newsletters

The Consultant will prepare, print and distribute the newsletters.
Task 2.5 Briefings to Special Interest Groups

The Consultant will assist in briefings to special interest groups. The scheduling of these briefings will be coordinated with other meetings at GSO.

Task 2.6 Public Hearing

The Consultant will schedule, prepare for and assist the PTAA staff in conducting the Public Hearing at the completion of the draft report for the FAR Part 150 Study.

Task 3. Develop Comprehensive Part 150 Database

The first technical task is the development of comprehensive database on airport layout, aircraft operations, land uses, airport-area development plans, noise levels, noise complaint records, and other relevant information. This task is the most important technical phase of the Study, because it establishes the foundation for all later phases, and its credibility is critical to public acceptance of the Study.

Task 3.1 Information Required for Base Conditions and Five-year Forecast Contours

Major noise contour inputs include the airport layout, runway use rates, flight track geometry, and the level and mix of airport activity. Consultant will use information from the FEIS for Runway 5L/23R and the FexEd facility as the point of departure for data acquisition. It will be supplemented by interviews with FAA-ATC personnel concerning flight tracks, flight track use and runway use. FAA radar data will also be used to refine flight track information.

Task 3.2 Prepare Aircraft Operations Forecasts

The most recent forecasts for GSO were prepared for the FEIS for Runway 5L/23R and the FexEd facility. Because of changes such as the anticipated first year of operation of the new facilities changing to 2009 and the impact of September 11, 2001 events, new forecasts of aviation activity for GSO will be developed. The new aviation activity forecasts for passenger and cargo airline service will, in turn, be based on forecasts of enplanements, originating passenger traffic, and cargo tonnage. General aviation and military activity will also be forecasted.

Because of the two-year project performance period and the need to have fully up-to-date noise contours at the time of submission, analyses based on preliminary forecasts 2006 and 2011 will be used for study tasks until approximately 6 months before completion of the Study. The preliminary forecasts will then be reviewed. If conditions have changed so that the preliminary forecasts are outdated, revised forecasts will be completed and the noise contours, the NEM and the NCP will be based on contours prepared from the updated forecasts.

Task 3.2.1 Compile Initial Year (2003) Actual Aircraft Operations

Consultant will assemble actual operations during the year 2003 to form the basis for forecasts of future activity levels. Consultant will develop the 2003 operations data from three sources: (1) FAA tower counts; (2) *OAG* records; and (3) on-site data acquisition from FBOs and other airport tenants.

Task 3.2.2 Prepare Preliminary Future Year (2006 and 2011) Aircraft Operations Forecasts

Forecasts of operations will be prepared for 2006, before operation of the new facilities, and 2011, after initial operation of the new facilities. Preparation of the forecasts will include review of the latest data on domestic and international passenger, cargo, and aircraft activities (air carrier, regional airline, charter, cargo, general aviation, military). This review will cover GSO, as well as national and regional trends. Growth rates will be considered for each individual category of aircraft operations.

Recent scheduled passenger service, average fare, and O&D and connect traffic by stage length will be examined. Future fleet plans will be reviewed, both for new aircraft acquisitions as well as aircraft retirement trends. Assumptions regarding future trends will be reviewed with the PTAA before the forecast is adopted.

Fleet mix projections will be evaluated to include the latest available information on airline and general aviation aircraft orders and will be refined to correspond to the INM input format. Day/night splits will be based on existing distributions and adjusted to incorporate available information on future schedule changes.

A technical report will document the assumptions and methodologies used in preparing the forecasts. This report will include tables of the forecasts and accompanying narratives highlighting the details of each forecast.

Task 3.2.3 Review Preliminary Future Year (2006 and 2011) Aircraft Operations Forecasts

Approximately six months before completion of this Study, the Consultant will review the operations levels at GSO to see whether the forecasts for 2006 and 2011 remain valid. After completion of the review the Consultant will advise the PTAA whether updated forecasts are required.

Task 3.2.4 Update Future Year (2006 and 2011) Aircraft Operations Forecasts

If the Consultant and the PTAA decide at the conclusion of Task 3.2.3 that the forecasts prepared under Task 3.2.2 must be updated, the Consultant will update the operations forecasts for 2006 and 2011 following the same procedures used in Task 3.2.2. The Consultant will also update the report for the forecasts.

3.3 Noise Measurements

Part 150 does not require noise measurements. However, the PTAA has determined to continue the measurement program begun during the EIS for Runway 5L/23R and the FedEx facility. Noise measurements will be undertaken as part of this Study and will be considered as a measure within the NCP. Measurement of the noise environment will be undertaken for two weeks at the six locations used in the FEIS and at six additional locations to be selected during this Study. Measured values will include DNL, Lmax and SEL at all locations.

3.4 Land Use Data Collection and Base Map Development

Part 150 only requires airports to consider land use within the 65-dB DNL contours. However, the PTAA monitors land use in a larger area. The Consultant will work with PTAA personnel to define a Study Area that includes all locations in the airport environs where aircraft noise is a matter of interest to residents of the community. Land Use data will be applied to GSO GIS data.

The key to developing successful land use measures will be to collect the land use data from the correct sources. The Consultant will coordinate with all land use authorities in the Study Area to assure that land use information used for the Study is fully up-to-date.

During the data-collection process, the Consultant will meet with necessary staff to accomplish the following for the areas expected to be part of the Study Area:

- collect information on population location. the 2000 Census data will be used should GSO not have more contemporary demographic data;
- collect guidance on local residential construction techniques;
- collect ordinances and maps relating to land development regulation, including comprehensive plans, zoning, subdivision regulations and building codes for all relevant jurisdictions.
- identify residential areas, noise sensitive public buildings (educational and health facilities, etc.), and properties on or eligible for the National Register of Historic Places (again, this maybe available through the GIS but it may need to be collected separately and should be field verified);
- evaluate the legal context for land use controls.

Task 4. Prepare Base Conditions (2006) and Forecast Case (2011) Noise Exposure Maps

The Consultant will use the data collected in Task 3 to develop noise contours and NEM graphics and documentation for 2006 and 2011. Noise contours will be prepared for DNL 65 and above, in 5-dB increments to DNL 75. The documentation will include detailed analysis of the residential population and other noise-sensitive land uses within the 65-dB DNL contour, including all noise-sensitive categories identified by FAA regulations within the 65-DNL contour. Specific-point analyses will be prepared for noise-sensitive land uses (i.e., schools, churches and hospitals).

Task 5. Identify and Evaluate Potential Noise Abatement Measures

Based on the results of the preceding work elements, the Consultant will identify potential noise abatement measures that are candidates for inclusion in the NCP. Input from the meetings of the Advisory Committees and from Community Information Meetings will be major sources for identification of issues to address and potential measures to consider. Noise abatement measures evaluated will include preferential runway use, preferential flight track use, and noise abatement departure/arrival procedures. The design of such procedures will largely focus on potential opportunities to take advantage of relatively compatible land use corridors in the airport environs for preferential routes. The analysis will consider maximizing the beneficial use of flight corridors traditionally used by aircraft at GSO.

For budgeting purposes, it is assumed that the Consultant will prepare up to ten full DNL contour sets and up to ten single event contours under this task.

Task 6. Identify and Evaluate Compatible Land Use Measures

The Consultant will review incompatibilities identified by application of the noise contours of Task 4 to existing land use. Based on this review and comments received at Advisory Committee meetings and Public Information Meetings, the consultant will identify land use compatibility concerns and potential remedial and preventive measures for consideration in development of the NCP. Measures considered will include property acquisition, sound insulation, zoning changes, revision to building codes, early involvement in subdivision and land development review processes, noise exposure information disclosure, etc.

Task 7. Recommend Noise Compatibility Program

Based on the preceding tasks, the Consultant will propose a draft NCP containing measures in three categories: noise abatement measures; land use measures; and program management measures (i.e., monitoring, review, and enforcement mechanisms). Advisory Committee input will be a critical input to the development, review, and refinement of these recommendations.

Task 8. Prepare and Submit Revised Part 150 Documentation

The Consultant will prepare comprehensive Part 150 documentation, in the most current format preferred by the FAA, including NEM and NCP elements, a public involvement summary, and required review checklists. This documentation will fulfill the reporting and record-keeping requirements of FAR Part 150.

The draft documentation will be available for public review prior to the final Community Information Meeting and the Public Hearing. Following incorporation of appropriate revisions, the PTAA will submit the documents to the FAA. For budgetary purposes, we assume that the Consultant will provide five copies of preliminary draft documentation for PTAA review, 10 copies of the revised version for public review, and 10 copies of the final documentation as submitted to the FAA.

Task 9. Prepare and Provide Summary and Informational Materials

The Consultant will prepare material that summarizes the Part 150 Study process and results, and that provides PTAA staff with educational material for ongoing NCP promotion and explanation. The following items will be included:

Task 9.1 Summary Booklet

A Summary Booklet will be prepared in a format designed for lay use. It will include noise exposure maps and descriptions of NCP measures so that interested members of the public can obtain thorough knowledge of the noise environment and the NCP. It will present the level of detail commensurate with informing the public and having a length of approximately 50 pages. The Consultant will work with PTAA Staff to prepare the document, deliver 1,000 printed copies and deliver CD print files for use by the PTAA should further copies be needed.

Task 9.2 Mailer/Handout

The Mailer/Handout will be four-sided to six-sided summary of the noise exposure maps and NCP. The Consultant will work with PTAA Staff to prepare the document, deliver 3,000 printed copies and deliver CD print files for use by the PTAA should further copies be needed.

Task 9.3 Computer Slide Presentation and Script

The Consultant will prepare and deliver a PowerPoint presentation that summarizes the Study process, results, FAA-approved recommendations, and implementation mechanisms. The presentation would include text, graphs, diagrams, maps, and other types of illustrations, adopted from the Part 150 documentation.

G.
Committee Attendance

Note: Sign-in sheets were provided at the door for committee members to note attendance. Efforts were made to see that committee members signed in. Not all did. This record represents a minimum attendance at each meeting. In addition, some committee members dropped from the process for various reasons. Some moved away, some because of illness and others because of other commitments. Alternates took the place of committee members who dropped from the process. At most meetings, members of the public who were not committee members also attended the meetings.

Part 150 Advisory Committees
(note: some committee members sent a representative when unable to attend)

LAST NAME	FIRST	TITLE/COMPANY	COMMITTEE	MTG 1	MTG 2	MTG 3	MTG 4	MTG 5	MTG 6	MTG 7
				6-Jun-04	14-Sep-04	7-Dec-04	8-Mar-05	14-Jun-05	13-Sep-05	24-Jan-06
Anderson	Sandra		Citizens	X						
Atkins	Day		Citizens	X	X	X	X	X	X	X
Barbee	Grady		Citizens	X	X		X			
Basini	Anthony		Citizens	X						
Black	Jean		Citizens	X	X	X	X	X	X	X
Borugian	Dennis		Citizens	X	X	X	X	X	X	X
Butler	Steve		Citizens	X						
Carter	Ron		Citizens	X	X	X	X			X
Dehnert	Rick		Citizens			X	X			
Dreyer	Doug		Citizens	X	X	X		X	X	X
Fabrizio	David		Citizens		X	X	X			X
Garstka	Jeff		Citizens	X	X		X	X	X	
Gayle	Scott		Citizens	X	X	X	X		X	X
Happel	Gil		Citizens	X		X	X			
Hightower	Ginger		Citizens	X	X		X			
Matthieu	Don		Citizens		X	X		X	X	X
McDaniel	Brett		Citizens	X	X	X	X		X	
Ostasiewski	Fran		Citizens	X	X	X		X	X	X
Parks	Barton		Citizens	X						
Reed	Rick		Citizens	X	X		X	X		
Richmond	Sharon		Citizens	X	X					
Roberts	John		Citizens	X		X				
Smith	Lucy		Citizens	X	X		X	X	X	X
Solomon	Mike		Citizens	X	X					
Turner	Harrison		Citizens	X	X	X	X	X		X
Wheeler	Janie		Citizens		X	X			X	X
Whitaker	Lee		Citizens		X	X	X	X	X	X
Amadore	Michelle		ALT-Citizens							
Black	Richard		ALT-Citizen	X	X	X			X	
Lockhart	George G.		ALT-Citizen	X		X			X	
Poster	Mike		ALT-Citizens							

Reynolds	Dan		ALT-Citizens										
Walcot	Bob		ALT-Citizen	X									
Webb	Don		ALT-Citizens										
Barnes	Dena	Mayor of Summerfield	Governmen	X	X				X				
Bencini	Rob	Community Developm	Governmen	X									
Boynton	Strib	City of High Point	Governmen	X	X						X		
Brandt	Michael	Town Administrator	Governmen	X	X				X		X	X	
Brunstetter	Pete	Forsyth County	Government										
Burnette	Lee	City of High Point	Governmen	X	X	X	X		X		X	X	
Combs	Ray	Mayor, Town of Oak R	Governmen	X	X	X			X			X	
Gatten	Florence	Greensboro City Cour	Governmen	X	X	X			X			X	
Hails	Dick	City of Greensboro Pla	Government		X				X		X	X	
Harvell	Larry	Town Oak Ridge	Government										
Hatling	Jeff	Town of Kernersville	Government										
Kirstner	Mark	Planning Director, Gui	Government		X	X			X			X	
Kitchen	Ed	Greensboro	Government										
McCaslin	Randy	Town of Kernersville	Government			X							
McNeill	David	Guilford County Mana	Government								X		
Morgan	Bob	City of Greensboro	Governmen	X	X	X	X	X	X		X	X	
Norby	Paul	City-County Planning I	Governmen	X					X				
Owens	Jerry	Rockingham County C	Government		X	X	X	X				X	
Pervier	Graham	Forsyth County	Governmen	X									
Shaw	Linda	Guilford County Comn	Governmen	X				X					
Short	David	FAA Airways Facility	Government		X	X	X	X	X		X	X	
Smothers	Becky	Mayor, City of High Po	Governmen	X	X				X		X	X	
Swisher	Curtis	Town of Kernersville	Governmen	X			X						
Oakley	Bruce		Government				X						
Horney	Mike										X		
Bessette	Margaret											X	
Barnette	Ken	American Eagle	Airport Users										
Blondeau	Jacques	Cessna Aircraft, Inc.	Airport User	X									
Bragg	Millie	US Postal Service	Airport User	X									
Carroll	Keith	Miami Aircraft Suppor	Airport Users										
Carter	Jerry	Dasher Express	Airport Users										
Cook	Jim	Bill Davis Racing	Airport User	X									

Elrod	John	Airborne Express	Airport Users										
Eney	Paul	US Customs and Bord	Airport Users										
Evans	Scott	United Airlines	Airport User	X	X	X							
Fagan	Joe	FedEx Corporation	Airport User	X	X	X	X	X					
Frye	Ed	Guilford Technical Co	Airport User	X									
Gearheardt	Corey	Gearbuck Aviation	Airport User	X									
Griffith	James	Jefferson Pilot	Airport User	X	X				X	X	X		
Haucke	Hamp	Timco	Airport User	X	X	X			X			X	
Henson	Jeff	Continental Airlines	Airport User	X	X	X			X			X	
Jaquet	Rick	Delta Airlines	Airport Users										
Jirik	Frank	Northwest Airlines	Airport User	X	X	X			X				
Johnson	David	Tradewinds	Airport User	X									
Klemann	Rick	Emery Worldwide	Airport Users										
Mann	Jeff	AirTran Airways	Airport Users										
McElfresh	Terry	US Airways	Airport Users			X							
Mitsonis	Paul	US Airways	Airport User	X									
Newell	David	VF Corporation	Airport User	X					X				
Pollard	Dave	FAA GSO ATCT	Airport User	X	X	X						X	
Sasfai	Christian	Piedmont Hawthorne	Airport User	X	X		X	X					
Smith	Tommy	UPS	Airport Users				X						
Stewart	Scott	Atlantic Aero	Airport Users										
Verre	Jim	FAA Flight Standards	Airport User	X									
Gary	Steve										X		
Gary	Chan										X		
												1/24 Users	
												Committee	

2.2 THE PUBLIC WORKSHOPS

In addition to the Advisory Committee meetings, four public workshops were held to gather input from community members who were not part of the advisory committee process. The objective of the public workshops was to explain the Part 150 Study to the public, to update the community periodically on the progress of the Part 150 Study, to answer questions and to hear comment. The workshops were held at various public buildings around the study area to ensure that the meetings were convenient to interested residents.

The workshops were held at the following times and places:

September 13, 2004 – 7 pm at Northwest High School
December 6, 2004 – 7 pm at Southwest High School
March 7, 2005 – 7 pm at Western Guilford High School
September 12, 2005 – 7 pm at Colfax Elementary School

Attendance at the workshops was typically 40 – 50 people in addition to consultants and airport staff. Doors were open at 6:30 pm to allow residents to look at exhibits and ask questions of the consultant team before the formal meeting began. Consultants also stayed after the meetings to meet with residents and answer questions or hear comments.

Workshop #1: September 13, 2004

About 45 people attended the first public workshop of the PTIA Part 150 Study held at Northwest High School in Greensboro on September 13, 2004. Area residents were given an overview of the Part 150 process and a brief account of how aircraft noise is measured. Most of the 90-minute workshop involved detailed questions from the audience about the Study and the airport expansion project that prompted the Study.

“This is the beginning of the process of working together,” said Andy Harris, the lead consultant on the Study. He noted that many of the questions the audience asked could not be answered until the Part 150 process is further along. He encouraged the public to continue to participate. “Public involvement is the most important aspect of the Part 150. The more involvement, the better the Study results will fit this community.”

Workshop #2: December 6, 2004

Fifty-five residents attended the PTIA Part 150 Study workshop held on December 6, 2004 at Southwest High School auditorium in High Point. The Part 150 consultants gave brief presentations about the scope of the study, how aircraft noise is measured, and the role that noise monitoring, land use, operations forecasts and noise modeling play in the Part 150 Study. As with the September public workshop, most of the 90-minue meeting was spent addressing questions from the audience.

Area residents attending the workshop were eager to know how the new runway and the FedEx cargo facility will affect them. “The people at the workshop asked many good questions. Most went away with a better understanding of the Part 150 process and the timeline, and we left with a better understanding of their particular concerns,” said lead consultant Andy Harris.

Workshop #3: March 7, 2005

About 35 residents attended a public workshop held on March 7, 2005 at Western Guilford High School auditorium in Greensboro. The Part 150 consultants gave brief presentations about the scope of the Study and its current status. Maps showing projected noise contours – for 2009, 2011 and 2014 – were displayed, and many residents’ questions revolved around these maps and what they may imply. Residents were also given an overview of mitigation measures (including runway and airspace use, land use and sound insulation) that the advisory committees and consultants would consider and analyze in the coming months.

Lead consultant Andy Harris assured residents that many of their questions and concerns were being considered through the process.

Workshop #4: September 12, 2005

About 45 people attended that Part 150 public workshop held September 12, 2005 at Colfax Elementary School. They heard a report on current tasks, including a population and zoning update, and discussed the range of mitigation measures under review by the advisory committees and consultants. Many in the audience asked questions seeking clarification about the types of planes operating at the airport, the flight paths and the expected impact of aircraft noise. Head-to-head operations and good land use planning to the southwest of the airport were described as key to managing the impact of noise around PTIA. Participants were told that the Part 150 committees continued to examine a number of additional potential measures to reduce the impact of airport and aircraft noise on surrounding neighborhoods.

“No final recommendations have been made,” noted lead consultant Andy Harris. “Some of the measures involve multiple options to consider and further information to be gathered. We still have work to do.”

This section includes the following supporting documents:

H Sign-in sheets from public workshops
I Photographs from workshops

H

Workshop Attendance

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

JBOWEN722@TRIAD.RR.COM
Jeff Johnson jjohnson@marketquestinc.com
A.L. CAMPBELL 5602 BROADLEAF RD SUMMERFIELD 27358
CG Stillwell 3907 Sagamore Dr Greensboro NC 27410
Don and Carol Matthews
Julie Ann Jones julieannjones@triad.rr.com
Michael J Smith 4537 Fenco Dr. Greensboro NC 27409
JOE SIDE 4640 JOHNSON ST. COLFAX, NC 27235
Vicki Wittmann 5201 Saddle Brook Rd, Oak Ridge NC 27310
John R. Gee 3617 BUFFINGTON PL jgeel@triad.rr.com
JW PRIDE 4639 LONG VALLEY RD GREENSBORO NC 27410

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Ambrose-barry@MSN.COM

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Stephanie Ouzts SOuzts@Bigzoo.net

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Jean M. Black	
Richard Black	
Emme M Kenney	EMMOTRIAD.RR.COM
LARRY LOWER	llower@aol.com
Mark Messick	mmessick@messickinc.com
Jen & John Thomas	j-m-thomas@mindspring.com

www.ptipart150.com

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

JAMES STOUT 1505 20TH St. GREENSBORO, NC 27405

www.ptipart150.com

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 13, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Betsy Rice 5920 Firewood Trail
Gso NC 27410

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, December 6, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

John Allison - 4914 Caitlin Nicole Court / High Point NC
Don and Carol MATTHIEN Spring Creek Rd Summerfield 27265
Marcus Crabtree
Cristina Crabtree 5815 Cardinal Way Greensboro
Pat Eastin - 8003 Clinard Farms Rd H.P. N.C 27265
John Eastin " " " " "
Earnest Broome 928 Maple Creek Dr. Colfax N.C. 27235
Scott Vosburgh 204 Muirs Chapel #100 GSO NC 27410
MARSHALL MORGAN 3815 TWSLEY DR. STE 163 HP. NC 27265
E. I. Willard 2500 Willard Dairy Rd H.P. N.C 27265
Herman H. DeLoach 907 Norse St H.P. 27265
TIM BOLT 8111 RENFREW RD. GIBORO 27409
Paul Bravender 1607 Whites Mill Rd. 27265
Connie Bravender 1607 Whites Mill Rd. 27265
James McGurk jmcgurk@northstate.net 1408 Cardiff Lane High Point NC 27265
Betty Sampson 8201 Partridge Rd, Colfax NC 27235
Mike CRABTREE 5815 CARDINAL WAY GREENSBORO N.C. 27410
DAVE NOWAK 4911 LAUREN PL. N. PT. 27265 DDAVENOWAK@CS.COM

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, December 6, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

JOHN MELZER	jlmelzer@aol.com
Tom VALEGO	TVALEGO@TMAD.RR.COM
Ed Swain	On the list
Joel Herrmann	JOEL.HERRMANN@KI.COM
Bob Fricke	
Betty So	

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, December 6, 2004

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Dale Royle 1609 Squire Davis Rd Kernersville NC 27284
Armando Nieto 7878 Clinard Farm Rd High Point NC
Bob Bates bbates@khou.com

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, March 7, 2005

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

ROBERT GRAY 6002 Muirfield Dr. Greensboro, NC 27410
MARK PEGRAM 401 Willow Spring Ct Greensboro, NC 27410
Gail Price
Wayne Young 3316C Battleground Ave GSO, NC 27410
M.D. & Alice Burkholder
JOE KLOEKER 312 HEATHER RIDGE COURT GREENSBORO, NC 27455
Mary Ellen Shaw 3102 Phillipsburg Ct. Greensboro, NC 27410 mepshaw@aol.com
Angie Linn 3015 Ardoch Dr. Gboro NC 27410
RONALD EARL 1117 GRETCHEN LANE, GREENSBORO, N.C 27410
Robert Stuart 1103 Gretchen Ln GSO NC 27410
CHARLES E DURANTE 4261 LUMSDEN LANE HIGH POINT 27265
Henry HARMON 3701 Pinetop ROAD G'BORO 27410
NANCY M UNGER 5521 Robinridge Rd G'boro 27410
Jean M. Black
Richard B Black
Dave Dean 3003 CARDINAL RIDGE 27410
Jay & Toni Snyder 4414 Pine Cove Rd GSO, NC 27410

Part 150 Public Meeting

Monday, March 7, 2005

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Steve Gibson 2814 Kings Mill Ln Greensboro 27407
Elaine Stover
James Handley
Don Mattheis.
Valerie Whitfield Allen Tate Realtors 717 Green Valley Rd. GSO NC 27408
valerie.whitfield@allentate.com
Margaret Roberts 1403 Pleasant Ridge Rd
Van Noah 7602 Wilson Farm Rd Summerfield

PTI PART 150 STUDY

Part 150 Public Meeting

Monday, September 12, 2005

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Zhengming Guo 4711 Pine Glen Ct. Greensboro, NC 27410. acszy@yahoo.com
BRUCE WANLASS C+S ENGRS, BWANLASS@CSCOS.COM
MIKE MCMANUS
JIM WALLACE 554 PEGG RD GB NC 27409
Jean M. Black 4103 O'Briant Pl Greensboro 27410
Richard Black " " " " "
Don Kirkman 7800 Airport Center Dr. GSO 27409
BILL WEGENKA 3603 SAGAMORE DR. 27410
Brigett + Guy Williams. GSW73@BellSouth.net.
Sharon & Terry West 3609 Plympton Pl. GSO 27410
John + Trud Burchett
Jerry Hodgin 1982 Bason Rd Kernersville, NC 27284
Mary Hamlin 6115 Muirfield Dr. Greensboro, NC 27410
BEVERLY AHREN 3304 High Ridge CT, GSO - 27410
LON GUERRA 4476 Kendale Rd. High Point 27265

Part 150 Public Meeting

Monday, September 12, 2005

Please sign in. Include your mailing address and/or e-mail address if you would like to be added to our mailing list.

Jim McManus
Betty Sampson 8201 Partridge Rd Colfax NC 27235
Brenda & Leroy Sumner
Brian Pardue P.O. Box 35833 Greensboro, NC 27425
Ray Riffe

I.

Public Workshops

PTI PART 150 STUDY

2.3 PUBLIC HEARING AND PTAA ADOPTION OF NCP

The Public Hearing was held on 16 November 2006 at the Airport Marriott Hotel. The Public Hearing focused on the "Draft Report, FAR Part 150 Study for the Piedmont Triad International Airport, November 7, 2006." The Public Hearing began with a full discussion of the Part 150 Study and the Noise Compatibility Program. Comments were then received from attendees. Comments were received until 30 November 2006. The full transcript of the Public Hearing is in Appendix E as are all Comments and Responses to Comments.

The PTAA held a regular meeting on 16 January 2007. Members of the PTAA had received the "Final Draft Report" in advance of the meeting and the report was available for public review on the Part 150 study Wed Site. Andrew S. Harris presented an overview of the study with a summary of the NCP at the meeting. Public comments were received. After comments by members of the PTAA, including three amendments to the NCP, the amended NCP was adopted by a unanimous vote. As part of the adoption motion, the PTAA staff was authorized to submit the NEMs and the NCP to the FAA for review and approval.

3 PUBLIC INFORMATION

3.1 NEWSLETTERS

Five newsletters were published during the course of the Piedmont Triad International Airport Part 150 Study. The newsletters were intended to create awareness among citizens living close to the airport that the study was underway and to keep citizens updated on discussions among consultants and the advisory committees.

The newsletters reported on the progress of the study, announced upcoming public meetings, reported on past public meetings and included bios on the members of the citizen advisory committee. Newsletters included photographs, charts and maps, as well as the website address where residents could get more information.

Newsletters were published:
August 2004
November 2004
February 2005
August 2005
November 2006

Nearly 10,000 of each edition of the newsletter were mailed out to residents living around the airport. Newsletters were also available at the airport, distributed at public workshops and were delivered to local government officials. More than 45,000 newsletters were mailed and distributed overall. Each newsletter was also posted on the Part 150 website.

This section includes the following supporting documents:

- A sample newsletter

PTI PART 150 STUDY

Neighborhood News

February 2005 / Issue 3

Public Workshop at Western Guilford

A public workshop will be held 7:00 p.m. Monday, March 7, at Western Guilford High School to provide citizens with an update on the progress of the airport's noise compatibility study, called a Part 150 Study.

The workshop is the third in a series of six public meetings included as part of the airport noise study. Each workshop has informational stations where citizens can learn more about this study and brief presentations by the Part 150 consultant team. The workshops also provide opportunities for the public to comment on the study and to ask questions.

The first two workshops in the series were held on September 13 at Northwest High School and December 6 at Southwest High School.

Visit Our Website

The Part 150 website has been updated with documents, maps and electronic versions of previous newsletters to provide citizens with all the information available on the Part 150 Study. Meeting schedules and directions to meeting locations are also on the website. The web address is:

www.PTIPart150.com

This newsletter is produced by Andrew S. Harris, Inc., airport noise consultants – the firm conducting the FAR Part 150 Study for the Piedmont Triad International Airport. Contact Andrew Harris at PTIA_P150@asharrisinc.com.

Looking into the Airport's Future

Piedmont Triad International Airport Annual Aircraft Operations in...

	Cargo	Other	Total
2003	5,564	108,185	113,749
2006	6,313	115,529	121,842
2011	17,107	128,720	145,827

Study Committees Review Projected Airport Operations

Andy Harris

Citizens and government officials working to lessen potential adverse impacts of aircraft noise around Piedmont Triad International Airport received information in December that will help them determine what impact the FedEx hub and other airport operations may have on surrounding neighborhoods after the hub opens in 2009.

see "operations" p. 2

High Point Workshop Draws Public's Interest

Area residents attending a public workshop in December were eager to know how the new runway and the FedEx cargo facility will affect them.

"The people at the workshop asked many good questions. Most left the meeting with a better understanding of the Part 150 process and the timeline, and we left with better understanding of their particular concerns," said Andy Harris, the lead consultant of the PTIA Part 150 Study.

"These initial public meetings help people see what goes into the Part 150 process and gives us a chance to hear their questions," added Harris. "Specific answers about property and mitigation measures will come later."

Fifty-five residents attended the workshop held on December 6, 2004, at Southwest High School auditorium in High Point. It was the second in a series of six public meetings to be held at locations around the airport. The Part 150 consultants gave brief presentations about the scope of the study, how aircraft noise is measured, and the role that noise monitoring, land use, operations forecasts and noise modeling play in the Part 150 Study.

Community noise expert Doug Barrett speaks at a public workshop at Southwest High School.

As with the September public workshop, most of the 90-minute meeting addressed questions from the audience. Many of the questions and answers have been

see "crowd" p. 2

Part 150: What's Happened So Far?

The PTIA Part 150 Study began in February 2004. It is a noise and land used compatibility study that involves working with residents, government agencies and users of the airport to create a plan to reduce the impact of aircraft noise. At this time, the process has included the following work:

- Three community committees – the Citizens Advisory Committee, the Government Advisory Committee and the Airport Users Advisory Committee – were established to ensure representation and input from groups interested in the effective management of aircraft noise as PTIA builds the new runway and expands operations. Each committee has met three times.
- Two public workshops – one north of the airport at Northwest High School and one south of the airport at Southwest High School – have been held. More than 100 citizens have attended.
- A noise monitoring program was conducted in August, generating more than 1800 hours of noise measurements from 16 locations. These data have been analyzed and provide context for understanding the noise environment around the airport. Both aircraft noise and non-aircraft noise were quantified.
- Operations forecasts have been developed for 2006 and 2011 by working closely with the airlines, including FedEx, and other airport users. An operations forecast for 2014 has also been developed.
- Flight tracks have been analyzed and described and noise contours are being developed.
- Land use maps have been updated to include projected changes due to zoning and development.
- The Part 150 website – www.ptipart150.com – and newsletter have been used as a means of sharing information with the public.
- The Triad area media have reported on the Part 150 Study in more than 50 print and broadcast stories.

Community members attend public workshop in High Point.

crowd *continued from p. 1:*

added to the Part 150 website (www.ptipart150.com).

"Residents will have a better sense of whether they will be eligible for noise mitigation assistance and what that assistance will be beginning in June 2005," said Harris. At that time, noise contours, which are the basis for noise compatibility plans, will be completed and the Part 150 advisory committees and consultants will have begun reviewing options for mitigation. The result of their efforts will be the Noise Compatibility Program, which will be submitted to the FAA for review during the first quarter of 2006. The airport authority is expected to begin the implementation of noise mitigation measures approved by the FAA as early as 2007.

operations *continued from p. 1:*

"We have been immersed in background and research up to this point," Andy Harris, project manager for the airport's two-year Part 150 Study, told members of the citizens, government and airport users committees in separate meetings. "Now, we are getting to the heart of the matter, noise abatement."

The December Advisory Committee meetings at the Airport Marriott were the third in a series of seven such meeting sets that began in June 2004 as part of the airport's Part 150 Study. The Part 150 Study is a noise and land use compatibility study that is conducted for the airport under Federal Aviation

the community to create a program to reduce the impact of aircraft noise.

Initial meetings of the Part 150 Study advisory committees have focused on instructing committee members in the language of aircraft noise and on gathering data to clearly paint the picture of aircraft noise. Next, the focus of the study will shift to understanding the implications of that noise and working on a program to reduce its effects.

The Integrated Noise Model & Noise Contours

The primary tool that consultants and committee members will use in talking about the future impacts of noise at the Piedmont Triad

March Meetings

Each of the Part 150 community advisory committees meets quarterly. The next meetings will be held March 8 and 9. The agenda will include "Noise contours – how they are developed and how they are used" and "Mitigation tactics – methods to be considered and the decision-making process." While the meetings are working sessions, the public is invited to attend and observe. The March meetings will be held at the Airport Marriott at the following times:

- Citizens Committee Meeting
  7:00 p.m., Tuesday, March 8
- Government Committee Meeting
  10:00 a.m., Wednesday, March 9

Airport Activity Over the Years

Historic Cargo Operations

Year	FedEx	Other Cargo	Total
1995	1,722	5,378	7,100
1996	1,766	4,930	6,696
1997	1,502	6,694	8,196
1998	2,024	7,680	9,704
1999	1,506	7,686	9,192
2000	1,280	7,158	8,438
2001	1,290	4,986	6,276
2002	2,204	3,348	5,552
2003	2,088	3,476	5,564

Projected Cargo Operations

Year	FedEx	Other Cargo	Total
2006	2,369	3,944	6,313
2011	12,350	4,757	17,107

Source: URS
Forecast information for 2014 will be av
at the March meetings of the committe

Historic Commercial Operations

Year	Air Carrier	Commuter /Air Taxi	Total
1984	45,686	10,942	56,628
1985	53,881	7,762	61,643
1986	53,816	8,191	62,007
1987	51,126	9,907	61,033
1988	49,572	7,888	57,460
1989	44,183	11,270	55,453
1990	44,642	16,274	60,916
1991	39,114	16,568	55,682
1992	37,240	18,739	55,979
1993	39,946	21,132	61,078
1994	80,128	22,700	102,916
1995	73,220	40,287	113,507
1996	47,820	30,231	78,051
1997	40,595	23,818	64,413
1998	44,280	23,208	67,488
1999	41,611	27,289	68,900
2000	39,375	31,840	71,215
2001	34,067	37,397	71,464
2002	27,512	37,992	65,504
2003	22,920	47,633	70,553

Projected Commercial Operations

Year	Air Carrier	Commuter /Air Taxi	Total
2006	23,098	48,259	71,357
2011	33,529	58,498	92,027

operations *continued from p. 2:*

the integrated noise model (INM). The INM is the official Federal Aviation Administration (FAA) noise model and has become virtually the world-wide standard for noise modeling.

Numerous details about PTIA's flight operations will be taken into account while developing the noise contours for PTIA. These include:

- the configuration of runways
- the number of flights
- the time of day when flights occur
- aircraft types
- flight paths (the paths over the ground flown by aircraft departing from the airport after takeoff and arriving from other airports)
- aircraft altitude.

The altitude of the airport itself as well as average temperature and humidity are also part of the INM calculations.

"Once all the data have been entered into the INM, it simulates the 'noise dose' from every departure and arrival and 'measures' sound levels at many points around the airport," says Doug Barrett, a community noise expert. "These data are used to draw noise contours, which form the map of the noise exposure around the airport."

Citizens Committee members listen to operations forecast presentation.

Noise contours are used to describe and evaluate noise mitigation measures that are being considered for the Noise Compatibility Program, which is the end product of the Part 150 Study.

Noise contours are drawn for three levels of noise: 75 DNL, 70 DNL and 65 DNL. Land uses inside these contours are

see "operations" p. 4

operations *continued from p. 3:*

compared with criteria for noise environments. The effectiveness of noise mitigation measures is evaluated in terms of changes in noise exposure and changes in areas exposed to these three levels.

Looking into the Future

To determine the expected number of flights, the type of aircraft and other key data needed for the integrated noise model, consultants worked closely with air carriers at PTIA, including FedEx, and other groups of airport users, to develop a forecast of future aircraft operations at PTIA. For the Part 150 Study, forecasts have been developed for 2006 (a base year before FedEx begins operations), 2011 and 2014.

Consultants presented the results of the forecast at the December meetings. Some of the highlights of the forecast of FedEx operations include:

- 24 arrivals and 24 departures per week day from 2009 to 2011
- 38 percent of FedEx flights will use the new runway
- FedEx operations are expected to increase to 63 arrivals and 63 departures per week day when Phase II of the hub is in place. Projections assume Phase II will be in place in 2014.

Since the December meetings, consultants have used the forecast data in the development of draft noise contours. During the next set of meetings in early March, the three advisory committees will discuss the draft noise contours and begin to examine the array of options for noise mitigation.

Noise Compatibility Program

In June, the committees will begin to evaluate measures under consideration for the Noise Compatibility Program (NCP) for PTIA. Based on the noise impacts, FAA regulations, as well as safety and operational efficiency, the committees will consider a range of potential mitigation measures, including:

- The paths airplanes follow when they depart and arrive
- How land in the vicinity of the airport is used
- Which aircraft use which runway
- What mitigation measures, such as sound insulation, will be available to eligible homeowners.

The Airport Authority will review and revise the initial recommendations, resulting in a completed document in early 2006. The NCP document, along with Noise Exposure Map (the portion of the document containing the official noise contours) will be submitted by the Piedmont Triad Airport Authority to the FAA for review and approval.

"The FAA will respond within six months," explains Harris. "The FAA can accept measures as presented in the NCP, accept measures with conditions or reject measures. The final NCP will contain all measures accepted by the FAA. After acceptance by the FAA, the Airport Authority can move forward to reduce the impact of noise on area residents."

PTI PART 150 STUDY
Piedmont Triad International Airport
P.O. Box 35445
Greensboro, NC
27425

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3.2 WEBSITE

To provide the maximum possible access to information about the Part 150 Study, and to provide the public an additional avenue for comment, the consultant team established a Part 150 website for the Piedmont Triad International Airport study.

The Part 150 Website (www.ptipart150.com) launched in August 2004 to provide the community, government officials, airport users and other interested parties a primer on the Part 150 Study and to update the community on the study's progress.

The website offered the following information:

Welcome - explaining the study and offering the latest information
What's New – further information on the latest developments
Part 150 – a backgrounder on FAR Part 150
Aircraft Noise – a primer on how noise is measured and how the Part 150 study uses those measurements
Public Involvement – description of committees and public workshops, including membership lists and dates and times of meetings
Newsletters – electronic versions of newsletters
Maps – maps associated with the project, including noise exposure maps
Archives – materials from the study no longer relevant to the current discussion
FAQ – a list of questions gathered at committee meetings, public workshops and by e-mail regarding the study, with answers from the consultants
Documents – posting of current documents relevant to the study, including noise monitoring information, drafts of the Noise Compatibility Program, background documents and other information
Glossary – a vocabulary list of FAA, airport noise, Part 150 and other relevant terms
Feedback – where visitors can post questions and comments
Search – where visitors can search the site for information they are seeking

From its launch in August 2004 to March 2006, the website received about 2,000 visits, or roughly 100 visits per month.

This section includes the following documents:

- A printed version of the website home page
- Visit the website at www.ptipart150.com

PTI PART 150 STUDY

Neighborhood News

Welcome
What's New
Part 150
Aircraft Noise
Public Involvement
Newsletters
Maps
Archives
FAQ
Documents
Glossary Page
Feedback
Search

Welcome

Part 150: Noise Compatibility Study

The new runway at Piedmont Triad International Airport is under construction and the Piedmont Triad Airport Authority is conducting an Airport Noise Compatibility Study, also called a Part 150 Study. The Part 150 Study seeks to reduce the impacts of airport operations on neighborhoods surrounding the airport.

This website will help address questions the Triad's residents have about airport noise, the Noise Compatibility Study and community involvement in the process.

Here is the latest:

Land Use Map Available for Viewing

The Land Use Map for the Part 150 Study has been completed and is published on the Part 150 Website under the "Maps" button. A map showing new development around the airport has also been published on the website. Read more by clicking on the "What's New" button. See the map by clicking on the "Maps" button.

December Committee Meetings Rescheduled for January

The December meetings of the Part 150 Advisory Committees have been rescheduled from December 6, 2005, to January 24, 2006. The meetings will take place at the same times and place as previous meetings:

Airport Users Committee: January 24, 2006, 1:00 p.m.

Government Committee: January 24, 2006, 10:00 a.m.

Citizens Committee: January 24, 2006, 7:00 p.m.

Noise Study Continues: Measures Under Consideration

A number of new measures may be put in place at Piedmont Triad International Airport in an effort to reduce the impact of airport noise on nearby residents.

Jets may fly at higher altitudes on approach to Piedmont Triad International Airport, for example. Aircraft might also stay on certain flight tracks longer as they leave the airport and or use certain runways at certain times to lessen the noise around the airport.

The analysis of measures is being prepared by Andrew Harris, an airport noise consultant who has been working with three advisory committees since June 2004 to find ways to lessen noise around the airport once a FedEx mid-Atlantic hub opens in 2009. Harris, an authority on airport noise, was hired by the Airport Authority in early 2004 to conduct PTIA's first Part 150 Study.

The three advisory committees have reviewed and discussed proposed measures to lessen aircraft noise. They have contributed ideas and voiced their concerns during meetings in June and September, and in e-mail exchanges. Currently, Harris and his team are conducting additional analysis of options and seeking further information before a Noise Compatibility Program document is drafted for final committee review prior to meetings on January 24, 2006. A public hearing will be held in early 2006 for public comment prior to submitting the Noise Compatibility Program documents to the Airport Authority for approval.

3.3 MEDIA COVERAGE

The media market that includes the Piedmont Triad International Airport is served by three daily newspapers – *The (Greensboro) News & Record*, *The High Point Enterprise,* and *The Winston-Salem Journal*. It is also served by three primary broadcast stations – WFMY (Greensboro), WGHP (High Point), and WXII (Winston-Salem). There is also a local NPR affiliate, WFDD, and there are several weekly newspapers.

All committee meetings, public workshops and the public hearing were open to the media. In fact, members of the media were alerted to all meetings and invited to attend. The media announced all advisory committee meetings and public workshops in the days prior to these meetings. Reporters from the three daily newspapers attended all the committee meetings and public workshops. They were also included in the e-mail discussions among committee members.

As a result, there was extensive coverage of the Piedmont Triad Part 150 Study. More than 120 stories appeared in Triad area media from the time the study was introduced in April 2004 to the time the public hearing was held in November 2006. The coverage included meetings announcements, coverage of all committee meetings and public hearings, several editorials and even one editorial cartoon.

At the close of the advisory committee process, committee members told reporters that they were happy with the outcome and were quoted as such in newspaper stories. The *High Point Enterprise* wrote an editorial commended the process for reaching a positive consensus.

This section includes:

- A list of media coverage

J
Media Coverage of Part 150 Study

More than 120 news stories have appeared in Triad area media since the Part 150 Study was introduced in April 2004. Most print articles listed here were also posted to the newspaper's corresponding website.

More than 120 news stories have appeared in Triad area media since the Part 150 Study was introduced in April 2004. Most print articles listed here were also posted to the newspaper's corresponding website.

1. **News & Record — Thursday, April 8, 2004**

   PTI forming panels to study hub noise

   Residents can offer recommendations to minimize FedEx noise

2. **High Point Enterprise — Thursday, April 8, 2004**
   Noise Study
   Six High Point residents will serve on 24-person panel

3. **News & Record — Friday, April 9, 2004**

   Editorial: Part 150 panel addresses FedEx hub noise concerns

   Neighborhoods closest to PTI will have input on critical noise-related issues such as flight paths, soundproofing and land development

4. **High Point Enterprise — Sunday, April 11, 2004**

   Editorial: Noise study is critical to airport area's future

5. **High Point Enterprise — Wednesday, April 14, 2004**
   Noise Study Draws Interest

   High Point officials are hearing from a steady stream of residents who would like to serve on a FedEx Corp. cargo hub noise advisory committee.

6. **News & Record — April 16, 2004**

   Committee to endorse choices for noise panel

7. News & Record — April 20, 2004

Council names four to noise panel

8. Winston-Salem Journal — Wednesday, April 21, 2004

PTI accepts federal grant for noise study

9. High Point Enterprise — Friday, April 30, 2004
High Pointers take place on noise study committee

10. High Point Enterprise — Saturday, June 5, 2004

Noise study meetings set

11. News & Record — Monday, June 7, 2004
3 panels to study cutting hub noise
Three committees will begin meeting this week on ways to reduce noise from the proposed FedEx hub.

12. WGHP FOX 8 News — Monday, June 7, 2004; Tuesday, June 8, 2004 & Wednesday, June 9, 2004
Coverage of initial Part 150 meetings.

13. High Point Enterprise — Tuesday, June 8, 2004
Editorial: Take time to provide input on suggestions

14. WFMY News 2 — Tuesday, June 8, 2004 & Wednesday, June 9, 2004
Coverage of initial Part 150 meetings.

15. News & Record — Wednesday, June 9, 2004
Committee discusses scope of noise study

16. High Point Enterprise — Wednesday, June 9, 2004

FedEx noise panel gets to work

17. Winston-Salem Journal — Wednesday, June 9, 2004

Hub-noise group has meeting

18. News & Record — Thursday, June 10, 2004

PTI study to use 12 noise monitors

The instruments will measure noise from air and ground operations

19. High Point Enterprise — Thursday, June 10, 2004

FedEx panels hope to make a difference

20. WFDD 88.5 — Thursday, June 10, 2004

Local morning news announced the planned placement of noise monitors, the hiring of a noise consultant and the formation of committees. It cited the News & Record as the source.

21. News & Record — Thursday, July 30, 2004

Study to analyze PTI noise

Consultants will set up 15 monitors to measure noise for two weeks beginning Monday

22. High Point Enterprise — Friday, July 30, 2004

Monitors measure noise around airport

23. WFMY News 2 — Friday, July 30, 2004

Noise monitors activating around PTI Monday — evening news (5:00pm)

24. WGHP FOX 8 News — Friday, July 30, 2004

PTI noise study — evening news (6:58pm)

25. WGHP FOX 8 News — Friday, July 30, 2004

PTI noise study — nightly news (10:36pm)

26. WFDD 88.5 — Friday, July 30, 2004

Local morning news announced the placement of 12 noise monitors and the beginning of the noise study. It cited the News & Record as the source.

27. WFMY News 2 — Saturday, July 31, 2004

Noise monitors activating around PTI Monday — morning news (7:30 am)

28. High Point Enterprise — Monday, August 2, 2004

Editorial: Noise study plays major role in hub development

29. WGHP FOX 8 News — Tuesday, August 3, 2004

New noise monitors in place around PTIA — evening news (5:00 pm)

30. WGHP FOX 8 News — Tuesday, August 3, 2004

New noise monitors in place around PTIA — morning news (5:15 am)

31. High Point Enterprise — Wednesday, August 4, 2004

Monitors begin PTIA noise testing

32. Winston-Salem Journal — Saturday, August 14, 2004

Din Data: Weather affecting noise study

33. High Point Enterprise — Wednesday, September 8, 2004
Editorial: The local FedEx war may be winding down

34. News & Record — Friday, September 10, 2004
First public meeting on airport noise to be held Monday

35. High Point Enterprise — Monday, September 13, 2004
Public gets chance to question hub study

36. WXII 12 News — Monday, September 13, 2004
The public will finally get a chance tonight to sound off on possible noise for the FedEx hub at PTIA **— evening news (5:00 pm)**

37. WXII 12 News — Monday, September 13, 2004
Another public meeting is scheduled today to look at the noise study **— evening news (6:00 pm)**

38. WXII 12 News — Monday, September 13, 2004
Tonight Guilford County residents get to sound off for the first time in public about possible noise — nightly news (11:00 pm)

39. WFMY News 2 — Monday, September 13, 2004
Tonight you have a chance to take part in a noise study regarding the planned FedEx hub — evening news (6:00 pm)

40. WFMY News 2 — Monday, September 13, 2004
People who live near Piedmont county airport know more — nightly news (11:00 pm)

41. WGHP FOX 8 News — Monday, September 13, 2004
Tonight's your chance to get involved in the noise study process when it comes to FedEx and the Piedmont Triad Airport — evening news (6:00 pm)

42. WGHP FOX 8 News — Monday, September 13, 2004
Residents of northwest Guilford County got an earful tonight on noise levels and the FedEx hub — nightly news (10:00 pm)

43. WFMY News 2 — Tuesday, September 14, 2004
Neighbors of a proposed FedEx hub get a look at a new noise study — morning news (5:00 am)

44. WGHP FOX 8 News — Tuesday, September 14, 2004
Residents of northwest Guilford County got an earful tonight on noise levels and the FedEx hub — morning news (5:00 am)

45. High Point Enterprise — Tuesday, September 14, 2004

Residents share FedEx concerns

46. High Point Enterprise — Wednesday, September 15, 2004

Committee studies hub noise issues

47. News & Record — Wednesday, September 15, 2004
3 panels listen up at airport

48. News & Record (High Point Edition) — Wednesday, September 15, 2004

Committees get an earful of noise

49. Winston-Salem Journal — Thursday, September 16, 2004

Citizens group visits PTI sites for noise study

50. News & Record — Sunday, November 7, 2004

FedEx noise already in play

51. News & Record — Tuesday, November 30, 2004

3.4 Experts to speak on noise at airport

52. High Point Enterprise — Saturday, December 4, 2004
Residents examine noise issues

53. News & Record — Tuesday, December 7, 2004

3.5 Residents fly alternate path idea

54. High Point Enterprise — Tuesday, December 7, 2004

3.6 Residents question noise plan

55. High Point Enterprise — Wednesday, December 8, 2004

Dealing with Noise

56. WGHP FOX 8 News — Monday, December 6, 2004
Public meeting held to discuss airport noise — evening news (6:00 pm)

57. WGHP FOX 8 News — Tuesday, December 7, 2004
Public meeting held to discuss airport noise — morning news (5:00 am)

58. High Point Enterprise — Sunday, December 26, 2004

Legal Showdown: Noise study may refine contours

59. News & Record — Wednesday, December 8, 2004
FedEx flights to bump up in 2014

60. News & Record — Sunday, January 2, 2005

These are some of the High Point stories we'll be working on in 2005

61. News & Record — Thursday, February 17, 2005
High Point News Briefs: New noise map sees less PTI impact than expected in 2006

62. High Point Enterprise — Thursday, February 17, 2005
FedEx cargo hub noise study: Contours around PTIA are smaller than previous ones developed for the project

63. News & Record — Saturday, February 19, 2005
FedEx hub noise estimate revised

64. High Point Enterprise — Saturday, February 19, 2005
FedEx contours shrink: Officials update noise map

65. High Point Enterprise — Tuesday, February 22, 2005
Noise Concerns Echo: Residents wait, worry / Few qualify for buyouts

66. High Point Enterprise — Friday, February 25, 2005
Noise study stirs debate about hub

67. News & Record — Sunday, March 6, 2005

Experts to talk about hub noise: Groups will discuss for minimizing noise from the planned FedEx hub at PTI

68. High Point Enterprise — Monday, March 7, 2005

Public FedEx noise workshop meets today

69. WGHP FOX 8 News — Monday, March 7, 2005

Public meeting held to discuss airport noise — nightly news (10:00 pm)

70. News & Record — Tuesday, March 8, 2005

Residents get look at new noise maps

71. High Point Enterprise — Tuesday, March 8, 2005

Residents take peek at noise plan

72. WFDD NPR News — Tuesday, March 8, 2005

PTIA holds third public meeting to address airport noise — morning news (8:00 am)

73. WGHP FOX 8 News — Tuesday, March 8, 2005

Public meeting held to discuss airport noise — morning news (5:00 am)

74. News & Record — Wednesday, March 9, 2005

Groups seek to reduce effects of FedEx noise

75. High Point Enterprise — Wednesday, March 9, 2005

Committee considers ways to lessen noise

76. News & Record — Thursday, March 10, 2005

Turnout low at PTI noise meeting

77. High Point Enterprise — Thursday, March 10, 2005

Type of jets, land use get focus: Officials believe cargo planes will be quieter [Quieter planes may be in store]

78. High Point Enterprise — Thursday, March 10, 2005

Type of jets, land use get focus: City eyes policy study [Land-use policies get focus]

79. Winston-Salem Journal — Thursday, March 10, 2005

PTI meetings focus on FedEx, noise abatement

80. News & Record — Sunday, March 13, 2005

Editorial: Missing PTI noise meeting illustrates lack of concern

81. News & Record — Saturday, March 19, 2005
Neighborhood requires FedEx soundproofing

82. High Point Enterprise — Sunday, March 20, 2005

Hub, development issues make impact

83. News & Record — Tuesday, March 22, 2005
Letter to the Editor: 24-hour noise average at airport is deceptive

84. High Point Enterprise — Tuesday, March 22, 2005
Letter to the Editor: FedEx should try some test flights at PTIA to determine noise levels

85. News & Record — Thursday, March 31, 2005
Letter to the editor: Why show up to meet when it's a done deal?

86. News & Record — Sunday, April 9, 2005
Letter to the Editor: Will FedEx planes affect flight pattern

87. News & Record — Tuesday, April 26, 2005
Letter to the Editor: Apply noise ordinance to airport and FedEx

88. High Point Enterprise — Monday, March 28, 2005
Editorial: Jet noise zone would offer more protection

89. High Point Enterprise — Thursday, June 2, 2005

FedEx noise study will advance

90. News & Record — Thursday, June 9, 2005

Expert: 'No magic pill' for jet noise

91. News & Record — Friday, June 10, 2005

FedEx hub report praised, panned

92. Winston-Salem Journal — Saturday, June 11, 2005

Consultants submit review for noise control at airport

93. News & Record — Wednesday, June 15, 2005

Big plane limit may not work for hub

94. News & Record — Wednesday, June 15, 2005

PTI noise study accuracy broached

95. Winston-Salem Journal — Thursday, June 16, 2005

Cutting noise at airport goal of 3 panels

96. News & Record — Friday, June 17, 2005

Editorial: Talking about FedEx noise will help provide answers

97. High Point Enterprise — Thursday, July 7, 2005
Editorial: Spend money to mitigate noise not litigate

98. High Point Enterprise — Monday, July 11, 2005
Some noise committee members say input ignored

99. High Point Enterprise — Monday, July 11, 2005
Consultant: Process will benefit residents

100. High Point Enterprise — Saturday, July 16, 2005
Letter to the Editor: Ridiculous editorial doesn't support community

101. High Point Enterprise — Saturday, July 17, 2005
Editorial: FedEx noise study generates some chatter

102. High Point Enterprise — Thursday, August 28, 2005
City may have to adjust its plans

103. High Point Enterprise — Thursday, Aug 28, 2005
Listen! Project's early sound study details coming next month

104. High Point Enterprise — Friday, September 9, 2005
Draft outlines noise proposals

105. News & Record — Friday, September 9, 2005
Updated report has tips to cut FedEx hub noise

106. News & Record — Tuesday, September 13, 2005
Consultant explains airport noise study

107. News & Record — Wednesday, September 14, 2005
Banning 727s at hub could be difficult task

108. High Point Enterprise — Wednesday, September 14, 2005
FedEx hearings continue: North High Point residents air grievances, concerns with proposed flight plans

109. High Point Enterprise — Thursday, September 15, 2005
Editorial: Avoiding FedEx noise problems is good approach

110. News & Record — Wednesday, September 21, 2005
Homes may not qualify for soundproofing

111. High Point Enterprise — Wednesday, September 21, 2005
Hub noise concerns city

112. News & Record — Thursday, November 3, 2005
FedEx noise study to be delayed

113. High Point Enterprise — Wednesday, January 11, 2006
FedEx noise study debate continues

114. News & Record — Thursday, January 19, 2006
Flight paths for FedEx many change

115. News & Record — Wednesday, January 25, 2006
Hub panels review noise-limit plans

116. High Point Enterprise — Wednesday, January 25, 2006
Panel agrees to plan

117. High Point Enterprise — Wednesday, January 25, 2006
Public may see noise plan review in April

118. High Point Enterprise — Thursday, January 26, 2006
FedEx frustrations ease / FedEx hub noise recommendations

119. Winston-Salem Journal — Thursday, January 26, 2006

Noise study due in April: Flight paths focus of airport meeting

120. High Point Enterprise — Friday, January 27, 2006
Editorial: Citizens form consensus on noise abatement

121. High Point Enterprise — Monday, May 15, 2006
Triad should be able to cope with future expansion

4 PART 150 TIMELINE

The public participation process of the PTI Part 150 Study generally followed a three-month cycle of committee meetings, followed by committee feedback, and process updates from the consultants. This cycle was punctuated with periodic updates to the website and publication of the newsletter. The following timeline has been prepared to provide an overview of the Part 150 process and to aid in referencing materials.

March 2004 – May 2004

Project begins. Public participation framework is developed, committee structure determined and committee members recruited. Background information is created for local officials, committee members and the media.

June 2004 – July 2004

Initial set of committee meetings is held in June. Committee structure and communications needs are fine-tuned. Newsletter and website design and content are developed. Committee "field trip" is arranged for August – an opportunity for committee members to hear aircraft noise at night and understand measurement process. Noise monitoring program is developed.

August 2004 – September 2004

Noise monitoring takes place in early August. Field trip is postponed due to hurricane-related weather. Study website – *www.ptipart150.com* – is launched. First issue of the Part 150 newsletter – *Neighborhood News* – is distributed. First public workshop is held to introduce area residents to the Part 150 Study and address questions. Second set of committee meetings is held in September, with the aircraft noise field trip held following the Citizen's meeting.

October 2004 – December 2004

Noise monitoring data is analyzed. Current flight tracks are developed using radar data. Initial flight and aircraft forecasts are made. Land use baseline is developed. Second newsletter is produced. Second public workshop is held to continue to inform area residents of the Part 150 Study and address questions. Third set of committee meetings is held in December. Committee members further their understanding of how noise is measured, measuring noise versus modeling noise, and how the information gathered and analyzed by the consultants will connect to the mitigation options.

January 2005 – March 2005 Consulting team continues its work. Third public workshop is held and third issue of newsletter is produced. Committees hold their fourth set of meetings. This marks the shift from sharing information and educating committee members to active committee involvement in understanding noise mitigation options and weighing in on specific concerns and measures. Committee members begin open e-mail discussion of mitigation options.

April 2005 – June 2005 Committee members provide significant input via e-mail discussions. Consulting team catalogues ideas and factors them into first draft of the NCP. June committee meetings begin an in-depth review of the feasibility of mitigation options. Again, committee members begin an open e-mail discussion of mitigation measures.

July 2005 – September 2005 Work continues to address committee input and analyze feasibility of NCP mitigation options. Fourth issue of newsletter is produced; fourth public workshop is held. A revised draft of the NCP is written and distributed to committees. The committees meet for the sixth time, focusing largely on specific flight protocol and runway use. Committee requests exploration of additional options.

October 2005 – January 2006 Consulting team responds to committee requests with additional analysis and review of mitigation options. Further updates to land use, population, flight forecasts are made. Revised draft of NCP is written and distributed to committees. Final committee meetings are held January 24, 2006. NCP is reviewed and, with some adjustments, is supported by committee members. The members have an additional month to review the draft NCP and provide further comments.

February 2006 – November 2006 Committee members submit comments on draft NCP. In general, those comments refined points agreed to in the final set of committee meetings. A final newsletter is developed. The forecast of aviation operations is refined and updated. Noise maps are developed as well as a final draft of the NCP. Detailed documentation is collected, finalized and provided to the public for review (both on website and at various public venues).

November 2006 – December 2006	Public hearing is held as a forum to answer questions and hear comments from area residents. Final NCP is written.
January 2007	PTAA adopts NCP and directs staff to submit NCP and NEMs to the FAA.
May 2007	FAA Atlanta ADO submits preliminary review comments to PTAA
May – November 2007	PTAA prepares changes in response to FAA preliminary review comments.
November 2007	PTAA submits revised documents to FAA for final review.

APPENDIX D

GLOSSARY OF TECHNICAL TERMS

GLOSSARY

Air Traffic Control Tower (ATCT) – A tower operated by the FAA at an airport to provide for a safe, orderly and expeditious flow of traffic on and in the vicinity of the airport.

Auxiliary Power Unit (APU) – Equipment, either on-board an aircraft or on the ground, that is used to generate electric power for operating on-board equipment, or for engine starts, when the aircraft is at rest.

Avigation Easement – A right of overflight in the airspace above or in the vicinity of a particular property including the right to create such noise or other effects as may result from the lawful operation of aircraft in such airspace and the right to remove any obstructions to such overflight.

A-Weighted Sound (dBA) – A system for measuring sound energy that is designed to represent the response of the human ear to sound. Energy at frequencies more readily detected by the human ear is more heavily weighted in the measurement, while frequencies less well detected are assigned lower weights. A-weighted sound measurements are commonly used in studies where the human response to sound is the object of the analysis.

Day-Night Average Sound Level (DNL) – A noise measure used to describe the average sound level over a 24-hour period, typically an average day over the course of a year. In computing DNL, an extra weight of 10 decibels is assigned to noise occurring between the hours of 10:00 p.m. and 7:00 a.m.

Daytime – For noise analyses, the hours from 7:00 a.m. to 10:00 p.m.

Decibel (db) – A measurement of sound energy or sound pressure. The decibel scale is logarithmic. A 10-decibel increase in sound is equal to a tenfold increase in sound energy.

Distance Measuring Equipment (DME) – A flight instrument that measures the line-of-sight distance of an aircraft from a particular point in nautical miles.

Downwind Path - A flight track followed by aircraft that are approaching the airport in the opposite direction from their final approach as such aircraft maneuver past the airport and then into position to make their turns onto final approach.

Environmental Impact Statement (EIS) – The final Environmental Impact Statement, dated November 2001, that was prepared by the FAA with respect to runway 5L/23R, the FedEx cargo facility and associated developments at the airport. The EIS reviewed the anticipated environmental impacts of the project, including aircraft noise.

FAA – The Federal Aviation Administration.

Federal Aviation Regulations (FAR) – The body of Federal regulations relating to aviation. Published as Title 14 of the Code of Federal Regulations.

Final Approach – A flight path for arriving aircraft that follows the extended runway centerline.

Geographic Information Systems (GIS) – An information system that is designed for storing, integrating, manipulating, analyzing, and displaying data referenced by spatial or geographic coordinates.

Glide Slope – The electronic signal on which arriving aircraft descend for their arrival runway under ILS approach procedures.

Ground Power Unit (GPU) – Equipment on the ground that is used to generate electric power for operating on-board equipment, or for engine starts, when the aircraft is at rest.

Head-to-Head Operations – The proposed operational procedure for the FedEx hub, to be followed when allowed by weather conditions, in which aircraft arrive on Runways 5R and 5L and subsequently depart on Runways 23L and 23R.

Incompatible Use – The use of a tract or parcel of land which, under the guidelines set forth in FAR Part 150, is not compatible with the noise exposure at that location.

Instrument Flight Rules (IFR) – That portion of the Federal Aviation Regulations (FAR Part 91) specifying the procedures to be used by aircraft during flight in instrument meteorological conditions. These procedures may also be used under visual conditions and provide for positive control by ATC. (See also VFR.)

Instrument Landing System (ILS) – An electronic system which helps to guide pilots to runways for landing during periods of limited visibility or adverse weather.

Integrated Noise Model (INM) – A computer model developed, updated and maintained by the FAA to calculate the noise exposure generated by aircraft operations at an airport.

Leq – Equivalent Sound Level. The steady A-weighted sound level over any specified period of time (not necessarily 24 hours) that has the same acoustic energy as the fluctuating noise during that period (with no consideration of nighttime weighting). It is a measure of cumulative acoustical energy. Because the time interval may vary, it should be specified by a subscript (such as Leq 8 for an 8-hour exposure to noise).

Lmax – The highest A-weighted sound level occurring during a noise event.

Mean Sea Level (MSL) – The average height of the surface of the sea for all stages of the tide; used as a reference for elevations.

Nautical Mile – A measure of distance equal to one minute of arc on the earth's surface (6,076.1 feet or 1,852 meters).

New Stage 3 Aircraft – Aircraft that met the Stage 3 requirements of FAR Part 36 at the time of their original manufacture.

Nighttime – The hours from 10:00 p.m. to 7:00 a.m. This definition of nighttime was adopted by the EPA when defining DNL. It is used in the NCP proposed in this report and throughout the report." All times are local time in the EPA definition, in the EIS and in Part 150 documents.

Noise Contours – Lines on a map that connect points of equal noise exposure.

Noise Compatibility Program (NCP) – A program developed in accordance with FAR Part 150 that contains provisions for the abatement of aircraft noise through aircraft operating procedures, air traffic control procedures, or airport facility modifications. It also includes provisions for land use compatibility planning and may include actions to mitigate the impact of noise on incompatible land uses and recommendations for amending local land use controls to affect future land uses and development.

Noise Exposure Map (NEM) – A scaled, geographic depiction of an airport, its noise contours and surrounding area developed in accordance with FAR Part 150, and the accompanying documentation required by FAR Part 150.

One-Way Operations - A procedure in which aircraft arrive and depart on the same runway heading.

Operation – A takeoff or landing by an aircraft.

Original Operations Forecast – See Section 1.2 of the Introduction to this Part 150 Study.

Profile – The position of the aircraft during an approach or departure in terms of altitude above the runway and distance from the runway end.

Record of Decision (ROD) – The Record of Decision issued by the FAA on December 31, 2001, based on the EIS, approving the federal actions required for the construction and operation of runway 5L/23R, the FedEx cargo facility and associated developments.

Retrofitted Stage 3 Aircraft – 727 aircraft and all other aircraft that met the Stage 3 requirements of FAR Part 36 through retrofit or engine replacement.

Sound Exposure Level (SEL) – A standardized measure of a single sound event, expressed in A-weighted decibels, that takes into account all sound above a specified threshold set at least 10 decibels below the maximum level. All sound energy in the event is integrated over one second.

Updated Operations Forecast – See Section 1.2 of the Introduction to this Part 150 Study.

User Group – The six categories of aircraft operations at the airport. Air Carrier (larger aircraft) and Commuter (smaller aircraft) carry passengers for a fee. Cargo (FedEx and Other) carry only cargo for a fee. General Aviation is private aircraft of all types. Military is military aircraft of all types.

Visual Approach – An approach conducted under Visual Flight Rules (VFR).

Visual Flight Rules (VFR) – Rules and procedures specified in FAR Part 91 for aircraft operations under visual conditions. Aircraft operations under VFR are not generally under positive control by ATC.

Yearly Day-Night Average Sound Level – See DNL.

APPENDIX E

COMMENTS ON DRAFT REPORT WITH RESPONSES AND PUBLIC HEARING TRANSCRIPT

INTRODUCTION TO APPENDIX E

Appendix E contains five sections related to the Draft Report dated 7 November 2006 and the Public Hearing on 16 November 2006. Section E-1 contains comments from members of the three Advisory Committees. Section E-2 contains responses to the comments from the Advisory Committees. Section E-3 contains comments from the Public. Section E-4 contains responses to the comments from the Public. Section E-5 contains the full transcript of the Public Hearing including comments made at the Public Hearing and in separate e-mails and letters during the comment period.

E-1 Comments from Members of the Advisory Committees

Comments received from members of the three Advisory Committees are included in this section of the appendix. Responses to the comments are in Section E-2 and are cited within the text of the comment (e.g., "*See Response C-1"*). The full texts of comments from members of the Advisory Committees are included in Section E-5.

FROM G. LEE BURNETTE, AICP [via e-mail]
Director of Planning & Development

I have reviewed the PTIA Part 150 draft report dated November 7, 2006, particularly in comparison with the letter to you from High Point Mayor Rebecca Smothers dated February 24, 2006, which I have attached. That letter was written to provide additional input for your consideration and inclusion in the final draft report. Members of the Part 150 Study citizens committee and government advisory committee from the High Point area met in February to discuss the draft noise compatibility program (NCP). It was the consensus of those present that the draft NCP along with some additional changes could provide appropriate noise mitigation measures; thus, the basis for the February 24th letter.

It appears based upon my review of the November 7th draft report that most of the comments in the February 24th letter were addressed. There are some comments that I would like to make based upon that letter.

First, thank you for providing the City of High Point the additional analysis utilizing the Number of events Above (NA) metric. The February 24th letter had requested this alternative analysis be conducted. This measure was used by the City, based upon data in the final EIS, to determine the potential for sleep disturbance from single nighttime aircraft events and upon which the City's current land use regulations were adopted in 2003 for the airport area in the City of High Point. The information from this additional analysis will assist us in determining any needed adjustments in the City's land use policy and regulations based upon preferred alternative 2C.

See Response C-1

Second, the letter stated in comment # 7 that "Proposed Measure NA-11 [now NA-12] states that PTAA will request the tower to direct arrivals to "maintain altitudes consistent with the glide slope for instrument approaches even when not using an instrument approach". It went on to recommend that all aircraft should intersect the glide path and slope not less than 4,000 AGL (above ground level). The November 7th report notes that distance at 4,000 MSL (mean sea level), which is approximately 900 to 1,000 feet less than recommended.

See Response C-2

And third, the letter stated in comment # 8 that "Proposed Measure NM-1 regarding the recommendation that PTAA establish a Noise Monitoring Function ("NMF") should be amended to add a requirement that the PTAA establish a Citizens Advisory Board ("CAB") composed of representative members of affected communities, to periodically meet with and advise the NMF on issues related to the NCP." The November 7th report did not include this measure. I believe there is validity in maintaining and improving communication between citizens in any affected community and the airport regarding aircraft noise. While the implementation of this measure may not be practical until the cargo hub facility is close to operational, I believe that the creation of a citizen committee could allow the citizens an opportunity to better understand noise impacts and any associated issues, and allow a route for citizen noise concerns to be reviewed and possible addressed. This could be a positive for both the citizens and the airport authority.

See Response C-3

I appreciate your consideration of these comments in the final report and the opportunity to participate in the Part 150 study process.

The letter from Mayor Smothers, dated February 4, 2006, is in Section E-5.

*****

FROM LEE WHITAKER
November 16, 2006 (written comments)

Proposed Measure NA-13, change to read:

Altitude for Downwind Legs. Under this measure, the PTAA requests that FAA Air Traffic Control Tower personnel direct aircraft on the downwind leg for arrival on runways 5L, 5R, 23L or 23R to remain at or above 4000' MSL until abeam the final approach fix.

See Response C-4

Rationale: Keeps the arriving aircraft higher over residential neighborhoods, requires lower power settings and thus less noise, and provides a stable descent rate from downwind to landing.

A 4000' MSL downwind leg is a good altitude for planning the visual approach. Using the arrival flight tracks in figures A-3 and A-5, for 2006 Base Case and 2014 Base Case respectively, you can measure the downwind legs' lateral displacement from the runway. The nearest flight track for 5R, as an example, is 4 nautical miles from the runway. Allowing for visual patterns to be slightly closer, I assume lateral displacement of 3 miles from the runway for planning.

Proposal NA-12 requires intercepting final approach on the glide slope no closer than the final approach fix, at approximately 5.5 miles form the runway. Discussion earlier in this section, on page 53, places the final approach fix altitude at approximately 2800' MSL. Once the aircraft is abeam the final approach fix at 4000', the pilot starts a descending 90 degree standard rate turn to base leg. After rolling out on base leg, another 90 degree standard rate turn is flown to roll out on the final approach course, slightly outside the final approach fix. The air distance flown in this maneuver from downwind to final approach course is the sum of the displacement distance and any additional distance flown in the two standard rate turns. The combined turning distance is approximately 1 nautical mile at airspeeds of 160 to 180 knots (normal maneuvering speeds to final approach fix). So, to loose 1200 feet altitude (4000' downwind – 2800' final approach fix altitude) in 4 miles (3 mile displacement + 1 mile distance in two turns) requires a descent rate of 300 feet per mile. This is the exact same descent rate on a standard ILS final approach, and gives the arriving aircraft a stable descent rate all the way from leaving downwind to landing.
[see attached visual]

*****

FROM JEAN BLACK [00043-14]
(Comments at public hearing, November 16, 2006)

I'm a member of the citizens committee, and I have a few comments.
In reading the November draft report, I am concerned about the FedEx nighttime departure flight tracks for Alternative 2C on Figure A-9 as they relate to departures from Runways 5R and 5L. When I compared this map to the map Figure 9 that came out with the January draft, I noticed a very big change. When comparing the left-hand turn flight tracks of Figure 9 to those in Figure A-9, there is a noticeable encroachment by new flight tracks into the residential areas on Figure A-9. These new flight tracks are directed or tucked in closer to the airport over some of the most densely populated residential areas in close proximity to the northeast of the Runways 5L and 5R. I am greatly

concerned about this change of departing flight track locations, thus increasing the noise exposure to residential areas under the flight tracks.

See Response C-5

I am concerned about another change since our last citizens committee meeting last January. That change is to Proposed Measure NA-8, departures from Runway 5L, Proposed Measure NA-9, departures from Runway 5R. Both of those measures are to establish a procedure to delay initial turns from runway heading by aircraft departing on Runway 5L and 5R. The January draft read "until aircraft are two statute mile from the northeast end of the runway." The November draft was changed to read "until such aircraft reach an altitude of 3,000 MSL." I would like you to consider an altitude of 3,000 AGL rather than an altitude of MSL. That would place the aircraft almost 1,000 feet higher above residential neighborhoods when making nighttime turns from Runways 5R and 5L. And I wish we could have discussed these two changes that I have mentioned, the changes on the flight tracks and these two proposed measures, in committee.

See Response C-6

Regarding Proposed Measure NA-1, I would like this measure to state that there is a nighttime time frame of 10 o'clock p.m. to 7 o'clock a.m. for no engine run-ups. These engine run-ups, when they occur at nighttime, are very invasive to residential areas near the northeast end of the airport.

See Response C-7

Regarding Proposed Measure NA-3, I have talked about this before in committee, and I'm still very much concerned about placing all of the 727 aircraft departing to the southwest on the new runway 23R. I am concerned because these 727 aircraft departures could impact The Cardinal neighborhoods with their very noisy backblast noise. There is no noise abatement for the backblast from initial startup or rollout of aircraft departing to the southwest from either runway at night, which currently often impacts neighborhoods northeast of the existing Runway 23L.

See Response C-8

Regarding proposed Measure MN-1, establishing noise-monitoring function at PTIA, I strongly recommend that this be put on a fast track and established as soon as possible. The citizens committee had agreed at the January meeting that a citizens advisory board be established under this measure. The citizens advisory board has been omitted from the November draft and should be added to this Measure MN-1. Also, I did not find the SEL contours for informational purposes only in this current 150 draft. It was my understanding that these contours would be included but for only informational purposes.

See Response C-3 and C-9

I thank you very much, and it has been a very educational experience to work with you on this Part 150, and I wouldn't have traded it for anything.

*****

FROM SCOTT GAYLE
[via e-mail 11/13/2006; hard copy submitted at public hearing]

Dear Andy and Staff (with copy to all committee members):

I am taking this opportunity to make 13 comments on the Draft of 11/7/06 before the last public hearing this coming Thursday, November 16th. They are not in order of importance. They start with Glossary, then follow the text as it appears through Appendix B.

Most of these comments are based upon, or reiterate, my comments contained in my email to everyone (attached for reference below) dated Feb. 20, 2006, regarding the points covered at our last Citizens Committee meeting in January, 2006:

1. Definition of Nighttime.

The Glossary for "nighttime" says: "For noise analyses, the hours from 10:00 p.m. to 7:00 a.m.". My notes of our January meeting indicate that you agreed that we would define "nighttime" for all purposes, not just for analysis of data, but for implementation of the NCP, as being from 10:00 p.m. to 7:00 a.m. LOCAL TIME. Please add the following in BOLD: "For noise analyses AND FOR THE NCP, 10:00 p.m. to 7:00 a.m. LOCAL TIME."

See Response C-10

2. Proposed NA-2: Preferred Runway Use.

As you note on p. 10 of the Draft of 11/7/06, "during head to head operations, FedEx aircraft will land on runways 5L and 5R and taxi to the FedEx hub". Likewise, on page 13 of the draft, you note that "it was assumed that the FedEx night operations would be evenly divided between the parallel runways". You indicated in our meetings that NA-2 applies to FedEx only. Therefore, NA-2 needs to clarify that NCP requires that FedEx cause approximately half of its night time arrivals for 5L and half for 5R, in order to follow the NCP. Otherwise, FedEx could frustrate the NCP by having most arrivals on 5R, as many in North High Point have feared it will. Please suggest appropriate language.

See Response C-11

3. Proposed NA-3. Night Runway Use Assignments.

In the draft of 1/18/06, each subsection of NA-3 (1) -(4) starts with the phrase " When departures are using runways ____ and _____". I always interpreted this to mean that if both runways were completed and available for use, then the provisions would apply. I did not interpret the conjunctive "and" to mean that both runways had to be in actual use by FedEx before the provisions would apply. However, one change in NA-3 (4) made since the last draft now leads me to believe that this wrong-headed interpretation could be applied by FedEx to frustrate our intent.

Specifically, in this new draft of 11/7/06, NA-3 (4) has been changed (for some reason) to read "When departures are using runways 5L "OR" 5R . . . " However, the other three subsections (1)-(3) still say "AND". There is no justification for the difference. The intent of the committee (and I assume of the Staff) is actually to say "and/or", meaning that if either one or both runways is available for use, the provisions for designated night time departure provisions will apply. Please change each section (1) through (4) to read "and/or" as needed; otherwise, FedEx could simply elect to use one runway over the other, claiming they were not using both, and that therefore the provisions don't apply. If that is not acceptable to you, then please change (4) from "or" back to "and" so that at least all sections are consistent.

See Response C-12

4. Proposed NA-4.

The 1/18/06 draft heading was "Night Southbound Departure Corridor from Runway 2L". In the 11/7/06 draft, the word "Night" was apparently inadvertently omitted from the heading and should be restored for clarity to match NA-5, NA-6 and NA-7, all of which start with "Night". (I presume this change was originally made when we were considering both day and night use of the Hwy. 68 corridor for departures off 23L).

See Response C-13

5. Proposed NA-5. Night Southwest and West Departure Procedures from Runway 23R.

As I mentioned in par. 8 of my comments (below) of 2/20/06, this procedure, which is very desirable for north High Point, needs one further refinement as suggested by Lee Whitaker in the January meeting: that is, aircraft departing at night on 23R turning right for SW or W destinations need to make one slight additional turn to avoid over flight of the River Landing retirement/nursing home community on Sandy Ridge Road, as discussed in that meeting. Figure 9 shows River Landing in pink as being over flown, yet I think there is an FAA rule imposing an affirmative duty to avoid over flights of nursing homes. The City of High Point has passed a Resolution (see my par. 13 below) which specifically requests this accommodation for River Landing.

See Response C-14

6. Proposed NA-6: Night Northbound Departure Corridor from Runway 23L.

For some reason, changes have been made to water this provision down from the 1/18/06 draft. It now says "encourage" instead of "establish". The original draft of 1/18/06 said "establish a departure procedure". Also, the provisions of NA-6 should be identical to the provisions of NA-4 and NA-7 in this regard. Therefore, NA-6 should be altered to read: "Promptly after FAA approval of this measure, ESTABLISH A NEW NIGHTTIME DEPARTURE PROCEDURE FOR aircraft departing from runway 23L to northern destinations to initiate a left departure turn to a northeasterly heading as soon as practicable". We have established everything else, so why would we merely want to "encourage" this procedure? (Thanks to Don Mathieu who brought this to my attention).

See Response C-15

7. Proposed NA-13. Altitude for Downwind Legs. (a new provision)

Ron Carter and other pilots have already written to Andy this week reminding him of their discussions at the January 2006 meeting about this issue. For those non-pilots, such as myself, the Glossary defines "downwind path" (or "leg") as "a flight track followed by aircraft that are approaching the airport in the opposite direction from their final approach as such aircraft maneuver past the airport and then turn into position to make their turns onto final approach". For our purposes, it means FedEx airplanes arriving generally from the north, flying over the airport and then turning around to land on 5L or 5R from the south at night.

Ron Carter has explained several times that his recommendation is that such planes remain at 6000 feet MSL (mean sea level) while over (abeam) the airport and on the downwind leg, and THEN to remain at 4000 AGL (above ground level) until intercepting the glide slope on approach. Andy agrees that was the proposal but has said recently that the air traffic controllers wanted to avoid having large numbers of aircraft extending their downwind legs so far, and that "we settled on 4000 MSL minimum altitude that would

coincide approximately with the glide slope altitude at the outer marker". As you probably know, 4000 MSL is about 3100 AGL in north High Point, which is not very high up.

I would hope that after further conversations with the air traffic controllers, we could amend this NA-13 to read 4000 AGL instead of 4000 MSL (i.e. 900 feet higher on average). Even 900 feet more will help considerably with nighttime noise for north High Point residents. There should not be large numbers of aircraft extending their downwind legs unduly. I doubt that more than 1/3 of the FedEx flights will arrive from the north. The provision has minimal cost, if any, to the airlines and no cost to implement.

See Response C-4

8. Avigation Easements under LU-2, LU-3 or LU-4.

In the January 2006 meeting, my notes reflect that it was agreed that any avigation easement given by a homeowner to the PTAA would not exceed 65 DNL in the future. There is no limit in the LU-4 or in the glossary. This should be added to be fair to the homeowners who give one and elect to remain at the home, as discussed. Andy should suggest the exact language here.

See Response C-16

9. Sales Assistance or Purchase Assistance under LU-4.

Although defined in the text on page 58, I understood from Andy at the January 2006 meeting that these procedures were well established by FAA rules and such rules would be incorporated by reference and also set out in an attachment for review by homeowners who might wish to take advantage of these forms of assistance. Otherwise, the homeowner has insufficient information on how these plans work. I hope this can be improved upon.

See Response C-17

10. Proposed NM-1. Establish a Noise Monitoring Function at PTIA.

While this version is an improvement over the 1/18/06 draft, it does not include some crucial
provisions that my notes of the January 2006 meeting reflect were agreed upon, including the establishment of a Citizens Advisory Board.

Specifically, in our detailed discussions at the January 2006 meeting, I believe that the language following in quotes was approved by the committee and generally accepted (after some modifications) by Andy for proposal to PTAA. According to my notes (which I wrote at the meeting and summarized in my email of 2/20/06 attached) the approved

language was that the point of contact within the PTAA "would be responsible for noise reduction programs" (not just monitoring aircraft noise as stated), and would "maintain liaison with the carriers for compliance with the procedures and policies of the NCP" (and not just keep the carriers informed about their own compliance, as now stated). This current version, to have any teeth and to fairly meet what the Citizens Committee agreed upon should be revised to add the following BOLD:

"NM-1. Establish a Noise Monitoring Function at PTIA. The PTAA will establish a noise monitoring function within the PTAA with responsibilities that include: TO OVERSEE NOISE REDUCTION PROGRAMS AND MAINTAIN LIAISON WITH AIR CARRIERS FOR COMPLIANCE WITH THE PROCEDURES AND POLICIES OF THE NCP; to monitor aircraft noise; to provide a point of contact within the PTAA for issues related to aircraft noise; to serve as a liaison with the community for such issues; and to keep air carriers and the public informed about compliance with measures in the NCP."

In addition, language establishing a Citizens Advisory Board must be added to NM-1 as was agreed at the January 2006 Citizens Committee meeting. Andy even negotiated the exact language for most of this recommendation, when concerns came up about how to fill the positions on such a board.

My notes reflect that it was agreed that the noise monitoring function, through the PTAA would "establish a Citizens Advisory Board" composed of "members of affected communities" as appointed by their respective governmental bodies to "periodically meet with and advise the noise monitoring function on issues related to the NCP".

Why the creation of the Citizens Advisory Board has been completely omitted from this 11/706 is a mystery and frankly, a surprise. Various members of the citizens committee have reported to me conversations with PTAA officials indicating no opposition to a Citizens Advisory Board. Therefore, a second sentence should be added to NM-1 as follows:

"IN ADDITION, THE NOISE MONITORING FUNCTION AT PTAA WILL ESTABLISH A CITIZENS ADVISORY BOARD COMPOSED OF MEMBERS OF AFFECTED COMMUNITIES, APPOINTED BY THEIR RESPECTIVE GOVERNMENTAL BODIES, TO PERIODICALLY MEET WITH AND ADVISE THE NOISE MONITORING FUNCTION OF THE PTAA ON ISSUES RELATED TO THE NCP".

See Responses C-18 and C-3

11. Proposed NM-3. Install and Operate Monitoring System.

The only thing that I believe we discussed at the January 2006 Citizens Meeting not contained in this revised NM-3 in some form is the requirement that the PTAA web site

publish summaries of SEL data and contours along with DNL data and contours. We all understand that the SEL data is available because it forms the basis for the DNL data. Having such SEL data available to the public will help the Citizens Advisory Board and the noise monitoring function of the PTAA explain to individual citizens why individual (single event) noise may be louder than DNL's and acknowledge that reality, rather than making it look like a secret or cover up. Further, there is no other way for the public to access the SEL data, which should be continually online as it becomes available. Last, this information should be updated per Part 150 regulations, in the same language as NM-2.

Therefore the last sentence of NM-3 should be revised to add the following BOLD:

"Summaries of the monitoring results (BOTH DNL AND SEL DATA AND CONTOURS) will be reported regularly on the PTAA web site, AND UPDATED AS REQUIRED BY FAR PART 150."

See Response C-19

12. Appendix B: Measures not recommended for inclusion in the NCP.

While Appendix B contains summaries of the provisions of five recommendations posed by either Staff or by the Citizens Committee, it certain does not contain a reference to the many other ideas and proposals submitted by the members of the Citizens Committee for consideration. Andy and the Staff have prepared a summary of the various memoranda submitted by the members of the Citizens Committee, entitled "Measures Involving Airport Plan" consisting of about 30 pages, which has excerpts from the various members sorted by topic. Many members of the Citizens Committee have devoted countless hours to review, comment and submit suggestions. It is important for the public to realize not only that the Citizens Committee had the opportunity to participate, but that it did in fact participate and make suggestions, even if all of those suggestions were not accepted or included.

Therefore, I submit that either Appendix B needs to be revised to cover all the major topics proposed by the members of the Citizens Committee, or in the alternative, that the entire "Measures Involving Airport Plan" memorandum, as prepared by the Staff, be included in its 30 page entirety as a part of Appendix B to the Part 150, with some appropriate introduction (and disclaimer if needed) by Andy to explain its inclusion. To do neither of the above would be a disservice to the public and to the members of the Citizens Committee.

See Response C-20

13. Inclusion of Resolutions of Cities or other Governmental Bodies.

I understand from Lee Burnette, with the City of High Point, that the City Council in February, 2006 adopted Resolutions of City of High Point Respecting Proposed Noise Compatibility Program Under FAR Part 150 for Piedmont Triad International Airport. It may be that other government entities likewise adopted resolutions. It was my understanding last February from Andy that any such governmental submissions reflecting the consensus of citizens through their elected officials would be included in the Part 150 report, as an appendix, so that such matters can be reviewed by the FAA and considered. I cannot find any governmental resolutions in this draft of 11/7/06, and I ask that they all be included in the Appendix and Table of Contents, and referred to in the text introduction for easy reference by citizens and the FAA alike.

The draft of the Resolutions from the City of High Point which I have seen requests that the PTAA and the FAA approve Alternative 2C (or 2D if the data supports it) and many of the other NM type provisions added to the current draft. It also asks that PTAA establish a Citizens Advisory Board under NM-1 Finally, it asks PTAA to implement with FAA approval an "informal Noise Abatement Program" requiring all aircraft to voluntarily intersect the glide path at not less than 4000 AGL , and follow an informal minimum over flight height of at least 2000 AGL, among other provisions. For the residents of the City of High Point, these Resolutions carry as much or more weight than the suggestions of the High Point members of the Citizens Committee, because they reflect the consensus of the citizens of High Point as expressed through their elected officials. I trust that these Resolutions will be added along with those of any other government.

See Response C-21

Andy, thank you for your attention and consideration of these changes. If I have misquoted anyone or misstated any facts, please accept my apology in advance.

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MR. GIL HAPPEL [00055-23]
(comments at public hearing, November 16, 2006)

8408 Linville Oaks Drive, Oak Ridge, NC 27310

Those of you who've known me, I've been involved in the process from day one, and I'm totally against this--well, I was never against FedEx, but I'm totally against the third runway, totally against the sorting facility and its location. We proposed an alternate plan. It was thrown out immediately. They said it wouldn't work. The reality of the entire process is—and after I've talked to airport authorities, county commissioners, the city council, various civic groups, the reality is they don't care. It's a political thing. When FedEx came in here, everybody jumps on it. It's a job situation. The jobs are paramount to anything else. The reality is Indianapolis FedEx hub, homes bought-- previously they said--initially they said they were going to buy 200 homes. They bought 2,200. Memphis, somewhere in the neighborhood of 7,000 homes. That's

reality. UPS is in Louisville. They said they'd buy 226 or something. They bought about 4,000. That's reality. Reality is, this jet wash that everybody mentions is actually noise coming from the rear end. Ninety percent of the noise comes out of the back end. I've been flying for 37 years. I make the noise. I'm guilty. I know what a jet will do. You know, this other stuff is BS. You know, we've spent $1.3 million to have this study only for the purpose of the airport to be able to receive federal funding for this. This is the only reason we're going through all this.

See Response C-22

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From: Ron Carter [mailto:rcarter114@triad.rr.com]
Sent: Wednesday, November 08, 2006 4:54 PM
To: andy
Subject: Re: Altitudes

Andy,

In my conversations with the controllers, they said they anticipated the downwind legs would go about 10 nm before turning base. Most airports we go into are pretty much that scenario. If we have between 30-60 arrivals then you are certainly looking at least 10 nm. I was originally anticipating 6000 msl downwind until turning on final and then intercepting the approach. I certainly would entertain this scenario and see how the controllers answer us. The higher, the quieter...

Ron Carter

See Response C-4

FROM: DON MATTHIEU
Wednesday, November 08, 2006 8:42 AM

Ron - I agree with Lee's position on the extended comment period, especially since some of the material in the report has not been included in the public process (as indicated by Andy's 11/7/06 comments). Can you also share Scott's comments/questions with all?

Thanks. DEM

FROM: LEE BURNETTE
Tuesday, November 07, 2006 4:44 PM

Ron & Andy:

The hearing notice stated that written comments on the Part 150 study can be provided on or before Nov 16th. I know that you all are trying to hurry and present this study to the Authority & FAA; however, I do believe it is in the public interest to provide a some public comment period after the hearing date.

While many of us are familiar with this document, many others in the public may not be. To obtain, read and digest this info and then prepare informed comments in approximately one week is pushing the process a little to fast in my opinion.

I suggest that at least a 2 week or longer comment period be provided after the hearing date. Other such comment periods have be entertained likewise already in this process.

Please correct me if I am wrong in reading that no comment period will be provided after the hearing date.

Thanks,

Lee

See Response C-23

FROM: DON MATTHIEU
[Email 25 November 2006]

NA-3 (page 49) must be changed to address the issues he has carefully documented. At no time, did the Citizens Advisory Committee envision, imply, or agree that noise abatement measures under consideration would apply **only** to situations in which the nighttime hub was specifically operating in the dual simultaneous arrival and/or departure mode. The committee addressed noise issues in more general and inclusive terms best described as either southwestern and/or northeastern flow scenarios that you described in your discussions at the recent 11/16/06 public hearing. In view of FedEx's apparent downsizing of its original plans (from 63 flights or 126 operations per night to approximately 45 flights or 90 operations per night), I suspect that on many occasions, planes will arrive and depart relatively frequently as singletons on one runway. The new language found in the latest draft (and developed after the last advisory committee meeting) will allow FedEx planes to disregard or ignore the preferential runway noise abatement agreed to by the committee. Failure to carefully address the intent NA-3 language may create serious and critical disputes in the future that may legitimately call into question the work of the citizens advisory committee.

See Responses C-11 and C-12

NA-2 (page 49) likewise must be changed. Otherwise, when new runway 5L/23R is **not** in use, there are seemingly no preferred runways for arrivals or departures. Also, notice that the head to head operation seems to be defined and limited to only those specific operational configurations in which new runway 5L/23R is being used. It is also still not

clearly documented what specific "weather and runway conditions" will dictate abandonment of the agreed upon head to head operation that places most arrivals and departures over High Point. The nebulous language will make it difficult for managers to develop meaningful performance indicators to document policy deviations. Finally and more importantly, Scott's concern about equal allocation of operations between both runways must be more specifically addressed. The committee understood that the NCP would dictate reasonably equal and equitable use of both runways taking into runway preferences. It was not the intent of the committee to allow FedEx to use RNWY 5R (or 5L, 23R, 23L) for most arrivals/departures simply because only one plane rather than two were involved in a single operation at PTIA at a given moment in time.

See Responses C-11, C-12 and C-24

I also agree with Scott's concerns about the proper definition of nighttime and about NA-4, NA-5, and NA-6 (all on page 50). The changes he suggests should be implemented. Likewise, LU-2 (page 57), LU-3 (page 58), and LU-4 (page 59) and/or the glossary should be changed to reflect the limit on the avigation easement conditions. Including and attachment describing the proposed sale/purchase assurance program (LU-4 on page 59) would also be very helpful to homeowners.

See Responses C-10, C-16 and C-17

NA-11 (page 52) Based on the experience of the Minneapolis-St. Paul International Airport (MSP), I remain concerned that the use of Close-in Noise Abatement Departure Profiles may have little perceptible benefit to residents adjacent to the North end of the airport runways. The departure noise will remain unreasonably and unacceptably loud for many no matter what type of departure profile is used. It is also likely that residents outside the PTI airport part 150 study area (which does not even include the airport's BRANT outer marker) to the North will experience additional overflight noise as departure noise is shifted to areas further from the airport. My opinion is largely based on the discussion (apparently backed up by extensive data analysis by the airport's noise abatement department and a citizen advisory board) provided by the MSP airport noise abatement department. I have excerpted MSP's earlier discussion (that is still available at http://www.boeing.com/commercial/noise/minneapolis.html)
below because it best describes my persistent concerns about this particular issue.

I presume that the NA-11 Close-in NADP recommendation has been made based on some type of quantitative analysis by the consultants rather than by simple proclamation. Will the study data be available in the final report submitted to the FAA? Is the MSP analysis on Close-in NADP flawed? If so, what are the reasons? Could Close-in NADP be limited only to retrofitted Stage 3 (i.e.,727) planes?

See Response C-25

I suggest the **NA-12 (page 54)** language "to intercept the final approach on the glide **slope at or before 5.5 nautical miles**" be changed so that it is more clear that the intercept is to occur at point that is greater than or equal to (> or =) 5.5 nautical miles from the intended runway.
See Response C-26

In **NA-13 (page 54)**, it remains unclear what "abeam the airport" means. Consequently, the noise abatement benefits that the proposed procedure might achieve cannot be reasonably quantified or easily understood. It is not clear to me how the "approach noise" issue has been transformed and seemingly now limited into one that is only concerned with "downwind legs" of planes arriving to 5L or 5R. In fact, for all four runways (5L, 5R, 23L, and 23R), properties under a "straight in" approach path as well as those underlying an approach requiring "downwind legs" will be affected by significant nighttime overflight noise. Please remember the corollary fact arising from Scott's 11/13/06 analysis of NA-13. If no more than 1/3 of the FedEx flights arrives at PTI from the North, then fully 2/3 will arrive from the South or the West. When the FedEx hub is operating under northeastern flow conditions (i.e., arrivals and departures to the northeast), many planes (arriving from the South or the West) may require "downwind legs" and approaches over Summerfield and Greensboro. Please refer to Figure A-5 (page 99) as discussed below.

This issue has been bounced around for months. Most all committee members now understand the problem. The pilots have offered reasonable guidance and practical solutions. I suggest that NA-13 be reworked in conjunction with Ron Carter, Lee, ATC controllers, and Scott with the intent of finding a reasonable compromise some where in the 3,500 - 4,000 AGL range for the glide slope intercept. The compromise conditions should apply to **all** types of FedEx approaches and to **both** the southwestern and the northeastern flow scenarios.

See Responses C-2 and C-4

I find no figure specifically depicting the 2014 FedEx night arrival flight tracks. I have assumed in my discussion that the FedEx arrivals will occur somewhat as those illustrated in Figure A-5 - Arrival Flight Tracks - 2014 Base Case (See page 99). The final part 150 document should include a figure depicting the 2014 FedEx nighttime arrival flight tracks as was done for departures.

See Response C-27

Scott has very adroitly expressed the disappointment of most committee members in his discussion of **NM-1 (page 60)** and NM-3 (page 62). The failure to include specific language establishing a citizens oversight committee is unacceptable and unreasonably dismissive of common practices found in respected airport noise abatement programs throughout the country. I am especially perplexed at this development because the PTAA Board Member with whom I spoke just after the January, 2006 meeting agreed with the

committee's recommendation. He indicated, without any hesitation or reservation, that such a committee would be supported and was needed. In my view, failure to include clear language establishing a functioning oversight committee in the NCP will perpetuate the perception that the PTAA will not fairly address ongoing noise problems related to FedEx operations.

See Response C-3

On page 9, the draft NCP report indicates that Figure 2 on page 11 shows "the DNL contours for Forecasts A and B". However, only forecast A contours are shown. It would be helpful to see both DNL contours (forecasts A and B) displayed on the same figure as the text describes.

See Response C-28

It was my understanding that the NCP report would contain representative SEL noise contours for "information only" purposes.

See Response C-9

I have listed below a few additional items that should be included in **Appendix B**. I agree with Scott and apparently with you that the Citizens Advisory Committee through the leadership of Lee, Scott, Jean Black, Ron Carter and many others, has done an exemplary job in ferreting out the very best noise abatement methods that other airports facing similar problems have found helpful. The work of the committee members should be duly celebrated by listing more of the noise abatement strategies developed by them. I would also suggest that as part of the final draft of the NCP that one or more appendix documents include verbatim, unedited email discussions as well as the collated email summary documents prepared by the consulting staff. I definitely **do not believe** that "Measures Involving Airport Plan" (See Committee E-mails Re: Comments and Recommendations for Part 150 Noise Mitigation - March/April 2005 at http://ptipart150.com/pdfs/Email%20Record%20Category%20P150.pdf) is a satisfactory summary for documenting the work of the committee. This particular document does **not** include any discussion from meetings held after the March/April 2005 time period. Much of the detailed understanding and specific noise abatement proposals provided by the pilots came after that date (e.g., the 1/8/06 Lee Whitaker analysis).

See Response C-20

I will also take this opportunity to frame the request by some committee members to include in the NCP a 55 DNL contour for informational purposes in a more practical and favorable light than offered by the consultant. It was the belief of some committee members that certain particularly noise sensitive individuals and families moving into the general airport area or those simply wishing to avoid housing areas incompatible to them would find a 55 DNL contour very useful. No one ultimately demanded the type of

formal noise contour document that apparently runs afoul of the FAA's prescribed "scale rules" for published noise exposure maps. The 55 DNL contour map suggested was similar to the type **currently available** to citizens who live near RDU. Please refer to the attached RDUMap032004.pdf or go to http://www.rduaircraftnoise.com/noiseinfo/Composite_Noise_Contours_11x17.pdf . HMMH, a company we all know well, apparently helped RDU provide this valuable service to the respected Wake County citizens that the airport serves. HMMH also generated a similar noise exposure map for the Portland airport that depicts 55 DNL contours. Refer to the attached PortlandNEM.pdf.

See Response C-29

Finally, I would like to remind all that a significant number of the so-called noise abatement flight procedures that have been suggested and hopefully accepted by the FAA will be implemented on a day by day and night by night basis by **employees of the FAA** who work in ATC and other FAA sites. If the FAA does not provide adequate staffing (either in quality or in quantity), I strongly suspect the noise abatement program at PTIA may suffer. For example, ILS approaches carefully managed by ATC personnel with proper staffing may be converted to visual approaches when staffing is short. As we have learned from Lee, Gil, Ron, and other pilots, such approaches can be more noisy than ILS arrivals that are carefully managed by ATC personnel.

I cite once again HMMH's recommendation to Fort Lauderdale (FXE). After analysis, HMMH suggested that FXE subsidize a FAA ATC employee position so that more satisfactory implementation of the airport's noise abatement flight procedures might occur. Refer to http://www.hmmh.com/aviation_part150_02fxe.html or to the excerpt below). Such a recommendation indicates to me that the level of FAA staffing during nighttime hub operations (as well as other times) may significantly affect the management of noise at the FedEx hub. Also, please recall the 8/27/06 tragedy in Lexington, Kentucky in which inadequate ATC staffing arguably may have contributed to a major accident. Refer to http://en.wikipedia.org/wiki/Comair_Flight_5191 and attached NTSBAdvisoryKY.pdf

See Response C-30

Finally, in view of the documented responses to the many significant changes that were made to the NCP since the last Citizens Advisory Committee meeting, I would suggest that PTAA publish a second NCPdraft for public review and comment if indeed it intends to address the serious flaws now identified. Furthermore, I am especially concerned about the consultants' disclosure at the 11/16/06 public hearing that the final NCP document to be submitted to the FAA will be much "thicker" than the 11/07/06 Draft NCP presented to the public. Is there a mechanism in place for the public to comment on the actual NCP submitted to the FAA? Will the final document be posted on the website?

See Response C-31

Thank you for the opportunity to comment on the 11/7/06 draft NCP document.

Don Matthieu

APPENDIX B

Additional Measures Considered by the Citizens Advisory Committee for Inclusion in the NCP

Charted Visual Approaches as suggested by Lee Whitaker
60 DNL Noise Mitigation Program
Indianapolis type of Homeowner Sales Assistance Program as researched by Jean Black
55 DNL Noise Contour (for information only) as suggested by Jean Black
FAA Staffing for Better NCP Implementation
Low Frequency Noise Mitigation

See Response C-20

E-2 Responses to Comments from Members of Advisory Committees

This section contains the responses to the members of the Advisory Committees. These numbers are cited with the comments in Section E-1.

C-1 At the request of the City of High Point, contours were prepared for the 2014 Base Case and the 2014 NCP using the metric adopted by the City. The contours were delivered to the City before the Public Hearing.

C-2 Proposed Measure NA-12 in the 7 November 2006 draft does not refer to 4,000 ft MSL. NA-13 does. Measure NA-12 does call for arriving aircraft to intercept the glide slope at a distance of at least 5.5 nautical miles from the intended runway. This point was chosen, rather than 4000 ft AGL, for the reasons stated in Section 3.4.5 of the NCP.

C-3 Proposed Measure NM-1 has not been amended to add a requirement for a Citizens Advisory Board because the establishment of an advisory body is not a noise control measure and can be implemented without review or approval by the FAA.

C-4 In response to comments on the 7 November 2006 draft, the study consultant has discussed possible changes in Proposed Measure NA-13 with FAA Air Traffic Control personnel. Based on these discussions, this measure retains the minimum altitude of 4,000 ft MSL for downwind approaches to facilitate arrivals and to avoid excessively long downwind legs, as proposed in the earlier draft. See discussion of downwind legs at Section 3.4.5. However, this report does alter the point at which aircraft may descend below this altitude, which is now fixed at the point at which the aircraft crosses the extended center line of runway 14/32. Note that a 4,000 ft MSL minimum will result in the downwind leg for one of the two parallel runways being set at a minimum of 5,000 ft MSL to maintain the required separation between the aircraft arriving on the two runways.

C-5 Figure A-9 of the 9 November 2006 report did not show the most current flight tracks. It has been replaced in this report with a revised Figure A-9 showing the flight tracks as used for the final noise analyses. Those tracks show the results of proposed procedures to avoid overflight of the residential areas to the northeast of the airport.

C-6 In response to comments and after review of the proposed measures with FAA Air Traffic Control Tower personnel, Proposed Measures NA-8 and NA-9 in this report have been amended to delay all initial turns on runway 5L to 4,000 ft MSL and initial left turns on runway 5R to 4,000 ft MSL.

C-7 All proposed measures have been reviewed extensively by committees, agencies and the general public. Addition of a new measure to prohibit all engine runups during

the nighttime has not been a part of the process of review and refinement and is inappropriate to introduce such a measure at this stage of the Part 150 study.

C-8 The nighttime runway use assignments in Proposed Measure NA-3 are the end result of the Part 150 study process for PTIA. The noise contours from the 2014 NCP NEM (Figure 15) demonstrate the minimal amount that high levels of noise exposure extend to the northeast, although the NCP includes use of runway 23R for all nighttime departures of Retrofitted Stage 3 aircraft.

C-9 SEL contours for representative aircraft types and representative flight tracks are presented on the PTIA Part 150 website at www.ptipart150.com.

C-10 The glossary entry for nighttime now reads, "**Nighttime –** The hours from 10:00 p.m. to 7:00 a.m. This definition of nighttime was adopted by the EPA when defining DNL. It is used in the NCP proposed in this report and throughout the report." All times are local time in the EPA definition, in the EIS and in Part 150 documents.

C-11 The text of Proposed Measure NA-2 in this report has been revised to specify that runways 5L and 5R will have equal usage during operation of the FedEx hub at night.

C-12 The text of Proposed Measure NA-2 in this report has been revised to specify that each runway in a pair (i.e., runway 5L and runway 5R, and runway 23L and runway 23R) will have equal usage during operation of the FedEx hub at night. Also the text of Proposed Measure NA-3 has been revised to indicate that the procedures in that measure will apply whenever runway 5L/23R is "available" for use. This change will eliminate any implication that those measures could be avoided by FedEx choosing not to use runway 5L/23R. As requested, the word "or" in Item 4 of Proposed Measure NA-3 has been changed to "and" for the sake of consistency.

C-13 The heading of Proposed Measure NA-4 in this report has been revised to include "night."

C-14 The text of Proposed Measure NA-5 in this report is unchanged from the text in the 9 November draft report. The Presbyterian Retirement Community is located where DNL is less than 65 dB; it is near the DNL 60 contour. At this noise level, no benefit could be demonstrated from requiring an additional aircraft turn under the normal FAA criteria, which generally recognize a benefit only when a proposed measure reduces the number of noise sensitive land uses within the 65 DNL contour. However, Alternative 2-C, which has been adopted under the applicable FAA criteria, will require northbound traffic departing on runway 23R to initiate a right-hand turn as soon as practicable, which will reduce the number of overflights by departing aircraft at the Presbyterian Retirement Community. See Proposed Measure NA-7. There is no FAA rule requiring avoidance of aircraft overflight of nursing homes.

C-15 The text of Proposed Measure NA-6 in this report has been revised to require establishment of the new procedure.

C-16 The texts of Proposed Measures LU-2, -3 and -4 in this report are unchanged from the texts in the 9 November draft report. Easements would only be acquired in areas where the noise level is projected to exceed 65 DNL. If the easements were limited to a maximum level of 65 DNL, they would not apply in the very areas in which they are intended to operate.

C-17 Any Sales Assistance or Purchase Assurance under Proposed Measure LU-4 would comply with FAA rules for such assistance. Detailed development of programs under Proposed Measure LU-4 will occur during implementation of the NCP and the specific terms of the programs will be communicated to potential participants at that time. The general FAA guidelines for those programs can be found in FAA Order 5100.38B, Change 1, Airport Improvement Handbook, Chapter 8.

C-18 The text of Proposed Measure NM-1 in this report is unchanged from the text in the 9 November draft report. The purpose of the Noise Monitoring Function is designed to be illustrative, not fully inclusive. The activities of the Noise Monitoring Function will evolve in response to the directions of the PTAA. The existing text of the measure allows evolution and does not constrain the Noise Monitoring Function.

C-19 The text of Proposed Measure NM-3 in this report is unchanged from the text in the 9 November draft report. The proposed additions to the text are inappropriate for the measure. A monitoring system does not develop noise contours and there is no requirement in Part 150 for monitoring results to be updated. The required NEM updates under Part 150 are developed from modeling, not from noise measurements. (Proposed Measure NM-2 addresses noise contours and FAR Part 150 identifies the requirements for updates.) A state-of-the-art noise and operations monitoring system will measure SEL values and calculate DNL values, but only at the monitoring locations. The nature and contents of reports will evolve as the PTAA accumulates experience with the use of the noise and operations monitoring system and the need for published information. FAR Part 150 does not have any requirements that apply to use of noise and operations monitoring systems.

C-20 As was discussed at early meetings of the Advisory Committees, Part 150 lists alternative measures that must be considered in the development of an NCP. The purpose of Appendix B is to document that the specific alternatives that were not adopted in this NCP were given full consideration as required by Part 150. Appendix B does not need to reflect the full set of deliberations, including every permutation of measures that were discussed during development of the NCP. The record of the PTIA Part 150 study is well documented. For example, the web site (www.ptipart150.com/documents.htm) includes the documents circulated to Committee Members and cited in part in this comment.

C-21 No resolution of the High Point City Council has been submitted in the Part 150 process and we are not aware of any governmental resolutions addressing this Part 150 study. There was a letter from Mayor Smothers, a member of the Government Advisory Committee, dated 24 February 2006. Mr. Burnette referred to that letter in his e-mail. Mr. Burnette's email is the first document in Section E-1 of this appendix. Mayor Smothers' letter is included in Section E-5 of the appendix.

C-22 This comment expresses the author's feelings. No specific response is warranted.

C-23 At the request of several members of the Advisory Committees, the PTAA accepted comments from interested parties that were received or postmarked on or before 30 November 2006. All comments are included in this appendix and there are responses to all comments.

C-24 The EIS indicates that the primary weather condition affecting the ability of FedEx to operate in the head-to-head mode is the existence of a tailwind exceeding 10 knots.

C-25 The reasons for adopting the close-in NADP for runway 5 departures are discussed in Section 3.4.4 of the NCP. The adoption of an NADP for a particular runway heading must be uniform for all aircraft types.

C-26 The text in this report has been changed, to avoid possible misinterpretation, to require intercept of the glide slope "at least 5.5 nautical miles" from the intended runway.

C-27 FedEx arrival tracks have not been shown separately because the noise abatement arrival procedures in the NCP are the same for all jet aircraft, FedEx and non-FedEx alike.

C-28 The contours for Forecasts A and B (Alternative 1) are overlaid on Figure 3, which permits a comparison between the two. The text on page 9 has been revised to indicate that Figure 2 refers only to Forecast A.

C-29 The DNL 55 contours have not been shown on the proposed NEMs for the reasons stated in Section 3.6.2.

C-30 The level of staffing in the FAA ATC is determined by the FAA. The FAA will decide if additional staffing is needed at PTIA due to the adoption of the NCP.

C-31 After the final Part 150 document has been adopted by PTAA, it will be posted on the Part 150 website and submitted to the FAA for review and approval. The FAA will then determine whether the FAA will accept any additional comments.

E-3 Public Comments

E-3.1 Introduction

This section of Appendix E contains comments from the general public. The comments are organized by category within the seven sections designated below. Comments that address more than one category have been divided by subject-matter and placed in the appropriate categories. Within each section comments are listed alphabetically by speaker's last name. Each comment is also given a page reference to the full transcript or other notation of the source. Only minor edits have been made such as removal of general opening or closing words (such as "my name is" "my question is" "thank you"). Responses to the public comments are in Section E-4 and are cited following the text of the comment (e.g., "*See Response P-1"*). The full transcript of the Public Hearing and copies of all other letters and email are in Section E-5.

E-3.2 Comments about Ground Noise

MR. HOWARD FLEMING, JR [00031-5]
5501 Turtle Cove Court (Two miles of the end of new Runway 5L-23R).

You conveniently skipped over those items which were excluded from the report, and I'm most interested in why--it's my understanding that the planes are now going to be encouraged to take off southwesterly; that's going to turn their jets right towards The Cardinal, our direction--why jet blast deflectors aren't being considered for that direction …You talk about--my question is, What thresholds will determine the use of these noise barriers that are going to be, quote, evaluated as sites of future ground operations? You know, if they're going to be evaluated, you know, what thresholds are there to actually say, "Okay. We're going to use them"?

See Responses P-1 and P-2

MR. RAYMOND HART [00004-2]
5809 Kacey Meadows Drive, Greensboro, 27410.

I'd like to say I appreciate the emphasis that you-all are putting on the two ends of the runway where the majority of the noise will be; however, my concern is not particularly that as much as it is the ground noise coming from the airport, and particularly TIMCO, where there appears to be no regulations of time or decibel for the noise. They rev those engines up pretty much 24/7 and have shook my foundation several times. I have a new home, about a year and a half old. I did review the noise cone before I purchased the home. I never would have dreamed that something that was on the ground would have become a problem for me. And with FedEx coming in, that's a lot more planes, a lot more maintenance, and potentially a whole lot more noise, and so my concern is they do something about, number one, regulating the time that they can rev those engines and disturb our sleep; number two, having a decibel level that they cannot

exceed; number three, enforcement of that; and furthermore a--some sort of monitoring station over near them so that you can get a decibel reading from their activities.

See Responses P-3 and P-4

RAY HART [via website]
5809 Kacey Meadows Drive, Greensboro, NC 27410

I moved to Greensboro 1 and a half years ago and I did my homework as it pertains to the noise cone. However, I did not consider other ground noise like that provided by TIMCO. I live in Fleming Meadows S/D on Fleming Road just south of Bryan Blvd. I have a good visual of the planes serving PTI and their noise is no problem. However, the noise from TIMCO is unbearable. They run rev-up type tests all day and night. The noise inside my well insulated new home is unbearable at times and occurs both day and night. They will test well past midnight which will disturb my sleep. Then they will begin at 6:01 am, further disrupting my ability to catch up on the sleep lost when they woke me up past midnight. The noise requirements appear to not be strong enough and to say the least, enforcement is non-existant. There should be additional enforcement and some sort of penalty upon regulation breach. Can monitors be installed so that noise levels can be measured, documented and enforced? Further, the personnel who answer the call line for noise problems are arrigant and make me feel as if I am the problem for reporting the incident. Upon calling I am already irritated however after having to answer 5 or more questions about myself, prior to being able to report the problem, makes me much more irritated than just the noise disruption and sends a message that PTI cares more about documenting who called rather than the complaint and rectifying it.

See Responses P-3 and P-4

MR. JIM McMANUS [00054-23]
6404 Wellstone Court, Greensboro, NC 27409

You said you went above and beyond on putting an extra DNL. Could we go an extra above and beyond and put a backwash noise level in there also? I would love to know really--Jet wash. You went above and beyond for the other one. Could you do that for us on this backwash noise?

See Response P-5

MS. CHRISTINE PEELER [00005-4]
3702 O'Briant Place, Greensboro, 27410

First of all, all the alternatives seem to be most favorable to High Point. I'm concerned especially with one that I'm told is preferred, 2C, that all 727s are going to be put on the new runway. This strikes me as patently unfair when our neighborhoods to the northeast, of which there are many--we're packed in there--are only about a mile away from the new runway, whereas the neighborhoods to the southwest, north High Point, are several miles away. The backblast from these 727s is very loud, and as I understand it, it

is not included in the DNL measurements, so the noise cones are deceptively small. I also understand that on page 130-131 you say that berms are not practical, that downwind they really won't reduce the noise, which is even more reason for not allowing 727s on the new runway at all.

See Responses P-5 and P-6

MS. CHRISTINE PEELER [00042-4]
3702 O'Briant Place, Greensboro, 27410

I made some comments, so I just have some questions now, which you said I could ask separately. I'm wondering, Does the FAA take into consideration the backblast from the rear of the planes taking off in their noise measurements? It is my understanding that they do not, but I'm not an expert, and I want to know, if not, why not. And, also, why does the FAA not take into consideration the C-weighted noise that Mr. Inman was talking about, the low frequency that causes vibration, in their measurements? None of this, as I understand it, is included in DNL, the average, so I'd like to know--I'd like that confirmed and to know why.

See Responses P-5 and P-6

MR. ANDY RALSTON-ASUMENDI [00037-13]
3207 Van Allen Circle, 27410

I would like to piggyback on what he said about reality. These studies don't seem to be based in reality. What we've got is another fantasy novel, the way it looks, because in reality--you said the second runway is built for FedEx. The commercial airlines will not land on that runway at all because of the same reason FedEx wants to land in that direction. It will cost them a lot more fuel to taxi from there to the terminal, and as long as we're at our little 30 percent capacity, they are not going to ever land on there. So that runway is only used probably, starting out, four hours a night, two in, two out, maybe up to six, so I'm wondering why you're allowed to spread out that use over 24 hours and say that that's effective reality. I live in Cardinal Commons, which in fact is less than three-quarters of a mile northeast off the runway, yet we are not ever put in a noise cone. And I'm sure everybody can hear me, and I am on the ground. I am not in the air. Yet none of the noise is ever recorded for when the plane is on the ground. And we all know that the plane sits at the end of the runway, is told to take off. It makes a lot of noise just to move it down the road. Why is this noise never included in a study? Because that's going to be very loud. I can, in my house now, with the windows closed, hear the beeping of the trucks backing up on the construction. Obviously they're not as loud as a jet plane, so we will clearly be able to hear those. When TIMCO locks down a jet and tests it, it's not off the ground. We can hear that quite clearly as well. So my questions really are around why reality is not ever used in any of these studies. We seem to just be--want to be squeezed out to make us pay for FedEx, because it is costing property value in my neighborhood greatly. So I feel like I end up financing it--financing this whole thing.

See Responses P-5 and P-7

[UNSIGNED] [written comment]

Does the FAA (and this study) measure the back blast from airplanes and include these measurements in the DNL measurement and the noise cones? If not, why not, since back blasts are very loud?

See Response P-5

E-3.3 Comments about Flight Patterns and Operations

ANNETTE AYRES [via website]
Summerfield, NC

We thought we were well protected from much of the airport noise when we bought our home in Summerfield last year. But, sometimes late at night or before dawn, we can hear the loud rumbling of approaching planes that seem to pass over our home before making their southeasterly turn toward the airport. You can hear the low but intense rumble start as the planes approach - and I'm always keeping my fingers crossed that it doesn't wake our 3-year-old. I hope that consideration will be given to the approach paths many of these planes will be taking as they arrive (not just departing paths) -- and know that those neighborhoods are also feeling the impact.

See Response P-8

MR. RONNIE COLLINS [00042-22]
162 Old Mill Road, High Point, NC 27265

I live in north High Point, and I'm just outside of what is described as the noise level, although I'm about six miles from the end of Runway 5. Planes that are coming into Greensboro come right over my house, and that's about the time that they drop those landing gears, and that causes drag, which includes noise. And when you're on a flight path that's right across your house, even though I'm outside of the noise area, there's still a lot of noise. And if we're looking at 60-some-odd planes that are going to be coming in overnight, even though I live six, six and a half miles from the end of Runway 5, that's still going to be a problem, and I just wanted to make that comment.

See Response P-8

MR. CLARK HARDESTY [00051-8]
1914 Basset Tr., Greensboro

I've got a two-part question and a comment about the flight paths, particularly on the 15 percent time when you tell us they're going to be landing on 23, departing 5. I'm an airline pilot, so I'm familiar with flight patterns, and I fly into and out of a lot of airports around the country that have varying degrees of restrictions from very minor to fairly strong restrictions on their flight patterns so we can be quieter that way, which is a good thing. When you're--you were talking earlier about the idea of keeping aircraft at a

higher altitude coming over the highly populated areas on the sides of the airport east and west, but then a prior speaker on the committee here referenced a change apparently being made that would allow the aircraft to turn more closely in. I'm particularly concerned on the idea of-- He's shaking his head no. Well, that's part of the question. If they would allow the arrivals, say, on 23 to make an additional approach, they're going to be much more tightly turned in and at a lower altitude of necessity as they go across some fairly high-density areas on both sides. I would recommend taking them out pretty much to the final-fix branch on 23 before they're allowed to turn in. That would require them to stay at higher altitudes--or that way they could be required to stay at higher altitudes of at least 3,000 feet AGL--four or five would be better--as they go across the city headed northbound till they make the turn south. And the same sort of problem taking off on 5. Before they're allowed to turn--I think it's going to be very important to get them out there a ways before they're allowed to turn. If you allow them to make a fairly quick turn--I heard references to as close as two miles after the end of the runway--they're still going to be at fairly low altitudes as they make the turn around headed--the ones that are headed back toward a southerly direction. If you again take them out to at least 3,000 AGL, which would get them 2,000 feet above the ground, approximately, in this area, that would be acceptable, but it's probably better to take them out closer to branch, again the final fix out there, which is six or seven miles out on final, before they're allowed to turn. That will keep the aircraft at a higher altitude because they will climb more before they make the turn. If you do those sort of things, you'll end up with a lot quieter operation for the people on the east and west sides of the airport rather than bringing the aircraft at a lower altitude in over the high-density areas there where you're going to get a lot more problems and a lot more complaints.

See Responses P-9 and P-10

DEAN HOEGEMEYER [via website]
4500 Spinnaker CT, Greensboro, NC 27410

In looking at the map with the air corridors, I see no routes over the house my family lives in. (Cardinal Cove north of airport) Planes do fly over our house were the frequency varies from once a week to once a day. What can be done to stop this? How do I know that the frequency of planes not following the air routes will increase with the additional runway and air traffic?

See Response P-11

MS. CHRISTINE PEELER [00005-4]
3702 O'Briant Place, Greensboro, 27410

Also, on page 34, it says, according to the air-traffic controller, an established procedure is in place to require aircraft making a left-hand turn on departure from existing Runway 5 to delay the turn until they reach 3,000 MSL. That--this is not happening. The--this--they need to enforce this. The planes are--many of them fly directly overhead at a very low altitude. Also, I don't think MSL should be the measurement, which I understand is mean sea level. It should be above ground level

because the airport already is at 925 MSL, so in effect we're talking about 2,000 MSL instead of--3,000 is much better before turns are made. Require the--these heavy cargo planes to get out 3,000 feet above ground level, AGL.

See Response P-12

MR. ROBERT FRICKE [30 November 2006 Letter]
612 Tara Drive, High Point, NC 27265

3nd. Why hasn't PTIA and Part 150 recommended Noise Abatement actions like Charlotte Douglas airport? They restrict arrivals and departures to runway 5/23 to avoid heavily populated areas below parallel runways 36/18? Ie: doesn't the health and quality of life matter to citizens living under the 50 and 550 DNL areas? They could use 32/14 from 10:00pm till 7:00am like CLT? Don't we deserve that?

See Responses P-32 and P-33

4th; Why hasn't PTIA and Part 150 recommended similar actions the BWI airport has in place to restrict all aircraft landing 15l-33r? These are 'all air carrier aircraft that meet or exceed a 90SEL? Don't the citizens deserve the most stringent measures to preserve out quality of life? OTHER AIRPORTS DO, WHY NOT PTI?

See Responses P-32 and P-34

5th, Steep approaches. London city and Toronto City airports have this. I expect Part 150 and PTAA to recommend this w/o reservation.

See Response P-35

6th, FAA Part 25 Regs. Requirements for all Certified part 25 jets to takeoff with no more than 10 knot tailwinds. And FAA recommended practice to 'takeoff into the wind'. Will FAA-ATC always plan Runway Operations using the runway(s) most aligned into the wind? If not, isn't the safety and well-being of flight crews and passengers most important? If this is so, Why not? I'd expect safety and well-being to be paramount.

See Response P-36

7th. Departure paths and SIDS-for Noise abatement climb-outs. Why isn't the well-being and quality of life of citizens in the 'cone of noise' deserving off Stringent measures to 'Get Jets High without fail? FAA TERPS only require a 152 ft per nm gradient fpr obstacle clearance. How about a 400 to 500ft per NM climb out-SID procedures after 10:00PM and before 6:00AM? And early turnouts within 1-3 nm of the airport center to keep noise paths along I-40 west-bound?

See Response P-37

E-3.4 Comments about Future Processes and Actions

PAULINE H. AUSTIN [written comments]
6264 Cheswick Drive, Greensboro, NC 27410

The noise monitor placed at 6504 Lytham Court, Greensboro, NC 27410 does not represent where we live at 6264 Cheswick Drive Greensboro, NC 27410. Lytham Court is in the valley surrounded by trees and Cheswick Court is on a hill with very few trees. The back blasts from the planes flying southwest is extremely loud causing vibration of our house. Planes also, fly directly over our homes contributing to the loud noises. Now we all know that night time noises are louder than day time noises. Our value of life will be forever harmed by the Fedex Hub and the third runway.

The F.A.R. 150 Study Proposed Measure NM-2 Section 3.6.3 Install and Operate an Aircraft Noise and Operations Monitoring System. It states the permanent monitors will have one or two portable monitors. Again, I am requesting a monitor be placed at our house on the street near by at your earliest convenience, since our house in propinquity to the Fedex Hub and the third runway.

See Responses P-4

SPENCER BURKE [written comment]

Question: Have the task forces who have worked on the Part 150 Study considered supply[ing] those outside the 65 DNL lines information on how to improve their quality of living with sound proofing techniques for their homes? Pamphlets or website links.

See Response P-13

MR. HOWARD FLEMING, JR [00031-5]
5501 Turtle Cove Court

Accountability. Pathways and noise levels you're saying you're monitoring. For what reason? Is there going to be a fine-tuning of the study in the future, and is that going to be then adjusted so that there's going to be, maybe, more compensation for those that were maybe in the 60 dB or some change perhaps related to the DNL noise levels?

See Response P-14

Communications to the pilots. How--I'm curious as to how they get told to stay with a particular flight path. Are you counting on the fact that they're the same FedEx pilots to and fro, or is there going to be a communication program that's going to communicate to them as well as the commercial pilots who might be using the flights--these runways at the same time?

Enforcement, critical here. I think if they're being required to fly down a particular
flight path--it's my understanding that--well, I don't know what--I don't have an understanding as to what there might be as far as enforcement of these particular flight paths. I would think that equitably there would be some sort of punishment for this, that there would be some monetary charges for not staying on the flight paths and that those funds perhaps would be used to help support the PTAA's program and also compensate those who might be impacted due to the noise levels, et cetera.

See Response p-15

MR. ROBERT FRICKE [30 November 2006 Letter]
612 Tara Drive, High Point, NC 27265

8th, Establish Noise monitoring equipment at both Outer Markers and between the two runways from just outside the outer markers, just inside outer markers and half-way to runways between the two runways? This are will be saturated with Air Carrier jet noises constantly. Doesn't the Safety, Health, and quality of Life for citizens inside this area deserving of these steps?

See Response P-4

What steps is PTIA going to take to assure citizens that 'funds are on-hand' to buy these properties without delay? If not, what's more important?

See Response P-38

E-3.5 Comments about Noise Contours

DALE ARNOLD [via website]
6215 High View Road, Greensboro, NC 27410

I tried to understand the logic the Noise Study Team used to get the contour noise numbers but the whole process is severely flawed and will never reflect the true noise levels we will experience. To take sporadic readings and average them over a 24 hours period is voodoo math. It has been reported over and over that the main concentration of noise will be from 10:00 pm to 4:00 am. Do the math... 128 flights during this time period will be 6 hours of constant rumble and shake. Has anyone taken the time to sit in anyone's home in this area around 10:30 pm when Timco is clearing engines? The noise and vibration is very apparent.

I also found it amazing how the noise contours magically stopped around Bryan Boulevard area. It was obvious that no one wanted the noise levels to reach too far into the Cardinal or Edinburgh area. We would not want an international multi-billion corporation to have to buy extra homes, especially when they (Fed Ex) would be responsible for ruining the quality of life and destroying the value of the home.

See Response P-7

MR. BILL BROWN [00033-3]

Also, there's also, I think, a disagreement among scientists in the United States about the noise contour levels, the DNL, like there may not be a set standard. Somebody at MIT will tell you one thing, somebody at Cal Tech will tell you another, and somebody at N.C. State may tell you something else. So there might not be a set rules or standards for how to do contour levels. I'm just wondering.

See Response P-7

WILLIAM COLOZZI [via website]
5406 Pigeon Cove Drive, Greensboro, NC 27410

How come the 2014 Forecast A Alternate 1 & 2C DNL Contours do not extend into the residential section of the cardinal for the new rwy, but the lines for the (current rwy 5/23 extend parallel and far beyond the residential area?

See Response P-7

MS. LYNN DROLET [00050-15]
1908 Freedom Gate Drive, Greensboro, NC 27410

I think what I keep hearing is that we have a lot of the same concerns about the single issue of a flight going by versus 24 hours and the way your numbers work, and they're not real. So I'm piggybacking on the reality, but also if you would please include in the report that we could read that would give us follow-up on not just that's the way the FAA does that, that's the way we record the numbers, that's the way the logarithms work, it's the law. Then if we need to change the laws to make it a reality for our homes and where we live so that they do look at the single issues or they do look at the four to six hours of time, which they don't do now and that's the way it is, then what are our next steps to make it better? If you could include that, that would be great.

See Response P-7

MR. WALT DRUCE [00035-16]
6111 Muirfield Drive, Greensboro NC 27410

I noticed in your draft that none of your charts depict any of the SEL contours. My particular residence, in the FAA's EIS--final EIS, was in the 100-dB SEL area, yet I am not within your 65 DNL area, and I'm a little confused how I cannot be impacted, being subject to 100-dB SEL, and not be able to get any kind of noise relief.

See Response P-16

MR. GREG FORD [00049-11]
6415 Wellstone Court, Greensboro, NC 27410

My house is actually in both the red and the blue contour lines. It says 60 decibels, but we know it really isn't 60. It's way more than that. I have, you know, made

several comments in meetings like this, and I don't really think that my comments are heard because, you know, I've talked many times about a single occurrence--like the gentleman before me, a single occurrence of decibels when a plane flies over. And it's not part of a study. It's not part of any contour that we see. It's not represented anywhere. So I wonder if we're really being heard. A lot of people have expressed concerns about a single occurrence, one plane flying over your house, what the decibel level is and what it means to your sleep. We have a lot of kids in our neighborhood. I have five kids in my house. I'm concerned about how they'll perform in school if they can't sleep at night. Hopefully I'll be heard.

See Responses P-7 and P-17

MR. ASH HARRISON [00036-1]
3224 Cheswick Drive, Greensboro, NC 27410

I actually live probably not 30 yards behind Walt and some other folks here, two doors down. We live on Muirfield Drive in Ches--well, we live behind Muirfield Drive on Cheswick, which is in Edinboro. Right now--I just learned how this DNL works, and it's a 24-hour-period measurement and an average of the noise levels over the period of a day. During the normal part of the day, a 60-decibel noise level is not that much above ambient levels, but at night a jet flying over at 100-110 decibels will literally do exactly like the gentleman said here earlier; it will shake the windows. I think that that's an impact that should be looked at very closely. I mean, all of us want to know, How is it going to affect me? And truly it's affecting sleep and, you know, living at night. If you can't sleep, you have a hard time. A jet flying--I think you ought to look at-- just like Walt said, look at those levels that are the maximum levels at the middle of the night when you are trying to get some rest, and I think we should be looking at that contour very hard, looking at the people who are on top of hills in the study area. I know that's not going to meet a model, but it certainly will meet reality. When we come time to make decisions about what's bought, what's insulated, what's taken under consideration, I think that we ought to get some opportunity to be looked at very closely as individuals in that respect, and--if we have to measure things with a decibel meter, but some sort of contingency put in for those of us who suffer through rattling windows and falling pictures and things like that. That should be looked at very closely. Otherwise I don't see why we're here.

See Response P-7

MR. KYLE MITCHELL [00054-9]
3220 Cheswick Drive, Greensboro, NC 27410

My main concern is the takeoff. The averages don't show me anything. I want to--I would like to see a study of a 24-hour period, because we all know that the 11-to-11:30 plane is the loudest at night, nighttime noise being a lot more intense because there's no ambient noise around. I'd like to know if we could get a 24-hour period of the decibel spikes. At 1 to 1:30 when there's no planes, at 60 decibels it's just ambient noise, but when the 11:30-at-night plane comes, it's 115. But it would average out, so I would like to see a 24-hour study.

See Responses P-7 and P-18

MR. FERNAND SCHLAEPPI [00048-12]
3609 Wildflower Drive, Greensboro, N.C. 27410

I would just like to come back to the reality situation. You know, when FedEx is fully
operational, I understand there will be 126 FedEx flight operations per night within a time frame of, let's say, six hours from four--10 p.m. to 4 a.m. or something like that. So that really means during that time you have on an average one and a half minutes for a plane to come in and one and a half minutes for a plane to go out again. And it is not the average noise which wakes people up, but it's the noise of a plane which goes overhead on your house for a short time but intense noise. That is what wakes you up. So you will be waking up every one and a half minutes. That means you're not going to sleep that night. I think the recommendation has been made to the committee to look into the concentrated noise pollution during that period when the--when the high flight activity takes place. I don't know if that has been done, or I don't know if the FAA would even permit that to be done, but I would be very interested why we do not do that at all.

See Response P-7

FERNAND SCHLAEPPI [via website]
3609 Wildflower Drive, Greensboro, N.C. 27410

3. What is the correlation between 24 hr DNL contours and the noise generated every 2.38 minutes by the 126 projected FedEx flight operations between midnight and 5 AM?

See Response P-7

MR. ROBERT FRICKE [30 November 2006 Letter]
612 Tara Drive, High Point, NC 27265

2nd, Why Part 150 isn't publishing the 55 and 50 DNL lines? And, since FAA-ATC will have a majority of landing flights at 2800msl for arrival to 5L-R- What will de SEL levels for that 1-2 hours period when simultaneous approaches are conducted?

Hence, the 'Cone of Noise will permeate areas thru-out the Arrival Corridors and between both arrival paths.

See Response P-7

E-3.6 Comments about specific neighborhoods

MS. VIRGINIA ALLEN [00053-12]
7155-A West Friendly Avenue, Greensboro, NC 27410

I live down in Friendly Plantation, and this is the first time I've gotten any paper about the 150 study, and it appears to me-- I'm probably less than a mile down to Market Avenue off of Friendly. I'm right out there where, I think it's, Gilbarco is and where all those big trucks come in for Harris Teeter, but we don't seem to be--if I can see this correctly, we're not even within the 60 decibels, or whatever you're talking about here. We are on the other side of where they're building those big blue things, construction on Friendly Avenue down this way, and I was wondering how it's going to affect our homes. I bought my home in 2004. Now, the Plantation may have started before 2001. But we're not in the outer rim, so if anybody could help me understand that and how it will affect the noise level as well as the possibility of selling our homes. And I don't want to be shaken up (inaudible) at night. If I don't sleep, I'm an irritable old lady.

See Response P-19

VIRGINIA ALLEN [written comment]
7155-A West Friendly Avenue, Greensboro, NC 27410

I am wondering how this will affect the homes in Friendly Plantation. I bought in last phase in 2002. Can anyone clarify noise limits in this area and how will affect sales of homes?

See Response P-19

MARGARET COLE [via website]
7155-D W. Friendly Ave, Greensboro NC 27410.
I am writing as a concerned homeowner living less than 1 mile from the Piedmont Triad International Airport - near PTI maintenance, the Harris Teeter warehouse, ComAir and Trade Winds. I purchased my home at Friendly Plantation in May 2002 unaware of any airport/FedEx noise problems. Will these properties be acquired because of the noise levels by FedEx, will sound proofing of residence be paid for, or what assistance will be provided for residential property owners.

See Response P-19

DONALD J. BEESON [via website]
7919 Eric Road, Greensboro, NC 27409

I have attended one of the past Noise Impact Community Meetings and was told that my home was not in a high impact noise zone based on the test run in my area. It is hard for me to imagine how bad the noise level will be when Fedex gets in full operation based on how bad it is now when the Planes are taking off and landing from the west. Will the noise level for my area be re-tested once Fedex is up and running and the new runway is open?

See Response P-4

KAREN CHAPPELL [written comment]
8104 Tam O'Shanter Drive

My big question is why was the noise level not checked on Tam O'Shanter Drive? It is the main street thru a subdivision of 28 houses where the planes fly directly over very low. Low enough to read lettering with the naked eye.

See Response P-4

GOLDEN TRIANGLE COUNTRY CLUB ESTATES [written comment]
Tam O'Shanter, O'Rourke & Brae Burn
May contact: celdon@att.net, 668-2081 or any of the below names

The Community members that attended the Part 150 Public Hearing were very surprised and disappointed that we were not in the 70+ noise area for buyout.

Several things were of surprise:

1) We had no representation on the committees.
2) It was stated that there were 5 newsletters; but we only received the Part 150 letter and some did not receive it.
3) No noise monitor in our neighborhood.

Yet in the Alternative C plan which was chosen; planes would be landing from the S.W. and taking off toward the S.W. This puts the flights over our neighborhood, making our subdivision the most effected area in Greensboro.

We cannot talk to our neighbors in our yards when a plane goes over now. Our windows shake when a plane lands from the S.W. during the day, and the night is worse. With the increase in flights, no amount of insulation, sound barriers, etc. can make this kind of situation conducive for rest at night.

We feel someone needs to further evaluate our situation be it PTI, FedEx, or the FAA because it appears we have been overlooked, and will soon be in an area unbearable for human habitation.

Those in agreement with above comments:

- Karen Channell 8104 Tam O'Shanter Drive, Greensboro, NC 27409
- Robert Channell 8104 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8106 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8103 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8105 Tam O'Shanter Drive, Greensboro, NC 27409

- [name illegible] 8101 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8111 Tam O'Shanter Drive, Greensboro, NC 27409
- Chris [name illegible] 8016 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 511 Brae Burn Lane, Greensboro, NC 27409
- Margaret & Harrison Akingsale 8004 Tam O'Shanter Drive, Greensboro, NC 27409
- Lorie and Craig Dobert 509 Brae Burn Ln., Greensboro, NC 27409
- [name illegible] 8012 Tam O'Shanter Drive, Greensboro, NC 27409
- Frank [name illegible] 512 Brae Burn Lane, Greensboro, NC 27409
- [name illegible] 7912 Tam O'Shanter Drive, Greensboro, NC 27409
- Mrs. Ann Hampton, 513 Brae Burn Lane, Greensboro, NC 27409
- Robert & Shelia Wells, 8102 Tam O'Shanter Drive, Greensboro, NC 27409
- Elizabeth & Rickey McCoy 604 O'Rourke Drive, Greensboro, NC 27409
- Michael & Lisa O'Beirne, 607 O'Rourke Drive, Greensboro, NC 27409
- Sonia & Jose Sedano, 8015 Tam O'Shanter Drive, Greensboro, NC 27409
- Bonita Kersey 8100 Tam O' Shanter Drive, Greensboro, NC 27409
- Lucille McCormick 603 O'Rourke Drive, Greensboro, NC 27409

See Responses P-4, P-20 and P-21

E-3.7 Other Noise Comments & Questions

DALE ARNOLD [via website]
6215 High View Road, Greensboro, NC 27410

I attended the various meetings and I am writing to address the proceedings of the latest meeting at the Marriott. The more I listened to the speaker and the concerned citizens the more aggravated it got over the whole process. It has been apparent from the very beginning that this study has been nothing but a smokescreen and to pad the pockets of PTI. There was no one, even elected officials, at the meeting prepared to answer any concerns. I found it interesting that our local elected officials stayed away. The comment was made that no answers would be given at this meeting and that all questions would be addressed in the final document. This will be way too little way too late. It seemed like the speaker was more concerned with going home than addressing the concerns.

But I guess one of the more disturbing facts, other than a de-valued home, is that there was no open public debate or discussion about whether to bring Fed Ex or not. At the least, other cities in NC has the decency to do so. In this case big business waved money in Greensboro's officials faces and the deal was done.

It is a joke to think that only 22 homes or so will have to be purchased due to the noise. Has history not shown that the home purchase numbers were severely mis-calculated at other major installations? I know this email will not no impact on the study or process but I could
not let it go by.

See Responses P-22, P-23 and P-24

MS. PAULINE AUSTIN [00055-9]
3239 Cheswick Drive, Greensboro, NC 27410

I would like to say that I am a mile from the FedEx hub and probably a mile from the third runway, yet I am not considered in a noise cone. And I'd also like to say it's a shame that we as citizens of this United States do not matter to anyone. Just tell me--look around the room--how many politicians do you see in here tonight? We just had an election. They only come to us when they want a vote, but they represent big business.

See Responses P-7 and P-24

MR. BILL BROWN [00033-3]
2218 Briarlea Road, Greensboro, NC

I was on the Environmental-- ABEQ, which is the Advisory Board for Environmental Quality, for Guilford County. Okay. I think there's a thing called a Noise Pollution Abatement Act, which I don't know if the 150 study comes under it, but some of us were assigned to do a noise report for that committee, for the ABEQ, and it was never--it was--it was actually put in File 13 and it was never--it was never considered in any of the process. We gave a state of the environment report to our county commissioners, and we did not approve FedEx's staying here at that present time because of the environmental impact statement and some issues we had concerning a lot of environmental issues, especially the noise. I would like to also know the success rate in noise reduction in airport communities nationwide with regard to buildings, slash, structures, because I've heard that the success rate of soundproofing people's homes is not very high, and airports around the country--Logan Airport--have litigation against the FAA currently. And these are several airports around the country, Logan being a major one in Boston. Also, the committee redundancy. I see a lot of these committees were being formed, but a lot of this information, through other airports around the country--it's like a repeat of what other airports have gone through, so it's like maybe they can find out what other airports have gone through so--and use that to compare what Guilford County or the PTIA is going through. I don't know if that's done, but it's seems to be what I call committee redundancy or bureaucracy.

See Response P-22 and P-24

MR. HOWARD FLEMING, JR. [00047-16]
5501 Turtle Cove Court

This is the stump-you question. This is Howard Fleming again. Who owns the airspace above our homes, and how high do we own, if we do own the airspace, above the ground level?

See Response P-25

FERNAND SCHLAEPPI [via website]
3609 Wildflower Drive, Greensboro, N.C. 27410
1. On average how much heavier are planes fully loaded with packages and paper compared to planes fully occupied by people?
2. Heavy cargo planes can not gain altitude nearly as rapidly as passenger planes. Was this taken into account when establishing the noise contours?

See Response P-7 and P-26

4. FedEx is known to use old and noisy planes as long as possible, as shown by recent problems of dropped engine parts (Nutley, NJ), aborted take off (Louisville, KY), crash landing at Memphis, TN), all during this year. Was the safety of these old planes considered in this study? Does FedEx accept any restrictions of the type of planes that they can use at PTIA?
5. Is there any type of a meaningful contractual agreement that FedEx and its pilots, wind conditions permitting, will follow the recommended flight corridors and runway use?

See Response P-27

6. The FedEx hub was only to serve the East coast. In March 2000 a confidential document came to light, which stated that FedEx will eventually extend shipments to Europe, Asia and South America. Will still larger and heavier planes be used for such overseas shipments? Was this increased source of noise included in the currently published contours? Was this the reason for paving the 1500 foot safety zone, thus extending the runway to accommodate overseas flights?

See Response P-28

MR. ROBERT FRICKE [30 November 2006 Letter]
612 Tara Drive, High Point, NC 27265

First, what a 'hock of crock' when Mr. Harris applauded efforts of committee members, for their efforts and 'tireless efforts. I'd like to know how many Citizen Committee members live anywhere near the 'Cones of Noise'. Their concerns aren't for citizens living in affected areas. But their own financial and political interests.

9th, Does PTAA, PTIA, Andy Harris and committees really think all Guilford Co, citizens really believe the NCP will "ease concerns of North High Point Residents? I 'laugh' at such feeble and flawed recommendations. The arrogance and obnoxious attitudes of all those in 'favor' of FEDEX, is without bounds.

My concerns are not satisfied. Just like communities around SDF airport when UPS came there. No body buying these houses, and no funding to purchase the properties.

LASTLY, I FEEL ENTIRE SITUATION, THE NORTH HIGH POINT LANDOWNERS ARE GETTING THE 'SHAFT' W/O A VOICE, VOTE OR CHAMPION TO VOICE ALL OUT CONCERNS.

See Response P-24 for the 4 paragraphs above

E-3.8 Comments about Impacts other than Noise

MR. BILL BROWN [00033-3]
2218 Briarlea Road, Greensboro, NC

And, also, being in the area of agriculture--I'm getting my master's in agricultural science to teach science--agricultural science--I'd like to know, Is there an effect on farm animals with regard to noise? And it's just--maybe--maybe animals are--in studies about how noise affects--you know, it affects everyone, human beings, but what about farm animals who--on all of the various farms that they have in this county that we're losing? What is the effect that it has on farm animals? Because I understand that it can affect many of our animals that we depend on our very food supply.

See Response P-29

MR. GEORGE COLLINS [00041-3]
6405 Olympic Court, Greensboro, NC 27410

I just wanted to second Walt Druce's question with regard to the noise contours and also follow up on Mrs. Inman's comments with regard to solid-state pollution from the engines. When flight paths are finally determined and carried forth on a daily basis, over time there are, you know, solid-state carbon emissions that are positive in that direct flight path that the flights are designated to take, and my question is, Over time, beyond the points that Mrs. Inman brought out with regard to health considerations, there's also a financial consideration with regard to replacement of roofs and deterioration of property over time. I know that this has been a problem, you know, in the past with the existing flight paths that flights take now on a commercial basis, and there have been issues in that regard, and I'm concerned, obviously, about Mrs. Inman's points about the health aspects, but I also would like to add the financial aspects with regard to, you know, how the government or the airport will finance or fund more rapidly deteriorating conditions on homes.

See Response P-30

MR. BILL INMAN [00029-16]
511 Brae Burn Ln, Greensboro, NC 27409

You did a study on noise, but, see, the biggest problem we have where about 90 percent of the planes will land and take off from, not The Cardinal end but the other end, is vibration. Our houses shake so bad that pictures fall off the shelves, and glass dishes have to be taken out of the cabinet so if somebody just opens the door that the glass or the

plate doesn't fall on their head. They have to be taken and put down in the lower cabinets or just taken down and put on the counter. And that's--you're not considering that in your noise. Your 70 decibels or 65 decibels is one thing, but when we're sitting in our house and these planes are flying right over the top of our houses--and if we go outside and look up, we can read the numbers on the bottom of the plane; that's how low they are--and that the house just totally just shakes, that's--no amount of--what do you call it?--flight stuff that you put in the house, heavier doors or insulation, is going to stop that, because the entire house just totally shakes. Furniture actually moves across the floor, it vibrates so much. And at this present time, when you're talking about 40, 50, 60 planes-- and I don't know how many are going to be coming in every single night and going out every single night-- what's going to be done about that? Because that's not in your reports of any of your noise studies. And as talking to some other people, that you guys went out one night and stood there and waited for planes to come in and out and took your readings, and as you said, you were nice and quiet because you said, "Oh, a plane's coming." Well, you're standing on the street. Why don't you come over to my house and sit in my chair and watch TV and let them planes come over the house? Then you'll actually really see what actually happens. Thank you.

See Response P-31

MRS. LORI INMAN [00039-16]
511 Brae Burn Ln, Greensboro, NC 27409

My husband spoke earlier regarding the house shaking and all of the planes being able to
see, but my concern, too, is, after a while all the planes coming over, the jet fuel, all the pollution, everything from that. Have they thought about the healthwise, what this can affect us as far as breathingwise? I'm a severe asthmatic. What has anyone thought about that as far our healthwise with all the pollution and stuff from these planes going over and over, back and forth? And, you know, we're talking about the noise. Well, what about healthwise? Has anybody thought about that or any of us that may end up with some type of, you know, lung condition or anything like that from the pollution of them going over our homes so low that--? I worked in the airport. I know what they kick out. I loaded planes. I know what they--how bad they are. And you have to wear all the protective gear there. Well, they're flying over our homes where you can--you can read the words underneath them, and so if that fuel and all the gas from there is coming out, it's not affecting just us, but it's affecting our kids, our animals, and our peace and quiet of owning our own properties to be able to sit in our yards and stuff. Are we going to be locked in our homes because we can't go outside because of the pollution and stuff? That's not right. They need to look at that as well.

See Responses P-30

FERNAND SCHLAEPPI [via website]
3609 Wildflower Drive, Greensboro, N.C. 27410
7. Jet fuel is known to cause highly toxic pollution. Some scientists consider this an even greater health danger than sleep deprivation. Was pollution abatement ignored?

See Response P-30

E-4 Responses to Public Comments

P-1 The term "jet blast deflectors" usually refers to devices that deflect the high velocity air from jet aircraft upward to prevent damage behind aircraft. Such devices are open to sound and do not act as noise barriers. Potential use of noise barriers at the north ends of runways 23L and 23R was examined fully during the study and the reasons for not recommending such barriers are reported in Section 1.1.1 of Appendix B.

P-2 Proposed Measure NA-1 contemplates the possible use of noise barriers to reduce potential noise impacts of future ground operations. The PTAA would evaluate benefits of barriers to control potential noise impacts from ground operations and could require a new tenant to install appropriate barriers. The decision to require a barrier would consider factors such as the forecast noise levels from the activity and potential community noise impacts.

P-3 Since the FedEx facility is a sorting facility, and not a maintenance base, maintenance runups are not a normal part of the work that will be conducted by FedEx at PTIA.

P-4 The aircraft noise and operations monitoring system proposed under Proposed Measure NM-3 will include equipment and computer programs to monitor noise around PTIA. It will also include equipment and computer programs to monitor radar information and determine the locations and altitudes of flights flying to, from and over PTIA. The noise monitoring equipment will include microphones at fixed locations and portable monitors that can be installed temporarily at locations of interest to monitor noise from ground operations and flight operations.

Noise data and radar data can be retained for as long as the PTAA desires. These two types of data will allow the PTAA to analyze the noise environment around PTIA in detail.

P-5 Noise modeling considers all the noise from aircraft departures and arrivals, both on the runways and in the air. Noise from departing aircraft is modeled from the time that power is applied on the ground until the departing aircraft leaves the vicinity of the airport, well beyond the limits of the Study Area used for this study. Noise from landing aircraft is also modeled from well outside the Study Area until the plane comes to a stop. Contrary to the beliefs of some commenters, the noise from the beginning of takeoff, sometimes called "back blast noise" or "backwash noise," is modeled and included in the DNL at the end of a runway.

P-6 The "back blast noise" is modeled in DNL and was modeled for all departing aircraft during this study. (See Response P-5.) The EPA developed DNL with A-weighting because A-weighting relates most directly to human hearing. C-weighting relates most directly to low-frequency noise. DNL does not reflect C-weighting.

However, the low-frequency noise produced by 727 aircraft is no greater than the low-frequency noise produced by comparable jet aircraft.

P-7 Part 150 requires noise exposure to be described with contours that portray the yearly Day-Night Average Sound Level (DNL) (i.e., the noise exposure averaged over a 365-day period). DNL was developed by the U.S. Environmental Protection Agency (EPA) as the method to describe environmental noise. DNL has been found to have a high correlation to the way in which individuals react to noise. Part 150 requires that an FAA-approved aircraft noise model be used to develop the DNL contours for a Part 150 program. All noise contours for the PTIA Part 150 study were developed by the study team with the FAA's Integrated Noise Model ("INM"), an FAA-approved model.

The INM determines noise exposure by simulating operation of an airport for a particular scenario (e.g., for operation of PTIA during 2006) and calculating the DNL values around the airport. Part 150 requires that noise contours be shown for DNL 65, DNL 70 and DNL 75. To provide additional noise information for residents around the airport, the Part 150 study for PTIA also shows contours for DNL 60. The information used to model operations at PTIA includes the numbers of aircraft (by specific aircraft type) using each runway during the daytime (7:00 AM to 10:00 PM) and nighttime (10:00 PM to 7:00AM), the flight paths followed by the aircraft and the percentages of aircraft using each flight path. In the calculation of DNL, each nighttime operation is treated as if it were ten daytime operations at the same noise level. The noise contours reflect the fact that some areas, such as the area directly to the northeast of the new runway, are projected to experience infrequent overflights as compared to other areas where there will be more traffic.

While Part 150 allows the use of additional information to further explain the noise environment at an airport, evaluation of the impacts of an airport with and without noise abatement measures must be based on changes in the number of noise-sensitive activities (i.e., houses, residential populations, schools, hospitals and houses of worship) exposed to DNL 65 or greater.

Part 150 also allows measurement of noise in areas around an airport during preparation of a Part 150 study. The measurements reflect noise from all sources, including both ground noise and noise from aircraft in flight. However, such local noise measurements are not used in developing DNL contours. Rather, the measurements are used to further supplement the available information concerning noise levels around an airport during the period of measurements.

P-8 The noise from aircraft landing at an airport is modeled along with the noise from departing aircraft. The noise from landing and departing aircraft is modeled for the entire extent of each aircraft's journey within the Study Area, as shown on all contour figures.

The NCP includes two proposed measures that require aircraft to maintain minimum altitudes upon their approach, NA-12 requiring aircraft to intercept the glide slope at least

5.5 nautical miles from the intended runway end and to stay on the glide slope for the remainder of their approach, and NA-13 which sets minimum altitudes for the downwind leg of an approach. See Section 3.4.5 of the NCP for an explanation of these measures. These measures, if approved by the FAA, should help to limit noise exposure from approaching aircraft by delaying their descent.

P-9 One commenter assumes that aircraft will be landing on runway "23" and departing on runway "5" for "15 percent" of the time. During nighttime operation of the FedEx hub, the EIS predicted that it will be necessary to depart on runways 5L and 5R only 5 percent of the time and to land on runways 23L and 23R only 5 percent of the time, not 15 percent. These percentages will be subject to variation from season to season and from year to year.

P-10 Proposed Measures NA-12 and NA-13 address the suggestions made in this comment about minimum altitudes for aircraft on a downwind approach by requiring such aircraft to intercept the glide slope at a point at least equal to the outer marker distance of 5.5 nautical miles and by setting minimum altitudes for the downwind leg of the approach. Proposed Measures NA-8 and NA-9 address the remainder of this comment. (See Response P-11 below.)

P-11 Proposed Measure NA-8 and NA-9 delay turns by aircraft departing off runways 5L (all turns delayed) and 5R (left turns delayed) until the aircraft reach an altitude of 4,000 feet MSL. Delaying turns to this altitude will avoid turns over the closest residential neighborhoods to the north and northeast of the airport.

P-12 Proposed Measure NA-8 (all turns from runway 5L) and NA-9 (left turns from runway 5R) have been revised to increase the minimum altitudes for these measures to 4,000 feet MSL. If the FAA approves these measures, compliance will be monitored by the proposed aircraft noise and operations monitoring system (Proposed Measure NM-3).

P-13 The Part 150 study for PTIA has not addressed any issues outside DNL 65 because areas below DNL 65 are deemed to be compatible for all uses, including residential use. General information about soundproofing can be provided after approval of the Noise Compatibility Program (NCP) by the FAA.

P-14 Part 150 requires updates at 5-year intervals. The PTAA is expected to submit the initial Part 150 Noise Exposure Maps and the Noise Compatibility Program to the FAA during January 2007. The initial update would then be scheduled to be submitted during 2012. Current federal law does not allow use of Airport Improvement Project funds where DNL is below 65.

P-15 FedEx has participated in the Part 150 study through membership in the Users' Advisory Committee. The PTAA will advise all users about the measures that the FAA approves in the Noise Compatibility Program (NCP). PTAA personnel will coordinate

with users and FAA personnel in the Air Traffic Control Tower to assure that approved measures are fully understood and compliance will be monitored through the aircraft noise and operations monitoring system. Compliance with measures in an approved Noise Compatibility Program (NCP) involves PTAA coordination with airport users and FAA personnel in the Air Traffic Control Tower. The methods used to achieve compliance vary among the measures in the NCP and will be determined, in part, by the FAA. However, the PTAA may not levy fines for non-compliance.

P-16 The values DNL in an area are determined by the number of single events, with each single event identified by its SEL, during the day and the night. The fact that one aircraft creates an SEL of 100 dB does not mean that the DNL for an average day will be 65 dB or higher.

P-17 Potential sleep disruption is one of the factors that was considered when determining the DNL levels at which residential properties are judged to be compatible with noise environments. All areas where DNL is less than 65 are judged by the FAA and the U.S. Department of Housing and Urban Development to be acceptable for residential development.

P-18 A portion of this comment is unclear.

P-19 The lower the DNL, the lower the probability of adverse impacts. No property acquisition or sound insulation is planned for your neighborhood in light of the DNL in your location. The noise (and the DNL) in your location, to the side of the airport is forecast to change very little in the future.

P-20 Residences where DNL exceeds 65 dB will be considered for sound insulation

P-21 Committee members from your general area were selected by the City of Greensboro.

P-22 The study to assess the environmental impacts (EIS) of the current airport expansion project was conducted before a final decision was made to proceed with the project.

P-23 The Public Hearing provides opportunities to make comments and be assured that complete responses could be prepared for all comments.

P-24 Portions of this comment express the author’s feelings and do not call for any specific response.

P-25 This question is beyond the scope of Part 150. The purpose of Part 150 is to reconcile any incompatibility between the public's use of the airspace around an airport and the use of the underlying land.

P-26 The INM used for developing noise contours in a Part 150 Study makes no distinction between passenger aircraft and cargo aircraft of the same aircraft type.

P-27 FedEx has agreed in its lease with PTAA that it will comply with any measures that the FAA or PTAA lawfully adopts in connection with any noise compatibility programs that PTAA undertakes under Part 150. All aircraft must meet the safety requirements of the FAA.

P-28 The noise analyses in the Part 150 Study reflect all aircraft types that are now projected for the FedEx fleet. The purpose of the proposed extension of runway 5R/23L is to comply with the FAA's runway safety area requirements and to achieve other objectives unrelated to the composition of the FedEx fleet.

P-29 Part 150 addresses potential noise impacts on the human environment. Noise impacts on animals are not considered.

P-30 Issues other than noise impacts on people, such as air quality and water quality, were addressed in the EIS. They are not part of a Part 150 study.

P-31 Vibration levels are not considered in a Part 150 study.

P-32 Noise abatement planning at each airport must suit the unique characteristics of that airport. One of the characteristics that must be recognized is the time of day that high capacity is required. The EIS considered the alternative of developing a new runway parallel to runway 14/32, and several alternative parallel runways in a 5/23 configuration, but rejected these alternatives on environmental grounds. The plan that was adopted provides the required capacity and does not have the impact that 14/32 parallel runways would have.

P-33 Runway 5/23 at Charlotte is used as you indicate for those portions of the night when there is low demand. Thus, as demand has increased after 10:00 PM and before 7:00 AM, use of 5/23 during those hours has decreased.

P-34 Restrictions on runway use that are based on the noise generated by particular types of aircraft must have already been put in place before promulgation of FAR Part 161 or be acceptable under that regulation. Due to its limited benefit and its impact on capacity at PTIA, such a restriction would not be acceptable under FAR Part 161.

P-35 Approaches that are steeper than standard are not candidates for use at an airport such as PTIA unless they are required to meet terrain clearance requirements.

P-36 The procedures and routes proposed in the NCP are designed to reduce noise impacts consistent with safety considerations. The head-to-head operating procedure has already been reviewed by the FAA in connection with the EIS, and the proposed flight

procedures in the NCP will not be approved by the FAA unless they can be implemented safely.

P-37 Aircraft departing in the runway 23 direction are expected to use the standard departure profile. No change was made in this procedure in the proposed NCP because it is similar to the "distant" noise abatement departure procedure for many aircraft types. (See Section 3.4.4 of the NCP.) Proposed Measures NA-6 and NA-7 would require northbound departure at night to initiate their initial departure turns as soon as practicable.

P-38 Funding of measures under an approved NCP comes in large part from FAA grants. By undertaking a Part 150 study and seeking approval of the NCP from the FAA, the PTAA has undertaken the initial steps to implement the measures in the NCP and to qualify for grant funding from the FAA. The PTAA must apply for Airport Improvement Project funding for approved NCP programs such as property acquisition and sound insulation. The phasing of program implementation will depend on the availability of AIP funds.

E-5 Transcript for Public Hearing and Texts of Comments

This section includes the full transcript of the Public Hearing of 16 November 2006 and all comments received through the comment period that ended 30 November 2006.

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PIEDMONT TRIAD AIRPORT AUTHORITY

PART 150 STUDY

PUBLIC HEARING

NOVEMBER 16, 2006

Reported by: Diane W. Ellison

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ONE-ON-ONE COMMENTS

MR. RAYMOND HART: Raymond Hart, H-a-r-t, 5809 Kacey, K-a-c-e-y Meadows--that's plural--Drive, Greensboro, 27410.

I'd like to say I appreciate the emphasis that you-all are putting on the two ends of the runway where the majority of the noise will be; however, my concern is not particularly that as much as it is the ground noise coming from the airport, and particularly TIMCO, where there appears to be no regulations of time or decibel for the noise. They rev those engines up pretty much 24/7 and have shook my foundation several times.

I have a new home, about a year and a half old. I did review the noise cone before I purchased the home. I never would have dreamed that something that was on the ground would have become a problem for me. And with FedEx coming in, that's a lot more planes, a lot more maintenance, and potentially a whole lot more noise, and so my concern is they do something about, number one, regulating the time that they can rev those engines and disturb our sleep; number two, having a decibel level that they cannot exceed; number three, enforcement of that; and furthermore a--some sort of monitoring station over

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near them so that you can get a decibel reading from their activities.

That's pretty much my concern.

MS. CHRISTINE PEELER: Christine with a C-h, C-h-r-i-s-t-i-n-e, Peeler, P--as in popcorn--e-e-l-e-r, 3702 O'Briant, O-apostrophe-capital B-r-i-a-n-t, place, Greensboro, 27410.

I thought I'd give my comments tonight because I'm not sure I'll have time in the upcoming weeks to write them. But there were several concerns when I scanned the document, the Part 150.

First of all, all the alternatives seem to be most favorable to High Point. I'm concerned especially with one that I'm told is preferred, 2C, that all 727s are going to be put on the new runway. This strikes me as patently unfair when our neighborhoods to the northeast, of which there are many--we're packed in there--are only about a mile away from the new runway, whereas the neighborhoods to the southwest, north High Point, are several miles away.

The backblast from these 727s is very loud, and as I understand it, it is not included in the DNL measurements, so the noise cones are deceptively small.

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I also understand that on page 130-131 you say that berms are not practical, that downwind they really won't reduce the noise, which is even more reason for not allowing 727s on the new runway at all.

There--to continue, there are several noise measures, one, two, and three, which I think are extremely important. I won't go over what they are, because you-all know what they are.

Also, on page 34, it says, according to the air-traffic controller, an established procedure is in place to require aircraft making a left-hand turn on departure from existing Runway 5 to delay the turn until they reach 3,000 MSL. That--this is not happening. The--this--they need to enforce this. The planes are--many of them fly directly overhead at a very low altitude.

Also, I don't think MSL should be the measurement, which I understand is mean sea level. It should be above ground level because the airport already is at 925 MSL, so in effect we're talking about 2,000 MSL instead of--3,000 is much better before turns are made. Require the--these heavy cargo planes to get out 3,000 feet above ground level, AGL.

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Am I about out? Okay. That's it. Well, that's the major points anyway. Thank you.

OPENING COMMENTS

MR. ANDREW HARRIS: Good evening. I thank you for coming, and I hope that we can get started in a minute or so, because it's already two minutes past seven,, and I want to make sure that I don't hold you here longer than you want to be held, and I also want to make sure that we have plenty of time for comments and questions.

And I will explain this again when I finish with the screen presentation, but the period, which will begin in just about half an hour, for comments and questions is one where we will record everything that you've said, that is, not making a tape recording, but we do have a court reporter here to get verbatim what you've said.

And even if you ask a question, we won't answer that tonight. What we do as part of this process is to bring together all the comments and the questions and then list what--for example, if five people ask a particular kind of question, we'll consider it that that's the question, and then we'll answer that question. So if we have 25 people commenting and there are really 18 different

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subjects, that is, some people will approach the same subject the same way, that's okay, or--excuse me-- approach the same subject a different way, that's fine, to approach the subject a different way, but we'll answer it as a single answer to the 18 different concepts.

The period for comments will be three minutes, and we have this light system that will warn you. When it's green, you've still got at least 30 seconds to go. When it turns yellow, it's counting down from 30 seconds. When it turns red, we're not going to use a hook and pull you out of the way, but we're going to ask you to finish up. The main thing is that we want to make sure that everybody who wants to make a comment may.

Our plan is that we'll adjourn at 8:30; however, if there are still people who wish to comment or have questions, we will let everybody who wants to comment or ask questions do that. We will not just say, "You lose." It's like the post office closing up the window, "Come back the next day." So we won't do that. We want to make sure we get all the comments.

So I--first of all, I thank you very much for coming tonight.

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(Time-elapsed warning signal. Laughter from audience.)

MR. ANDREW HARRIS: That is my (inaudible). I thank you-all very much for coming tonight. We are, with this public hearing, reaching the end of a two-year process of the study, and I will be giving you a brief description of the background of the study, what it's doing, what it's not doing, and then go through a series of descriptions of the whole study. As many of you have seen, there are boards here that come from the report. There are copies of the report at what we'll--at the Authority and elsewhere throughout the community.

And if you don't like speaking in public and asking questions in public, you will also have two weeks, that is, Thanksgiving Day, to make any further comments and send them to the Authority or put them into the Web page over the Internet. So there will be continuing opportunities. If you don't like to speak tonight or don't think of it until sometime after tonight, as long as you get it to the Authority by Thanksgiving Day, it will still be considered in the process.

Okay. The third--I'm going to use a series of slides and give you more information than you see

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on the slides. I'll begin with background.

At the beginning of all of this was when this airport was chosen for the FedEx hub, and it became the subject of a lot of controversy. There was a three-year environmental impact statement process, and one of the things that the EIS process established was the so-called head-to-head operation of the FedEx arrivals and departures. Now, that does not mean that the planes are going to be flying at each other at night and running into each other. Rather, it means that they will be landing toward the northeast. That is, they'll be landing in this direction, and then they will go to the hub. The packages will be moved from airplane to airplane, and then they will take off, and they'll take off to the southwest. So they land to the northeast and take off to the southwest.

That works because they're not doing it at the same time, and that means that there will be a minimum--minimum number of overflights of the residential area around The Cardinal, which is the closest high-density housing to the airport. Those overflights will only occur when the wind is too strong to allow the head-to-head operation.

Now, you may be wondering, you know, why

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would the head-to-head operation be done and what guarantee do we have that it will happen. Well, the head-to-head operation works best for FedEx because their hub will be at the northeast end of the airport. So they want to land toward it, to the northeast, and taxi away from the runways the shortest possible distance. And then when they're reloaded, they want to take off in the opposite direction, again with the shortest taxi. So that's why it's a procedure that works for the noise impact and it also works for FedEx, and so that was a given from the time the EIS was completed.

Now, the record of decision of the EIS mandated that the study that we're talking about tonight be undertaken. Part 150 studies were not the first noise-abatement studies that the FAA has ever done, but there are a very successful series of studies done in major airports throughout the country starting in 1981. It is the study that was mandated by the Part--by the record of decision that we're doing tonight, and we began this work in the spring of 2004. So it's really--it's more than two years ago that it began.

The next slide is a sort of brief look at several important aspects of the study. One is--I

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just--as I said, is that it is a--it's a two-year study.

There were three advisory committees, and I'll describe them a little bit in just a minute. There--the advisory committees met seven times during the period.

There were four public workshops. And I'm delighted to see that we have more people here tonight than we had at any of the public workshops. That's--that's good to see.

We had five newsletters, and they were mailed to the entire--to all the people living in the entire region of the study area, which is significantly larger than the noise-impact area of the airport. The study area is what's shown on all of these figures.

There's also a Website, and many of you probably looked at the Part 150 document, the draft report, this document, on the Website. Also on the Website was a copy of the updated forecast of aircraft operations.

And now there's this public hearing. Part 150, which is the federal regulation under which the study was undertaken, doesn't require that we have a public hearing. Rather, the opportunity must

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be provided for a public hearing. If anybody asks for it, you have a hearing. We recommended, and the Authority agreed, that rather than wait for somebody to ask, we would plan to have a public hearing throughout the project, and now we're here.

And as you know, there's been very good media coverage of this process, and I was very impressed with the--both the quantity and the quality of the reporting of the study in your media. You're very fortunate. In many locations that's not the case, and it's hard to find out that a study is even going on. So I say that the media are to be commended for making sure that you were informed about what was going on.

Now, the next slide shows the scope of work for the project. In the beginning we need to introduce the committee members, many of whom hadn't had any experience with aircraft noise except for reading of the EIS and being involved in the process--we had to explain how we talk about noise and what would be used in the study to explain the effects of the noise.

We also in the scope of work had noise monitoring, and we looked at these figures to see where we monitored noise. We used the same locations

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almost exactly in most cases as were used for the EIS, but we used more locations in addition. Now, the--one thing that several people asked me about earlier this evening is how--when we measure for a portion of weeks or, at the most, 10 days in August of 2004, how we can possibly model the noise for any period and rely on those measurements, and the answer is, we don't. We measure to find out what the total noise is from all sorts of things, including aircraft, but it's a snapshot. With that as a given, that you can only do a snapshot for a study such as this, the FAA prohibits us from using the noise measurements as a way to calibrate what the noise contours are, but it does let us know what noise is during that snapshot. And obviously, if we're talking about the future, which we are in this study--the most important time is the future--you can't measure the future until you're there, and then it's too late to be doing any planning. So obviously we have to use modeling.

We did one other thing to do with the committees and the noise, and that is, we went out for an evening and for a while we stood in areas that planes were taking off to the northeast. We stood northeast of the airport and listened to planes take

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off, and we had a noise monitor there so we could say, Now, the noise from that plane was such-and-such. And so people could get a little idea of what the noise from single events is and also how, when you're standing in one place, you hear, let's say, a significant difference between the noise from--let's consider an old 737 that's quieter than it was when it was first manufactured but is nowhere nearly as quiet as the new 737 and, let's say, a regional jet that's a new-technology, smaller plane, and they're just amazingly different. In fact, for the period we were there, there weren't a lot of operations that run. So when nothing was going on, we tended to talk to each other. So people would say, "Wait a minute. Here comes a regional jet. Let's be quiet so we can listen to it." When--for those of you who are more familiar with the early jets, you never had to be quiet when a 707 came in because it was so loud, you knew it was coming for a long time and you weren't going to talk anyway.

So the--again, the field trip didn't change anything about what we were going to look at in the study, but it helped participants on the committees to calibrate themselves as to how much noise different aircrafts make and how much noise it is

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when something goes over and we say, "Well, that was 80 decibels."

The next task that we undertook as part of the process was to forecast the number of takeoffs and number of landings by various aircraft, not only to be sure we had the full numbers for 2006 but to have a forecast for the year 2014. And we used 2014 as the future planning year because that's the year when the FedEx hub is first meant to be operating at full capacity, at Phase II capacity.

We separately looked at all the land use around the airport, and you can see how we modeled the noise-sensitive land use or determined where it was over on that first board. We then spent time with the committees explaining the range of noise-abatement measures that could be used. And the ones that we had to look at--although in some cases the FAA says you must look at a particular type of measure, such as prohibiting aircraft from taking off or landing if they are particularly noisy, but they-- they force you to look at that, but that measure is almost impossible to get them to accept because you have to do another separate study that shows that the benefits of prohibiting those aircraft landings produce greater economic value than the cost of

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prohibiting them. So that's--as I, in a minute or so, get to the process of what measures were not adopted, we didn't adopt a measure that we knew the FAA would make it impossible to get into the program. No point in just spinning your wheels and spend another million dollars to present the study to them which they would then tear up.

We explained the measures. We analyzed possible measures. We discussed a lot of different ways of, you know, how--which runways the 727s will use if they are still here and where the planes would fly. We prepared a draft document, which is what you see here, and after all the comments, we will prepare a final document for approval by the Authority, and that's--that's where the study ends for us. But as I will say at the end of this meeting, the--after approval by the Authority, the study then goes to the FAA for its review and acceptance of the noise modeling and approval of the noise-capability program, and then something can be done. And I will say this again at the end. We expect the FAA process to be concluded before the end of 2007, and then implementation will begin.

The next slide is a quick summary of the makeup of the advisory committees. There were three

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committees. There was a government advisory committee. There was a users advisory committee and citizens advisory committee.

The government officials included seven jurisdictions, both elected and appointed officials and planning directors. The users was everybody-- every class of user at the airport. The airlines, TIMCO, General Aviation, those were all represented on the users group. And then the citizens group was 70--27 members plus alternates representing all communities around the airport and different perspectives on the whole process.

Each of the committees, in fact, was about 25 members. So we had a lot of folks participating in the process and contributing to the product, and I think that it's fair to say that the greatest scrutiny and the most engaged committee members were the community representatives. Those meetings were always very well attended, a lot of input, a lot of saying, "Why aren't you looking at this?" or "If you're looking, why don't you look at this in a particular way?" And so I think that you as residents were well represented. I want to thank every member of every committee but most particularly the residents. Everybody else, it was sort of part

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of their job, but people who were willing to volunteer as citizens to be on committees deserve our thanks most particularly.

The next slide shows how the meetings of all the committees worked. We as consultants analyzed whatever stage we were in and made recommendations to the committees, sent those recommendations in reports so that the committee members could review them before the meeting, and then during the key part of the project, during most of project, every few months we'd get together and look at another phase.

I would say that in each meeting people said what was on their minds and said, you know, "Why didn't you do this?" and "Why don't you do that before the next time?" or "How about if we change it this way?" And it was a very, very good process for getting input. And, again, after each meeting was a two-week period where, if there were additional thoughts, those could be submitted as e-mails.

Now, the result of this is a series of measures that were proposed for the--are proposed and are in the document that you see, and I want to look quite rapidly at the list of measures, so that the next slide will show us the measures. And that's a long list, and that's the third board over here, and

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it's page 28 in the document.

So basically we looked at one measure, and it's recommended to make sure that if there's a benefit to possibly having noise barriers to reduce off-airport noise from future airport facilities, look at it and possibly do it. Then there are a whole bunch--12 measures that involve how the airport is used and how the airspace around the airport is used. There's a preferential night runway use. This--this whole issue is about the effects of and minimizing the effects of operation of the nighttime FedEx hub.

And I should have said this at the very beginning. This Part 150 process takes as a given that the new runway and the FedEx hub are going to be put into operation, and the question is how to minimize the impact. We were never looking at whether the runway would be built at this stage. That was part of the EIS. We were never looking at whether the FedEx hub would be built but how, when it's here, we could minimize the impact.

Then there was a series of measures that developed a southbound departure corridor for aircraft taking off from 23 left, going out Highway 68, what to do to departures taking off on 23

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right, to have aircraft taking off on 23 left going north turn as fast as possible so that they don't impact the community south of the interstate, and the same thing on 23 right, to make sure that the 727s, if they're still in operation--and we've assumed for the purpose of this study that they will be still being used by FedEx--that they depart from Runway 23 right when most of the operations are occurring and the southwest flow is used for the takeoff and if--on those few nights of the year when takeoffs have to use runways to the northeast, that the 727s use the right runway, 5 right, and minimize overflight of--or eliminate overflight of The Cardinal by the 727s.

So those are the major measures in airspace use. Then there's a measure that has to do with how to control the noise from the power engines of the aircraft when it is on the ground. There are--there's a recommendation of which departure profiles to use for taking off, and that's something that we can do at the airport. One issue is minimizing noise from landings by not--by having aircraft that are flying beside the airport, heading--for instance, heading south to make--to turn and land to the northeast, that they stay as high as possible and not be cruising along beside the airport at lower

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altitude. Those--that's a quick statement. Here I'm just summarizing, but remember, everything is described in a lot more detail in--including the analysis process, in the document.

Then there are five measures that have to do with land use by acquiring property where DNL is in excess of 75, by sound insulating where DNL is in 65, possibly purchasing noise easements where DNL is 65, and looking--you know, if the money is available and somebody wants to sell out and is at 65, possibly acquiring it. But that's--these are measures that are in there to see what assistance can be given.

And, also, the final land-use measure involves trying to be sure that the communities around the airport zone so that residential use, for instance, isn't allowed where it's too noisy to have residences built, even right now.

And the final area of measures that are proposed have to do with running the noise program. One is to have a function within the Authority dealing with the noise issues so that if you have a question or if--when the mitigation program is being implemented, there's a known contact point to give you information, to work with you if you want to have sound insulation in your house or those kinds of

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things.

Second, to be sure that, as in these figures, we show noise exposure out to 60 and not just to 65 where the FAA requires it, we go out to 60, so we're recognizing that when you get to 65, it doesn't mean the noise stops. It just means we stop showing it. We went out to 60 as a--as a better indicator of the overall area where you'd expect people to be interested in the noise.

And then finally, the last recommended measure is to install and operate a noise and operations monitoring system, measuring the noise at a number of locations and keeping information on where the planes are flying, every plane using the airport. That particular--particular aspect of the operations monitoring is critical because if the noise goes where the planes go, a lot of our procedures for noise abatement are based on the fact that the planes fly in a particular area, and we want to monitor where they're flying and make sure they're complying.

Now, the FAA requires that we also identify measures that were considered but rejected for the program and why, and we looked at lots of details of measures that would probably be incorporated in some

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way but that--for instance, a particular group was looked at for departures. We did not list all of the permutations of measures that were not ultimately adopted but rather specific measures and classes of measures to be sure that we had all kinds of things that the FAA says we must look at, and--even if right now they'd never let us do it, and those are listed as well, and those are discussed in the report. And I'm going to leave it to you. If you want to look more in detail at that, you can, again, look at the report. Remember, you can make comments for the next two weeks.

Now, critical measures are shown on the next slide. I've said most of this--excuse me--but I want to remind you that the program includes 727s using--taking off in the 23 direction are to use 23 right; if they're taking off in the 5 direction those few nights of the year they do, they take off on 5 right; if they're going southbound off 23 left, they follow the Route 68 corridor at night--in the daytime they can't because there will be conflict with other operations, but the nighttime--it's more critical that they use that corridor at night--and if you're turning northbound off 23 left, the tight--the turns are tight, that is, you don't go too far south of the

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interstate, if at all; and aircraft taking off 23 right minimize overflight of the Presbyterian houses and--Home and surrounding houses to the extent possible.

And then finally the last slide on this subject. Keep the planes high was one of the concerns of the committee, and another concern that's here is to make sure we--or the Authority be communicating with the community about what's going on. Another reason for having a continuing Website is that purpose. And as I said earlier, the key figures--if you haven't had a chance to look at the larger-scale figures that are in the report, they're here.

Now, the last slide and the last thing I'm going to talk about before it's your turn to talk, give comments, and ask questions, is, Where do we go from here? Well, we're already in the middle of the first line, public hearing, remembering that the comments can be made tonight and they can be made until Thanksgiving.

The second step up is that we complete the final report. Some things, for instance, a description of the public hearing, obviously we couldn't put in the draft because we would have been

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predicting this evening, not talking about it.

Then the FA--the Airport Authority needs to adopt the program and submit it to the FAA for its review and approval. According to the FAA regulations, they review and accept the noise contours and they approve the noise-compatibility program. Now, really it's both. They have to accept everything, in fact, relating to the report. But that's a step that may require as long as a year. What they do is first review the--and accept the noise contours, and then they start the clock for a six-month review of the noise-compatibility program, but we hope that that process will be completed by the end of 2007, and as soon as the FAA approves the noise-compatibility program, the Authority will move ahead and begin implementing it.

So that's the process, and that's how we got to tonight. And now we move into the very important portion of this evening when I stop talking.

UNIDENTIFIED MALE SPEAKER: Andy, you say that the comment period is over Thanksgiving. Is it Thanksgiving, or is it the 30th, which is two weeks from today?

UNIDENTIFIED FEMALE SPEAKER: Right. Right. Two weeks. He's saying two weeks.

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UNIDENTIFIED MALE SPEAKER: Thanksgiving--
Thanksgiving is next week.
UNIDENTIFIED FEMALE SPEAKER: Next week.
MR. ANDREW HARRIS: Is it?
MULTIPLE UNIDENTIFIED SPEAKERS: Yes.
MR. ANDREW HARRIS: Okay. I'm sorry. I thought it--I thought it was always the last Thursday. Is it the third Thursday?
UNIDENTIFIED MALE SPEAKER: Fourth.
MR. ANDREW HARRIS: Fourth.
UNIDENTIFIED MALE SPEAKER: Fourth.
MR. ANDREW HARRIS: Oh. We have five Thursdays? Okay. Sorry. It's the 30th. I thought--we've got people coming for dinner in a week.
UNIDENTIFIED MALE SPEAKER: Better get home.
MR. ANDREW HARRIS: Better get home. Sorry. The meeting is over. Okay. Thank you, Richard. The 30th, which is even better because it's not a post office holiday.
Now your comments and questions. Remember, please don't feel badly if I don't answer your questions. I'm not going to answer any of them tonight, but they will all be answered or the comments will be responded to in the final document,

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and the final document as it is submitted to the FAA will also be available for your review on the Website, and it will be longer than the present one. We know that.

I think you've all signed up, all who want to talk. Remember the timer. Green means you've got at least 30 seconds left. When it turns yellow, you have 30 seconds left. And when it goes red--

Yes?

UNIDENTIFIED MALE SPEAKER: I don't think we've all signed up.

MR. ANDREW HARRIS: Okay. If you haven't signed up, please sign up.

UNIDENTIFIED MALE SPEAKER: We all signed up.

UNIDENTIFIED MALE SPEAKER: Well, some people haven't signed up.

UNIDENTIFIED MALE SPEAKER: I didn't know we were signing up to talk.

MR. MILLER: We just took--we had everyone sign in, Andy--

MR. ANDREW HARRIS: Yeah.

MR. MILLER: --so that we could capture that and just continue. And then what we'll have them do is line up at the microphone.

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MR. ANDREW HARRIS: So nobody signed up to talk?

MR. MILLER: No.

MR. ANDREW HARRIS: Oh, okay.

MR. MILLER: Everyone signed in. What we need you to do if you would like to talk is just state and spell your name for the court reporter when you make your comments. And then we've captured the rest of the information out here.

MR. ANDREW HARRIS: Okay. So you don't need to give your address because we have your address when you signed in. So three minutes. And we're going to let everybody comment or ask questions who wants to, and there are two microphones. Yes.

PUBLIC COMMENTS AND QUESTIONS

MR. BILL INMAN: Yes. My name is Bill Inman, I-n-m-a-n. And you did a study on noise, but, see, the biggest problem we have where about 90 percent of the planes will land and take off from, not The Cardinal end but the other end, is vibration. Our houses shake so bad that pictures fall off the shelves, and glass dishes have to be taken out of the cabinet so if somebody just opens the door that the glass or the plate doesn't fall on their head. They have to be taken and put down in the lower cabinets

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or just taken down and put on the counter. And that's--you're not considering that in your noise. Your 70 decibels or 65 decibels is one thing, but when we're sitting in our house and these planes are flying right over the top of our houses--and if we go outside and look up, we can read the numbers on the bottom of the plane; that's how low they are--and that the house just totally just shakes, that's--no amount of--what do you call it?--flight stuff that you put in the house, heavier doors or insulation, is going to stop that, because the entire house just totally shakes. Furniture actually moves across the floor, it vibrates so much. And at this present time, when you're talking about 40, 50, 60 planes--and I don't know how many are going to be coming in every single night and going out every single night--what's going to be done about that? Because that's not in your reports of any of your noise studies.

And as talking to some other people, that you guys went out one night and stood there and waited for planes to come in and out and took your readings, and as you said, you were nice and quiet because you said, "Oh, a plane's coming." Well, you're standing on the street. Why don't you come over to my house and sit in my chair and watch TV and

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let them planes come over the house? Then you'll actually really see what actually happens. Thank you.

MR. ANDREW HARRIS: Thank you.

MR. HOWARD FLEMING, JR: Howard Fleming, F-l-e-m-i-n-g, Jr., 5501 Turtle Cove Court, two miles off the end of new Runway 5L-23R. You conveniently skipped over those items which were excluded from the report, and I'm most interested in why--it's my understanding that the planes are now going to be encouraged to take off southwesterly; that's going to turn their jets right towards The Cardinal, our direction--why jet blast deflectors aren't being considered for that direction.

Accountability. Pathways and noise levels you're saying you're monitoring. For what reason? Is there going to be a fine-tuning of the study in the future, and is that going to be then adjusted so that there's going to be, maybe, more compensation for those that were maybe in the 60 dB or some change perhaps related to the DNL noise levels?

Communications to the pilots. How--I'm curious as to how they get told to stay with a particular flight path. Are you counting on the fact that they're the same FedEx pilots to and fro, or is

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there going to be a communication program that's going to communicate to them as well as the commercial pilots who might be using the flights--these runways at the same time?

Enforcement, critical here. I think if they're being required to fly down a particular flight path--it's my understanding that--well, I don't know what--I don't have an understanding as to what there might be as far as enforcement of these particular flight paths. I would think that equitably there would be some sort of punishment for this, that there would be some monetary charges for not staying on the flight paths and that those funds perhaps would be used to help support the PTAA's program and also compensate those who might be impacted due to the noise levels, et cetera.

You talk about--my question is, What thresholds will determine the use of these noise barriers that are going to be, quote, evaluated as sites of future ground operations? You know, if they're going to be evaluated, you know, what thresholds are there to actually say, "Okay. We're going to use them"?

That's--those are my comments. Thank you.

MR. ANDREW HARRIS: Thank you very much.

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MR. BILL BROWN: Hello. Can you hear me?
MR. ANDREW HARRIS: Yes.
MR. BILL BROWN: My name is Bill Brown. I'm a graduate student at North Carolina A&T State University. I used to work for the Corps of Engineers in California--in Fort Irwin, California, involved with the National Training Center where I (unintelligible) for contingencies all over the world.

But, anyway, I was on the Environmental--ABEQ, which is the Advisory Board for Environmental Quality, for Guilford County. Okay. I think there's a think called a Noise Pollution Abatement Act, which I don't know if the 150 study comes under it, but some of us were assigned to do a noise report for that committee, for the ABEQ, and it was never--it was--it was actually put in File 13 and it was never--it was never considered in any of the process. We gave a state of the environment report to our county commissioners, and we did not approve FedEx's staying here at that present time because of the environmental impact statement and some issues we had concerning a lot of environmental issues, especially the noise.

I would like to also know the success rate

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in noise reduction in airport communities nationwide with regard to buildings, slash, structures, because I've heard that the success rate of soundproofing people's homes is not very high, and airports around the country--Logan Airport--have litigation against the FAA currently. And these are several airports around the country, Logan being a major one in Boston.

Also, the committee redundancy. I see a lot of these committees were being formed, but a lot of this information, through other airports around the country--it's like a repeat of what other airports have gone through, so it's like maybe they can find out what other airports have gone through so--and use that to compare what Guilford County or the PTIA is going through. I don't know if that's done, but it's seems to be what I call committee redundancy or bureaucracy.

Also, there's also, I think, a disagreement among scientists in the United States about the noise contour levels, the DNL, like there may not be a set standard. Somebody at MIT will tell you one thing, somebody at Cal Tech will tell you another, and somebody at N.C. State may tell you something else. So there might not be a set rules or standards for

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how to do contour levels. I'm just wondering.

And, also, being in the area of agriculture--I'm getting my master's in agricultural science to teach science--agricultural science--I'd like to know, Is there an effect on farm animals with regard to noise? And it's just--maybe--maybe animals are--in studies about how noise affects--you know, it affects everyone, human beings, but what about farm animals who--on all of the various farms that they have in this county that we're losing? What is the effect that it has on farm animals? Because I understand that it can affect many of our animals that we depend on our very food supply.

Thank you.

MR. ANDREW HARRIS: Thank you very much.

MR. WALT DRUCE: My name is Walt Druce, D-r-u-c-e, and my question is--I noticed in your draft that none of your charts depict any of the SEL contours. My particular residence, in the FAA's EIS--final EIS, was in the 100-dB SEL area, yet I am not within your 65 DNL area, and I'm a little confused how I cannot be impacted, being subject to 100-dB SEL, and not be able to get any kind of noise relief. And that would be my question. Thank you.

MR. ANDREW HARRIS: Thank you.

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MR. ASH HARRISON: Ash Harrison. I actually live probably not 30 yards behind Walt and some other folks here, two doors down. We live on Muirfield Drive in Ches--well, we live behind Muirfield Drive on Cheswick, which is in Edinboro.

Right now--I just learned how this DNL works, and it's a 24-hour-period measurement and an average of the noise levels over the period of a day. During the normal part of the day, a 60-decibel noise level is not that much above ambient levels, but at night a jet flying over at 100-110 decibels will literally do exactly like the gentleman said here earlier; it will shake the windows. I think that that's an impact that should be looked at very closely. I mean, all of us want to know, How is it going to affect me? And truly it's affecting sleep and, you know, living at night. If you can't sleep, you have a hard time.

A jet flying--I think you ought to look at-- just like Walt said, look at those levels that are the maximum levels at the middle of the night when you are trying to get some rest, and I think we should be looking at that contour very hard, looking at the people who are on top of hills in the study area. I know that's not going to meet a model, but

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it certainly will meet reality. When we come time to make decisions about what's bought, what's insulated, what's taken under consideration, I think that we ought to get some opportunity to be looked at very closely as individuals in that respect, and--if we have to measure things with a decibel meter, but some sort of contingency put in for those of us who suffer through rattling windows and falling pictures and things like that. That should be looked at very closely. Otherwise I don't see why we're here. So thank you very much.

MR. ANDREW HARRIS: Thank you.

MR. ANDY RALSTON-ASUMENDI: My name is Andy Ralston-Asumendi. I hope the spelling doesn't count on my three minutes. It's R-a-l-s-t-o-n, hyphen, A-s-u-m-e-n-d-i.

I would like to piggyback on what he said about reality. These studies don't seem to be based in reality. What we've got is another fantasy novel, the way it looks, because in reality--you said the second runway is built for FedEx. The commercial airlines will not land on that runway at all because of the same reason FedEx wants to land in that direction. It will cost them a lot more fuel to taxi from there to the terminal, and as long as we're at

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our little 30 percent capacity, they are not going to ever land on there. So that runway is only used probably, starting out, four hours a night, two in, two out, maybe up to six, so I'm wondering why you're allowed to spread out that use over 24 hours and say that that's effective reality.

I live in Cardinal Commons, which in fact is less than three-quarters of a mile northeast off the runway, yet we are not ever put in a noise cone. And I'm sure everybody can hear me, and I am on the ground. I am not in the air. Yet none of the noise is ever recorded for when the plane is on the ground. And we all know that the plane sits at the end of the runway, is told to take off. It makes a lot of noise just to move it down the road. Why is this noise never included in a study? Because that's going to be very loud. I can, in my house now, with the windows closed, hear the beeping of the trucks backing up on the construction. Obviously they're not as loud as a jet plane, so we will clearly be able to hear those. When TIMCO locks down a jet and tests it, it's not off the ground. We can hear that quite clearly as well.

So my questions really are around why reality is not ever used in any of these studies. We

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seem to just be--want to be squeezed out to make us pay for FedEx, because it is costing property value in my neighborhood greatly. So I feel like I end up financing it--financing this whole thing. And I think that's--that is basically--that's it. That's all my comments. Thank you.

MR. ANDREW HARRIS: Thank you.

MRS. LORI INMAN: Hello. My name is Lori Inman.

MR. ANDREW HARRIS: Wait a minute. The microphone is not working.

MRS. LORI INMAN: No?

MR. ANDREW HARRIS: No. Sorry.

MRS. LORI INMAN: That's okay.

MR. ANDREW HARRIS: Only using one runway.

MRS. LORI INMAN: My name is Lori Inman, I-n-m-a-n. My husband spoke earlier regarding the house shaking and all of the planes being able to see, but my concern, too, is, after a while all the planes coming over, the jet fuel, all the pollution, everything from that. Have they thought about the healthwise, what this can affect us as far as breathingwise? I'm a severe asthmatic. What has anyone thought about that as far our healthwise with all the pollution and stuff from these planes going

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over and over, back and forth? And, you know, we're talking about the noise. Well, what about healthwise? Has anybody thought about that or any of us that may end up with some type of, you know, lung condition or anything like that from the pollution of them going over our homes so low that--? I worked in the airport. I know what they kick out. I loaded planes. I know what they--how bad they are. And you have to wear all the protective gear there. Well, they're flying over our homes where you can--you can read the words underneath them, and so if that fuel and all the gas from there is coming out, it's not affecting just us, but it's affecting our kids, our animals, and our peace and quiet of owning our own properties to be able to sit in our yards and stuff. Are we going to be locked in our homes because we can't go outside because of the pollution and stuff? That's not right. They need to look at that as well.

MR. ANDREW HARRIS: Thank you very much. And we'll have to focus on this microphone. Is that one working now?

UNIDENTIFIED MALE SPEAKER: That's working now.

MR. ANDREW HARRIS: Okay. No?

UNIDENTIFIED MALE SPEAKER: No, it's not

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working.

MR. ANDREW HARRIS: Now it is. Okay, sir.

MR. GEORGE COLLINS: George Collins, C-o-l-l-i-n-s, 6405 Olympic Court in The Cardinal. I just wanted to second Walt Druce's question with regard to the noise contours and also follow up on Mrs. Inman's comments with regard to solid-state pollution from the engines.

When flight paths are finally determined and carried forth on a daily basis, over time there are, you know, solid-state carbon emissions that are positive in that direct flight path that the flights are designated to take, and my question is, Over time, beyond the points that Mrs. Inman brought out with regard to health considerations, there's also a financial consideration with regard to replacement of roofs and deterioration of property over time. I know that this has been a problem, you know, in the past with the existing flight paths that flights take now on a commercial basis, and there have been issues in that regard, and I'm concerned, obviously, about Mrs. Inman's points about the health aspects, but I also would like to add the financial aspects with regard to, you know, how the government or the airport will finance or fund more rapidly

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deteriorating conditions on homes. Thank you very much.

MR. ANDREW HARRIS: Thank you, sir.

MS. CHRISTINE PEELER: Chris Peeler, P-e-e-l-e-r. I made some comments, so I just have some questions now, which you said I could ask separately.

I'm wondering, Does the FAA take into consideration the backblast from the rear of the planes taking off in their noise measurements? It is my understanding that they do not, but I'm not an expert, and I want to know, if not, why not. And, also, why does the FAA not take into consideration the C-weighted noise that Mr. Inman was talking about, the low frequency that causes vibration, in their measurements? None of this, as I understand it, is included in DNL, the average, so I'd like to know--I'd like that confirmed and to know why. Thank you.

MR. ANDREW HARRIS: Thank you very much. Anybody else? Jean? Go ahead.

MR. RONNIE COLLINS: My name is Ronnie Collins. I live in north High Point, and I'm just outside of what is described as the noise level, although I'm about six miles from the end of

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Runway 5. Planes that are coming into Greensboro come right over my house, and that's about the time that they drop those landing gears, and that causes drag, which includes noise. And when you're on a flight path that's right across your house, even though I'm outside of the noise area, there's still a lot of noise. And if we're looking at 60-some-odd planes that are going to be coming in overnight, even though I live six, six and a half miles from the end of Runway 5, that's still going to be a problem, and I just wanted to make that comment.

MS. JEAN BLACK: Hi, Andy.

MR. ANDREW HARRIS: Hi, Jean.

MS. JEAN BLACK: Jean Black. And I'm a member of the citizens committee, and I have a few comments.

In reading the November draft report, I am concerned about the FedEx nighttime departure flight tracks for Alternative 2C on Figure A-9 as they relate to departures from Runways 5R and 5L. When I compared this map to the map Figure 9 that came out with the January draft, I noticed a very big change. When comparing the left-hand turn flight tracks of Figure 9 to those in Figure A-9, there is a noticeable encroachment by new flight tracks into the

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residential areas on Figure A-9. These new flight tracks are directed or tucked in closer to the airport over some of the most densely populated residential areas in close proximity to the northeast of the Runways 5L and 5R. I am greatly concerned about this change of departing flight track locations, thus increasing the noise exposure to residential areas under the flight tracks.

I am concerned about another change since our last citizens committee meeting last January. That change is to Proposed Measure NA-8, departures from Runway 5L, Proposed Measure NA-9, departures from Runway 5R. Both of those measures are to establish a procedure to delay initial turns from runway heading by aircraft departing on Runway 5L and 5R. The January draft read "until aircraft are two statute mile from the northeast end of the runway." The November draft was changed to read "until such aircraft reach an altitude of 3,000 MSL." I would like you to consider an altitude of 3,000 AGL rather than an altitude of MSL. That would place the aircraft almost 1,000 feet higher above residential neighborhoods when making nighttime turns from Runways 5R and 5L. And I wish we could have discussed these two changes that I have mentioned,

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the changes on the flight tracks and these two proposed measures, in committee.

Regarding Proposed Measure NA-1, I would like this measure to state that there is a nighttime time frame of 10 o'clock p.m. to 7 o'clock a.m. for no engine run-ups. These engine run-ups, when they occur at nighttime, are very invasive to residential areas near the northeast end of the airport.

Regarding Proposed Measure NA-3, I have talked about this before in committee, and I'm still very much concerned about placing all of the 727 aircraft departing to the southwest on the new runway 23R. I am concerned because these 727 aircraft departures could impact The Cardinal neighborhoods with their very noisy backblast noise. There is no noise abatement for the backblast from initial startup or rollout of aircraft departing to the southwest from either runway at night, which currently often impacts neighborhoods northeast of the existing Runway 23L.

Regarding proposed Measure MN-1--

MR. ANDREW HARRIS: Jean, excuse me. You've run well over the three minutes. I wonder if--you have that written, don't you?

MS. JEAN BLACK: Yes. I have just one more,

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but that's-- Yes, I do have it written.

MR. ANDREW HARRIS: If you'd turn it in written, that would--I'd appreciate it.

UNIDENTIFIED MALE SPEAKER: She's got my three minutes.

UNIDENTIFIED MALE SPEAKER: She can have mine too.

MR. ANDREW HARRIS: Well, okay. You can finish. People have acceded their place to you.

MS. JEAN BLACK: Thank you. Thank you. Thank you very much.

Regarding Proposed Measure MN-1, establishing noise-monitoring function at PTIA, I strongly recommend that this be put on a fast track and established as soon as possible. The citizens committee had agreed at the January meeting that a citizens advisory board be established under this measure. The citizens advisory board has been omitted from the November draft and should be added to this Measure MN-1.

Also, I did not find the SEL contours for informational purposes only in this current 150 draft. It was my understanding that these contours would be included but for only informational purposes.

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I thank you very much, and it has been a very educational experience to work with you on this Part 150, and I wouldn't have traded it for anything.

MR. ANDREW HARRIS: Jean, I thank you for your comments.

(Applause from audience.)

MR. ANDREW HARRIS: Thank you and, again, every member of all the committees for--

(Applause from audience.)

MR. ANDREW HARRIS: Yes. This says more than (inaudible). Thank you.

Any other comments tonight?

MR. HOWARD FLEMING, JR.: May I have one more?

MR. ANDREW HARRIS: Yes.

MR. HOWARD FLEMING, JR.: This is the stump-you question. This is Howard Fleming again. Who owns the airspace above our homes, and how high do we own, if we do own the airspace, above the ground level?

MR. ANDREW HARRIS: I'm glad I don't have to answer that question at this meeting, but I thank you.

Well, if that is all the questions-- Oop.

MR. FERNAND SCHLAEPPI: My name is Ferdinand

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Schlaeppi, and we live on 3609 Whiteflower Drive in Greensboro.

MR. WILLIAM COOKE, JR.: Excuse me, Andy. The court reporter needs for him to spell his name, if he would.

THE COURT REPORTER: And his address.

UNIDENTIFIED FEMALE SPEAKER: Spell your name.

UNIDENTIFIED MALE SPEAKER: Spell your name.

MS. KATE CULHANE: Spell his name.

UNIDENTIFIED MALE SPEAKER: Spell your name.

MR. FERNAND SCHLAEPPI: S-c-h-l-a-e-p-p-i. I would just like to come back to the reality situation. You know, when FedEx is fully operational, I understand there will be 126 FedEx flight operations per night within a time frame of, let's say, six hours from four--10 p.m. to 4 a.m. or something like that. So that really means during that time you have on an average one and a half minutes for a plane to come in and one and a half minutes for a plane to go out again. And it is not the average noise which wakes people up, but it's the noise of a plane which goes overhead on your house for a short time but intense noise. That is what wakes you up. So you will be waking up every one and

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a half minutes. That means you're not going to sleep that night.

I think the recommendation has been made to the committee to look into the concentrated noise pollution during that period when the--when the high flight activity takes place. I don't know if that has been done, or I don't know if the FAA would even permit that to be done, but I would be very interested why we do not do that at all. Thank you.

MR. ANDREW HARRIS: Thank you.

MR. GREG FORD: My name is Greg Ford, F-o-r-d. I live at 6415 Wellstone Court, and my house is actually in both the red and the blue contour lines. It says 60 decibels, but we know it really isn't 60. It's way more than that. I have, you know, made several comments in meetings like this, and I don't really think that my comments are heard because, you know, I've talked many times about a single occurrence--like the gentleman before me, a single occurrence of decibels when a plane flies over. And it's not part of a study. It's not part of any contour that we see. It's not represented anywhere. So I wonder if we're really being heard. A lot of people have expressed concerns about a single occurrence, one plane flying over your house,

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what the decibel level is and what it means to your sleep.

We have a lot of kids in our neighborhood. I have five kids in my house. I'm concerned about how they'll perform in school if they can't sleep at night. Hopefully I'll be heard. Thank you.

MR. ANDREW HARRIS: Thank you. Going twice. Yes?

MR. DAVID CLARK: What responses can this group expect from these questions and when, and how will they be published?

MR. ANDREW HARRIS: We have one more comment, and then I'll--I will answer that one, that question.

MS. LYNN DROLET: Lynn Drolet, D-r-o-l-e-t. I signed in. I think what I keep hearing is that we have a lot of the same concerns about the single issue of a flight going by versus 24 hours and the way your numbers work, and they're not real. So I'm piggybacking on the reality, but also if you would please include in the report that we could read that would give us follow-up on not just that's the way the FAA does that, that's the way we record the numbers, that's the way the logarithms work, it's the law. Then if we need to change the laws to make it a

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reality for our homes and where we live so that they do look at the single issues or they do look at the four to six hours of time, which they don't do now and that's the way it is, then what are our next steps to make it better? If you could include that, that would be great. Thank you.

MR. ANDREW HARRIS: Thank you. Yes.

MR. CLARK HARDESTY: Clark Hardesty, H-a-r-d-e-s-t-y. I've got a two-part question and a comment about the flight paths, particularly on the 15 percent time when you tell us they're going to be landing on 23, departing 5. I'm an airline pilot, so I'm familiar with flight patterns, and I fly into and out of a lot of airports around the country that have varying degrees of restrictions from very minor to fairly strong restrictions on their flight patterns so we can be quieter that way, which is a good thing.

When you're--you were talking earlier about the idea of keeping aircraft at a higher altitude coming over the highly populated areas on the sides of the airport east and west, but then a prior speaker on the committee here referenced a change apparently being made that would allow the aircraft to turn more closely in. I'm particularly concerned on the idea of-- He's shaking his head no. Well,

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that's part of the question. If they would allow the arrivals, say, on 23 to make an additional approach, they're going to be much more tightly turned in and at a lower altitude of necessity as they go across some fairly high-density areas on both sides. I would recommend taking them out pretty much to the final-fix branch on 23 before they're allowed to turn in. That would require them to stay at higher altitudes--or that way they could be required to stay at higher altitudes of at least 3,000 feet AGL--four or five would be better--as they go across the city headed northbound till they make the turn south.

And the same sort of problem taking off on 5. Before they're allowed to turn--I think it's going to be very important to get them out there a ways before they're allowed to turn. If you allow them to make a fairly quick turn--I heard references to as close as two miles after the end of the runway--they're still going to be at fairly low altitudes as they make the turn around headed--the ones that are headed back toward a southerly direction. If you again take them out to at least 3,000 AGL, which would get them 2,000 feet above the ground, approximately, in this area, that would be acceptable, but it's probably better to take them out

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closer to branch, again the final fix out there, which is six or seven miles out on final, before they're allowed to turn. That will keep the aircraft at a higher altitude because they will climb more before they make the turn.

If you do those sort of things, you'll end up with a lot quieter operation for the people on the east and west sides of the airport rather than bringing the aircraft at a lower altitude in over the high-density areas there where you're going to get a lot more problems and a lot more complaints.

MS. VIRGINIA ALLEN: Hi. I'm Virginia Allen--that's A-l-l-e-n--and I live down in Friendly Plantation, and this is the first time I've gotten any paper about the 150 study, and it appears to me--I'm probably less than a mile down to Market Avenue off of Friendly. I'm right out there where, I think it's, Gilbarco is and where all those big trucks come in for Harris Teeter, but we don't seem to be--if I can see this correctly, we're not even within the 60 decibels, or whatever you're talking about here. We are on the other side of where they're building those big blue things, construction on Friendly Avenue down this way, and I was wondering how it's going to affect our homes. I bought my home in 2004. Now,

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the Plantation may have started before 2001. But we're not in the outer rim, so if anybody could help me understand that and how it will affect the noise level as well as the possibility of selling our homes. And I don't want to be shaken up (inaudible) at night. If I don't sleep, I'm an irritable old lady. Thank you.

MR. ANDREW HARRIS: Thank you.

MR. KYLE MITCHELL: My name is Kyle Mitchell, M-i-t-c-h-e-l-l, and my main concern is the takeoff. The averages don't show me anything. I want to--I would like to see a study of a 24-hour period, because we all know that the 11-to-11:30 plane is the loudest at night, nighttime noise being a lot more intense because there's no ambient noise around. I'd like to know if we could get a 24-hour period of the decibel spikes. At 1 to 1:30 when there's no planes, at 60 decibels it's just ambient noise, but when the 11:30-at-night plane comes, it's 115. But it would average out, so I would like to see a 24-hour study. Thank you.

MR. ANDREW HARRIS: Thank you.

MR. JIM McMANUS: Jim McManus, M-c-M-a-n-u-s, Wellstone Court. You said you went above and beyond on putting an extra DNL. Could we

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go an extra above and beyond and put a backwash noise level in there also? I would love to know really--

UNIDENTIFIED MALE SPEAKER: Jet lag?

UNIDENTIFIED MALE SPEAKER: Yeah, jet lag.

MR. JIM McMANUS: Jet wash. You went above and beyond for the other one. Could you do that for us on this backwash noise? Also-- I guess that's it.

MS. PAULINE AUSTIN: Pauline Austin, A-u-s-t-i-n. I would like to say that I am a mile from the FedEx hub and probably a mile from the third runway, yet I am not considered in a noise cone. And I'd also like to say it's a shame that we as citizens of this United States do not matter to anyone. Just tell me--look around the room--how many politicians do you see in here tonight? We just had an election. They only come to us when they want a vote, but they represent big business. Thank you.

(Applause from audience.)

MR. ANDREW HARRIS: Now, what--? Oh, okay. I just don't want to forget to answer the question I said I would answer.

MR. BILL HAPPEL: I'm Bill Happel, H-a-p-p-e-l, and those of you who've known me, I've been involved in the process from day one, and I'm

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totally against this--well, I was never against FedEx, but I'm totally against the third runway, totally against the sorting facility and its location. We proposed an alternate plan. It was thrown out immediately. They said it wouldn't work.

The reality of the entire process is--and after I've talked to airport authorities, county commissioners, the city council, various civic groups, the reality is they don't care. It's a political thing. When FedEx came in here, everybody jumps on it. It's a job situation. The jobs are paramount to anything else. The reality is Indianapolis FedEx hub, homes bought-- previously they said--initially they said they were going to buy 200 homes. They bought 2,200. Memphis, somewhere in the neighborhood of 7,000 homes. That's reality. UPS is in Louisville. They said they'd buy 226 or something. They bought about 4,000. That's reality.

Reality is, this jet wash that everybody mentions is actually noise coming from the rear end. Ninety percent of the noise comes out of the back end. I've been flying for 37 years. I make the noise. I'm guilty. I know what a jet will do. You know, this other stuff is BS. You know, we've spent $1.3 million to have this study only for the purpose

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of the airport to be able to receive federal funding for this. This is the only reason we're going through all this. Thank you.

(Applause from audience.)

CLOSING COMMENTS

MR. ANDREW HARRIS: Thank you for your comment. Now, earlier the gentleman asked the question about how we will respond to the comments and questions and how those of you have commented and anybody else who is interested can see the response. The process that we'll use is for the comments that were made here tonight, some to the court reporter, many to the entire group, and all comments received by the 30th, which is the week after Thanksgiving. I now realize, thanks to Dick, that I'd better be ready to celebrate Thanksgiving next week and be ready to celebrate having received all your comments a week later. We will assemble all of the comments. We will respond to all of them and put a description of the comments and the response in the final document. The--as I indicated at the beginning of the meeting, to the extent that more than one person made essentially the same comment, we will indicate the number of commenters or questioners contributing to each question but state the question once and answer

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it or respond to the comment once. At the moment, I can't tell you in what way we'll present it, but be assured that a comment that you made will be responded to, and that will go into the final document that goes to the FAA for its review and approval--review, consideration, and approval. So that--

MR. DAVID CLARK: What's the title of that final document? What will it be called?

MR. ANDREW HARRIS: Probably "Final Report." This is the draft report. I think it will say "Final Report."

And that report, when it is submitted to the Authority, will also go onto the Website, and you'll be able to read it there and, if you wish, print it out. There will also be printed copies available at the Authority. So you have a choice of getting it online or getting it--or going to see it at the Authority.

I once again thank everybody who participated in the process in any way, whether it was you only came tonight or that you've come to workshops, and most particularly I thank everybody who served on the committees, who made comments, and have stuck with this process for more than two years.

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The product could not be what it is without all of your participation, and the process for working to minimize the impact of future operations at the airport would not exist without this process. So I thank you--thank you all for coming tonight and look forward to the results of this.

And we have a goal of having the final document ready before the end of calendar 2006, and I trust that we will make that goal.

Good night. Enjoy Thanksgiving next week and the rest of the holiday season.

(Public hearing concludes at 8:23 p.m.)

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CERTIFICATE OF VERBATIM TRANSCRIPT

I, DIANE W. ELLISON, Court Reporter and a Notary Public, duly appointed and qualified in and for the State of North Carolina at large, do hereby certify:

That the Piedmont Triad Airport Authority Part 150 Study Public Hearing held at the Airport Marriott in Greensboro, North Carolina, on November 16, 2006, was reported by me and the foregoing transcript is a true and accurate record of the hearing to the best of my knowledge and belief;

That I am neither related to nor employed by any of the parties or counsel employed by the parties involved, nor interested directly or indirectly in the matters related to the Piedmont Triad Airport Authority Part 150 Study;

IN WITNESS WHEREOF, I have hereunto set my hand this 18th day of November 2006.

Diane W. Ellison
Court Reporter

Committee Comments

----- Original Message -----
From: LEE BURNETTE
Sent: Tuesday, November 07, 2006 4:44 PM
Subject: RE: Part 150 Documents Available

Ron & Andy:

The hearing notice stated that written comments on the Part 150 study can be provided on or before Nov 16th. I know that you all are trying to hurry and present this study to the Authority & FAA; however, I do believe it is in the public interest to provide a some public comment period after the hearing date.

While many of us are familiar with this document, many others in the public may not be. To obtain, read and digest this info and then prepare informed comments in approximately one week is pushing the process a little to fast in my opinion.

I suggest that at least a 2 week or longer comment period be provided after the hearing date. Other such comment periods have be entertained likewise already in this process.

Please correct me if I am wrong in reading that no comment period will be provided after the hearing date.

Thanks,

Lee

Original Message -----
From: CDMatthieu
Sent: Wednesday, November 08, 2006 8:42 AM
Subject: Extended Comment Period

Ron - I agree with Lee's position on the extended comment period, especially since some of the material in the report has not been included in the public process (as indicated by Andy's 11/7/06 comments). Can you also share Scott's comments/questions with all?

Thanks. DEM

Original Message -----
From: Gayle, Scott
Sent: Monday, November 13, 2006 7:30 PM
Subject: RE: Comments of Scott Gayle Regarding Changes to Draft Report of Nov. 7, 2006 FAR Part 150 Study

Dear Andy and Staff (with copy to all committee members):

I am taking this opportunity to make 13 comments on the Draft of 11/7/06 before the last public hearing this coming Thursday, November 16th. They are not in order of importance. They start with Glossary, then follow the text as it appears through Appendix B.

Most of these comments are based upon, or reiterate, my comments contained in my email to everyone (attached for reference below) dated Feb. 20, 2006, regarding the points covered at our last Citizens Committee meeting in January, 2006:

1. Definition of Nighttime.

The Glossary for "nighttime" says: "For noise analyses, the hours from 10:00 p.m. to 7:00 a.m.". My notes of our January meeting indicate that you agreed that we would define "nighttime" for all purposes, not just for analysis of data, but for implementation of the NCP, as being from 10:00 p.m. to 7:00 a.m. LOCAL TIME. Please add the following in BOLD: "For noise analyses AND FOR THE NCP, 10:00 p.m. to 7:00 a.m. LOCAL TIME."

2. Proposed NA-2: Preferred Runway Use.

As you note on p. 10 of the Draft of 11/7/06, "during head to head operations, FedEx aircraft will land on runways 5L and 5R and taxi to the FedEx hub". Likewise, on page 13 of the draft, you note that "it was assumed that the FedEx night operations would be evenly divided between the parallel runways". You indicated in our meetings that NA-2 applies to FedEx only. Therefore, NA-2 needs to clarify that NCP requires that FedEx cause approximately half of its night time arrivals for 5L and half for 5R, in order to follow the NCP. Otherwise, FedEx could frustrate the NCP by having most arrivals on 5R, as many in North High Point have feared it will. Please suggest appropriate language.

3. Proposed NA-3. Night Runway Use Assignments.

In the draft of 1/18/06, each subsection of NA-3 (1) -(4) starts with the phrase " When departures are using runways ____ and _____". I always interpreted this to mean that if both runways were completed and available for use, then the provisions would apply. I did not interpret the conjunctive "and" to mean that both runways had to be in actual use by FedEx before the provisions would apply. However, one change in NA-3 (4) made since the last draft now leads me to believe that this wrong-headed interpretation could be applied by FedEx to frustrate our intent.

Specifically, in this new draft of 11/7/06, NA-3 (4) has been changed (for some reason) to read "When departures are using runways 5L "OR" 5R . . . " However, the other three subsections (1)-(3) still say "AND". There is no justification for the difference. The intent of the committee (and I assume of the Staff) is actually to say "and/or", meaning that if either one or both runways is available for use, the provisions for designated night time

departure provisions will apply. Please change each section (1) through (4) to read "and/or" as needed; otherwise, FedEx could simply elect to use one runway over the other, claiming they were not using both, and that therefore the provisions don't apply. If that is not acceptable to you, then please change (4) from "or" back to "and" so that at least all sections are consistent.

4. Proposed NA-4.

The 1/18/06 draft heading was "Night Southbound Departure Corridor from Runway 2L". In the 11/7/06 draft, the word "Night" was apparently inadvertently omitted from the heading and should be restored for clarity to match NA-5, NA-6 and NA-7, all of which start with "Night". (I presume this change was originally made when we were considering both day and night use of the Hwy. 68 corridor for departures off 23L).

5. Proposed NA-5. Night Southwest and West Departure Procedures from Runway 23R.

As I mentioned in par. 8 of my comments (below) of 2/20/06, this procedure, which is very desirable for north High Point, needs one further refinement as suggested by Lee Whitaker in the January meeting: that is, aircraft departing at night on 23R turning right for SW or W destinations need to make one slight additional turn to avoid over flight of the River Landing retirement/nursing home community on Sandy Ridge Road, as discussed in that meeting. Figure 9 shows River Landing in pink as being over flown, yet I think there is an FAA rule imposing an affirmative duty to avoid over flights of nursing homes. The City of High Point has passed an Resolution (see my par. 13 below) which specifically requests this accommodation for River Landing.

6. Proposed NA-6: Night Northbound Departure Corridor from Runway 23L.

For some reason, changes have been made to water this provision down from the 1/18/06 draft. It now says "encourage" instead of "establish". The original draft of 1/18/06 said "establish a departure procedure". Also, the provisions of NA-6 should be identical to the provisions of NA-4 and NA-7 in this regard. Therefore, NA-6 should be altered to read: "Promptly after FAA approval of this measure, ESTABLISH A NEW NIGHTTIME DEPARTURE PROCEDURE FOR aircraft departing from runway 23L to northern destinations to initiate a left departure turn to a northeasterly heading as soon as practicable". We have established everything else, so why would we merely want to "encourage" this procedure? (Thanks to Don Mathieu who brought this to my attention).

7. Proposed NA-13. Altitude for Downwind Legs. (a new provision)

Ron Carter and other pilots have already written to Andy this week reminding him of their discussions at the January 2006 meeting about this issue. For those non-pilots, such as myself, the Glossary defines "downwind path" (or "leg") as "a flight track followed by aircraft that are approaching the airport in the opposite direction from their final approach

as such aircraft maneuver past the airport and then turn into position to make their turns onto final approach". For our purposes, it means FedEx airplanes arriving generally from the north, flying over the airport and then turning around to land on 5L or 5R from the south at night.

Ron Carter has explained several times that his recommendation is that such planes remain at 6000 feet MSL (mean sea level) while over (abeam) the airport and on the downwind leg, and THEN to remain at 4000 AGL (above ground level) until intercepting the glide slope on approach. Andy agrees that was the proposal but has said recently that the air traffic controllers wanted to avoid having large numbers of aircraft extending their downwind legs so far, and that "we settled on 4000 MSL minimum altitude that would coincide approximately with the glide slope altitude at the outer marker". As you probably know, 4000 MSL is about 3100 AGL in north High Point, which is not very high up.

I would hope that after further conversations with the air traffic controllers, we could amend this NA-13 to read 4000 AGL instead of 4000 MSL (i.e. 900 feet higher on average). Even 900 feet more will help considerably with nighttime noise for north High Point residents. There should not be large numbers of aircraft extending their downwind legs unduly. I doubt that more than 1/3 of the FedEx flights will arrive from the north. The provision has minimal cost, if any, to the airlines and no cost to implement.

8. Avigation Easements under LU-2, LU-3 or LU-4.

In the January 2006 meeting, my notes reflect that it was agreed that any avigation easement given by a homeowner to the PTAA would not exceed 65 DNL in the future. There is no limit in the LU-4 or in the glossary. This should be added to be fair to the homeowners who give one and elect to remain at the home, as discussed. Andy should suggest the exact language here.

9. Sales Assistance or Purchase Assistance under LU-4.

Although defined in the text on page 58, I understood from Andy at the January 2006 meeting that these procedures were well established by FAA rules and such rules would be incorporated by reference and also set out in an attachment for review by homeowners who might wish to take advantage of these forms of assistance. Otherwise, the homeowner has insufficient information on how these plans work. I hope this can be improved upon.

10. Proposed NM-1. Establish a Noise Monitoring Function at PTIA.

While this version is an improvement over the 1/18/06 draft, it does not include some crucial
provisions that my notes of the January 2006 meeting reflect were agreed upon, including the establishment of a Citizens Advisory Board.

Specifically, in our detailed discussions at the January 2006 meeting, I believe that the language following in quotes was approved by the committee and generally accepted (after some modifications) by Andy for proposal to PTAA. According to my notes (which I wrote at the meeting and summarized in my email of 2/20/06 attached) the approved language was that the point of contact within the PTAA "would be responsible for noise reduction programs" (not just monitoring aircraft noise as stated), and would "maintain liaison with the carriers for compliance with the procedures and policies of the NCP" (and not just keep the carriers informed about their own compliance, as now stated). This current version, to have any teeth and to fairly meet what the Citizens Committee agreed upon should be revised to add the following BOLD:

"NM-1. Establish a Noise Monitoring Function at PTIA. The PTAA will establish a noise monitoring function within the PTAA with responsibilities that include: TO OVERSEE NOISE REDUCTION PROGRAMS AND MAINTAIN LIAISON WITH AIR CARRIERS FOR COMPLIANCE WITH THE PROCEDURES AND POLICIES OF THE NCP; to monitor aircraft noise; to provide a point of contact within the PTAA for issues related to aircraft noise; to serve as a liaison with the community for such issues; and to keep air carriers and the public informed about compliance with measures in the NCP."

In addition, language establishing a Citizens Advisory Board must be added to NM-1 as was agreed at the January 2006 Citizens Committee meeting. Andy even negotiated the exact language for most of this
recommendation, when concerns came up about how to fill the positions on such a board.

My notes reflect that it was agreed that the noise monitoring function, through the PTAA would "establish a Citizens Advisory Board" composed of "members of affected communities" as appointed by their respective governmental bodies to "periodically meet with and advise the noise monitoring function on issues related to the NCP".

Why the creation of the Citizens Advisory Board has been completely omitted from this 11/706 is a mystery and frankly, a surprise. Various members of the citizens committee have reported to me conversations with PTAA officials indicating no opposition to a Citizens Advisory Board. Therefore, a second sentence should be added to NM-1 as follows:

"IN ADDITION, THE NOISE MONITORING FUNCTION AT PTAA WILL ESTABLISH A CITIZENS ADVISORY BOARD COMPOSED OF MEMBERS OF AFFECTED COMMUNITIES, APPOINTED BY THEIR RESPECTIVE GOVERNMENTAL BODIES, TO PERIODICALLY MEET WITH AND ADVISE THE NOISE MONITORING FUNCTION OF THE PTAA ON ISSUES RELATED TO THE NCP".

11. Proposed NM-3. Install and Operate Monitoring System.

The only thing that I believe we discussed at the January 2006 Citizens Meeting not contained in this revised NM-3 in some form is the requirement that the PTAA web site publish summaries of SEL data and contours along with DNL data and contours. We all understand that the SEL data is available because it forms the basis for the DNL data.

Having such SEL data available to the public will help the Citizens Advisory Board and the noise monitoring function of the PTAA explain to individual citizens why individual (single event) noise may be louder than DNL's and acknowledge that reality, rather than making it look like a secret or cover up. Further, there is no other way for the public to access the SEL data, which should be continually online as it becomes available. Last, this information should be updated per Part 150 regulations, in the same language as NM-2.

Therefore the last sentence of NM-3 should be revised to add the following BOLD:

"Summaries of the monitoring results (BOTH DNL AND SEL DATA AND CONTOURS) will be reported regularly on the PTAA web site, AND UPDATED AS REQUIRED BY FAR PART 150."

12. Appendix B: Measures not recommended for inclusion in the NCP.

While Appendix B contains summaries of the provisions of five recommendations posed by either Staff or by the Citizens Committee, it certain does not contain a reference to the many other ideas and proposals submitted by the members of the Citizens Committee for consideration. Andy and the Staff have prepared a summary of the various memoranda submitted by the members of the Citizens Committee, entitled "Measures Involving Airport Plan" consisting of about 30 pages, which has excerpts from the various members sorted by topic. Many members of the Citizens Committee have devoted countless hours to review, comment and submit suggestions. It is important for the public to realize not only that the Citizens Committee had the opportunity to participate, but that it did in fact participate and make suggestions, even if all of those suggestions were not accepted or included.

Therefore, I submit that either Appendix B needs to be revised to cover all the major topics proposed by the members of the Citizens Committee, or in the alternative, that the entire "Measures Involving Airport Plan" memorandum, as prepared by the Staff, be included in its 30 page entirety as a part of Appendix B to the Part 150, with some appropriate introduction (and disclaimer if needed) by Andy to explain its inclusion. To do neither of the above would be a disservice to the public and to the members of the Citizens Committee.

13. Inclusion of Resolutions of Cities or other Governmental Bodies.

I understand from Lee Burnette, with the City of High Point, that the City Council in February, 2006 adopted Resolutions of City of High Point Respecting Proposed Noise Compatibility Program Under FAR Part 150 for Piedmont Triad International Airport. It may be that other government entities likewise adopted resolutions. It was my understanding last Februrary from Andy that any such governmental submissions reflecting the consensus of citizens through their elected officials would be included in the Part 150 report, as an appendix, so that such matters can be reviewed by the FAA and considered. I cannot find any governmental resolutions in this draft of 11/7/06, and I

ask that they all be included in the Appendix and Table of Contents, and referred to in the text introduction for easy reference by citizens and the FAA alike.

The draft of the Resolutions from the City of High Point which I have seen requests that the PTAA and the FAA approve Alternative 2C (or 2D if the data supports it) and many of the other NM type provisions added to the current draft. It also asks that PTAA establish a Citizens Advisory Board under NM-1 Finally, it asks PTAA to implement with FAA approval an "informal Noise Abatement Program" requiring all aircraft to voluntarily intersect the glide path at not less than 4000 AGL , and follow an informal minimum over flight height of at least 2000 AGL, among other provisions. For the residents of the City of High Point, these Resolutions carry as much or more weight than the suggestions of the High Point members of the Citizens Committee, because they reflect the consensus of the citizens of High Point as expressed through their elected officials. I trust that these Resolutions will be added along with those of any other government.

Andy, thank you for your attention and consideration of these changes. If I have misquoted anyone or misstated any facts, please accept my apology in advance.

Yours,

Scott Gayle
Member, Citizens Committee (High Point)

Scott C. Gayle
TUGGLE DUGGINS & MESCHAN, P.A.
100 N. Greene St., Suite 600
Greensboro, NC 27401
Direct: (336) 271-5232
Fax: (336) 274-6590
Original Message-----
From: Gayle, Scott
Sent: Monday, February 20, 2006 5:47 PM
Subject: Comments of Scott Gayle on proposed changes to NCP draft of 1/18/06

Dear Andy, Staff and all Committee Members,

Before the 2/24/06 deadline for comments on the draft NCP, I wanted to submit some suggestions and review what I think was understood at our last Citizens Committee meeting:

1. Alternative 2C:

I fully support Alternative 2C, and I believe from the discussion at the meeting, though no vote was taken, that approval of 2C appeared to be unanimous by the Citizens Committee.

2. Alternative 2D:

As suggested, I understand that the staff is doing a modeling (to be called Alternative 2D) to determine if the data support using Alternative 2C during the day as well as the night. If the data support day time use, I recommend it be adopted, and I believe that all the High Point representatives agree on that point, so that all aircraft departing 23L to the South will leave following the east side of Hwy. 68, both day and night.

3. Proposed Measure NA-3:

Instead of 727 and non-727 aircraft, this provision will refer to "Stage 3" and "Modified Stage 3" aircraft, defining each term in the glossary, so that Stage 3 means "as built" and Modified Stage 3 means all aircraft that have been modified with a hush kit in some manner.

4. Proposed Measure NA-4:

It was agreed that this would commence "promptly after FAA approval" rather than waiting until new runway 5L/23R is in use.

5. Proposed Measure NA-4:

Based on comments of the pilots, I believe that NA-4 should be amended to require aircraft departing Southbound on 23L to turn toward Hwy. 68 not later than one mile from the end of the runway to avoid overflight of residential areas to the immediate west of Hwy. 68. This would apply to Alt. 2C and to 2D if adopted. In the alternative, if you will not include the one mile designation, it should say "as soon as practicable" at the very least.

6. Proposed Measure NA-5:

It was agreed that this would commence "promptly after FAA approval" rather than waiting until new runway 5L/23R is in use.

7. Proposed Measure NA-5:

Again, based on comments of the pilots on the Committee, I believe that NA-5 should be amended to require aircraft departing Northbound from 23L to turn left to a NE heading no later than 1 and 1/2 miles from the end of the runway to avoid overflight of residential areas. This would apply to Alt. 2C and to 2D if adopted.

8. Proposed Measure NA-6:

I didn't know where to put this recommendation, which should probably have its own number, but because it relates to Night Departure from 23R, I suggest we add this to NA-6: Aircraft departing Southbound or Westbound on 23R should adjust turns on departure to avoid overflight of the River Landing nursing home and assisted living buildings in N. High Point, which are shown in pink on Figure 9 as being overflown). I think there is an FAA rule imposing an affirmative duty to avoid overflights of nursing homes. According to Lee Whitaker, this can be easily remedied by a slight additional turn on departure.

9. Proposed Measure NA-9:

I had suggested that that future "tenants" as well as future facilities be included in this measure and you indicated that this would be up to PTAA; however, I cannot fathom why new tenants should not be asked to restrict night time auxiliary power unit operations. We also agreed to insert 10:00 pm. to 7:00 a.m. local time to define night-time here and at every other place in the NCP where "night-time" appears.

10. ("NEW") Measure NA-12 (proposed by Scott Gayle and others):

There was much discussion concerning measure NA-11 which is the ONLY noise abatement APPROACH procedure recommended. NA-11 states that PTAA will request the tower to direct arrivals to "maintain altitudes consistent with the glide slope for instrument approaches even when not using an instrument approach". The benefit of NA-11 is to cause aircraft released for visual approach to come in no lower than the glide slope, as if they were coming in on instruments. While NA-11 is acceptable, it does not go far enough in that it does not regulate the point at which all aircraft (whether on instrument or visual approach) intersect the glide path, which can be very low, depending on many factors. Several pilots have repeatedly indicated in multiple meetings that if PTAA offers, the FAA would likely approve (as I understand it has done in other cities) a guideline that all "aircraft should intersect the glide path and slope at not less than 4000 feet AGL". This provision would help reduce the sound of the first two Fed Ex planes in a long line of landings intersecting the glide path "too low" as the fleet begins to approach each night. No one doubts that such a guideline would significantly reduce disturbance to residential areas in North High Point in the standard arrival paths of both 23L and new 23 R. This would be a procedure change only, without any cost to PTAA or to Fed Ex. Therefore, I ask that it be added as new NA-12. If the FAA rejects NA-12, it will not harm the rest of the measures. (I understand that the City of High Point may request that such a guideline adopted as part of an informal noise abatement program, but it seems to me that this provision has sufficient data behind it that it can be included in the formal NCP). Either way, it should be proposed to the FAA and included.

11. Proposed Measure LU-4:

I think it was agreed at the meeting that the avigation easement given by a homeowner to PTAA would not exceed 65 DNL in the future. Also, in order to clarify the terms of the Sales Assistance and the Purchase Assistance, you noted that the glossary or other addenda would explain and refer to the appropriate FAA regulations defining and outlining these Assistance plans so that the public would have the details.

12. Proposed Measure NM-1:

After much discussion, I believe it was agreed at the meeting that NM-1 should be amended to state that (a) the Noise Monitoring Function (NMF) point of contact within the PTAA would be "responsible for noise reduction programs" and (b) would "maintain liaison with the carriers for compliance with the procedures and policies of the NCP" and (c) would "establish a Citizens Advisory Board" composed of "members of affected

communities" as appointed by their respective governmental bodies to "periodically meet with and advise the NMF on issues related to the NCP". There is a strong sentiment on the Citizens Committee that this Citizens Advisory Board be set up promptly, and that it have open and regular access and input to the NMF. I sincerely hope that the PTAA will not object to these provisions, which the FAA has no reason to reject.

12. Proposed Measure NM-2:

It was agreed that this provision would be amended to say that the noise contours (starting at 60 DNL) will be "updated with new NMF data in accordance with FAA regulations".

13. Proposed Measure NM-3:

After some discussion, I believe it was agreed that the PTAA will install and operate a "new, mobile" (rather than "permanent") aircraft noise and operations monitoring system. It was also agreed to add substantially the following: "The pertinent data collected shall be made available to the public at the PTAA website, updated as required by FAA regulations. The monitoring system shall have at least 2 movable microphones and 6 stationary microphones."

14. Other Issues:

(a) Many committee members requested that the not only the NCP but the entire Part 150 that can be send by email to all the members of the committees so that we can see the entire final product. I think Andy said that this would be possible (without the bulky and or non-essential attachments) and we look forward to seeing the entire FAR Part 150 down the road.

(b) Local Consensus from City of High Point. I understand that the City of High Point intends to send you an outline this week with a request that the FAA to approve implementation of other noise mitigation provisions affecting areas outside of the 65 DNL contours, as part of an informal noise abatement plan. I think you told us once before that anything submitted will be included in the FAR Part 150, but probably in the attachments, and referred to, where appropriate, by footnotes. I am sure that you will put any such submission in the appropriate place, but the High Point representatives do want to make sure that it is included in the formal Part 150 report.

Andy, thanks for allowing us additional time for comments on the proposed NCP. I look forward to seeing the revised final NCP.

Yours,

Scott Gayle

FROM LEE WHITAKER
November 16, 2006 (written comments)

Proposed Measure NA-13, change to read:

Altitude for Downwind Legs. Under this measure, the PTAA requests that FAA Air Traffic Control Tower personnel direct aircraft on the downwind leg for arrival on runways 5L, 5R, 23L or 23R to remain at or above 4000' MSL until abeam the final approach fix.

Rationale: Keeps the arriving aircraft higher over residential neighborhoods, requires lower power settings and thus less noise, and provides a stable descent rate from downwind to landing.

A 4000' MSL downwind leg is a good altitude for planning the visual approach. Using the arrival flight tracks in figures A-3 and A-5, for 2006 Base Case and 2014 Base Case respectively, you can measure the downwind legs' lateral displacement from the runway. The nearest flight track for 5R, as an example, is 4 nautical miles from the runway. Allowing for visual patterns to be slightly closer, I assume lateral displacement of 3 miles from the runway for planning.

Proposal NA-12 requires intercepting final approach on the glide slope no closer than the final approach fix, at approximately 5.5 miles form the runway. Discussion earlier in this section, on page 53, places the final approach fix altitude at approximately 2800' MSL. Once the aircraft is abeam the final approach fix at 4000', the pilot starts a descending 90 degree standard rate turn to base leg. After rolling out on base leg, another 90 degree standard rate turn is flown to roll out on the final approach course, slightly outside the final approach fix. The air distance flown in this maneuver from downwind to final approach course is the sum of the displacement distance and any additional distance flown in the two standard rate turns. The combined turning distance is approximately 1 nautical mile at airspeeds of 160 to 180 knots (normal maneuvering speeds to final approach fix). So, to loose 1200 feet altitude (4000' downwind – 2800' final approach fix altitude) in 4 miles (3 mile displacement + 1 mile distance in two turns) requires a descent rate of 300 feet per mile. This is the exact same descent rate on a standard ILS final approach, and gives the arriving aircraft a stable descent rate all the way from leaving downwind to landing.
[see attached visual]

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----- Original Message -----
From: Jean Black
Sent: Tuesday, November 21, 2006 12:05 PM
Subject: Re: Part 150 Comment

Hi Andy,
Thank you again for your leadership throughout the Part 150 Study. I have enjoyed working with you during this educational experience, as I have enjoyed working with the

other citizens on the Committee. Wishing a very Happy Thanksgiving to you and Kate and your family.

Andy, I would like to further comment on the following public comment I made during the Public Hearing:

> "Regarding Proposed Measure MN-1 ~ Establish a Noise Monitoring Function at PTIA.
>
> I strongly recommend that this be put on a fast track and established as soon as possible. The Citizens Committee had agreed at the January meeting that a Citizens Advisory Board be established under this measure. This **Citizens Advisory Board** has been omitted from the November draft and should be added to this Measure, MN-1. "

Andy, after listening to the many comments at the Public Hearing, I would like to add an additional comment as to why I am recommending that this proposed measure, MN-1, be put on the fast track.

In both the FEIS and in the ROD, it is stated that the **Noise and Operations Monitoring System** shall be established after the ROD and before construction of the new runway and the initiation of air cargo operations **. . .** and to be refined after completion of a Part 150 Study.

- I believe that the immediate implementation of this **Proposed Measure, NM-1**, and the immediate establishment of the **Citizens Advisory Board,** under this proposed measure, will benefit most everyone that has noise impact concerns regarding the forth-coming FedEx nighttime hub operation. The immediate implementation of this Proposed Measure would be evidence to the public that the Airport is concerned regarding the abatement of noise and that the Airport will immediately begin to fully evaluate/monitor the noise around the airport.

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Andy, I was also encouraged by the public comment made by the Continental Pilot during the Public Hearing. His comment was that (nighttime) aircraft departing to the NE follow the centerline to (Lake) Brandt before initiating a turn.

I would remind you that I asked that question during the January 2006 Committee meeting. I was concerned then that nighttime aircraft could be initiating turns over residential areas, as shown on the FedEx nighttime flight track departure map (Figure 9) that came with the January draft. Now, with the change shown on Figure A-9 that came with the November Draft, which shows initial turns by nighttime aircraft departing to the NE tucked in even closer to the Airport. I am now even more concerned about aircraft making nighttime turns over residential neighborhoods than I was with the January nighttime flight tracks.

- I would like you to reconsider for the Part 150 Draft, that the location marker for initial turns by nighttime aircraft departing to the NE. That nighttime aircraft
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departing to the NE should follow the centerline to Lake Brandt before initiating their turn.

I realize that in my comments during the Public Hearing regarding NA-8 & NA-9, I asked that an altitude of 3,000 AGL be used instead of 3,000 MSL. However, by extending the initial nighttime turn marker out to Lake Brandt, this would even provide greater noise abatement protection to residential areas in the proximity of the NE end of the Airport.

Thank you for your consideration of the concerns that I have expressed regarding the Part 150 Draft.

Sincerely,
Jean Black
Citizens Committee

MR. GIL HAPPEL [00055-23]
(comments at public hearing, November 16, 2006)

8408 Linville Oaks Drive, Oak Ridge, NC 27310

Those of you who've known me, I've been involved in the process from day one, and I'm totally against this--well, I was never against FedEx, but I'm totally against the third runway, totally against the sorting facility and its location. We proposed an alternate plan. It was thrown out immediately. They said it wouldn't work. The reality of the entire process is—and after I've talked to airport authorities, county commissioners, the city council, various civic groups, the reality is they don't care. It's a political thing. When FedEx came in here, everybody jumps on it. It's a job situation. The jobs are paramount to anything else. The reality is Indianapolis FedEx hub, homes bought-- previously they said--initially they said they were going to buy 200 homes. They bought 2,200. Memphis, somewhere in the neighborhood of 7,000 homes. That's reality. UPS is in Louisville. They said they'd buy 226 or something. They bought about 4,000. That's reality. Reality is, this jet wash that everybody mentions is actually noise coming from the rear end. Ninety percent of the noise comes out of the back end. I've been flying for 37 years. I make the noise. I'm guilty. I know what a jet will do. You know, this other stuff is BS. You know, we've spent $1.3 million to have this study only for the purpose of the airport to be able to receive federal funding for this. This is the only reason we're going through all this.

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Comments on 11/7/06 Draft NCP

AH - Scott's 11/13/06 analysis of the latest language changes in the new 11/7/06 draft PTIA NCP document is superb.

NA-3 (page 49) must be changed to address the issues he has carefully documented. At no time, did the Citizens Advisory Committee envision, imply, or agree that noise abatement measures under consideration would apply **only** to situations in which the nighttime hub was specifically operating in the dual simultaneous arrival and/or departure mode. The committee addressed noise issues in more general and inclusive terms best described as either southwestern and/or northeastern flow scenarios that you described in your discussions at the recent 11/16/06 public hearing. In view of FedEx's apparent downsizing of its original plans (from 63 flights or 126 operations per night to approximately 45 flights or 90 operations per night), I suspect that on many occasions, planes will arrive and depart relatively frequently as singletons on one runway. The new language found in the latest draft (and developed after the last advisory committee meeting) will allow FedEx planes to disregard or ignore the preferential runway noise abatement agreed to by the committee. Failure to carefully address the intent NA-3 language may create serious and critical disputes in the future that may legitimately call into question the work of the citizens advisory committee.

NA-2 (page 49) likewise must be changed. Otherwise, when new runway 5L/23R is **not** in use, there are seemingly no preferred runways for arrivals or departures. Also, notice that the head to head operation seems to be defined and limited to only those specific operational configurations in which new runway 5L/23R is being used. It is also still not clearly documented what specific "weather and runway conditions" will dictate abandonment of the agreed upon head to head operation that places most arrivals and departures over High Point. The nebulous language will make it difficult for managers to develop meaningful performance indicators to document policy deviations. Finally and more importantly, Scott's concern about equal allocation of operations between both runways must be more specifically addressed. The committee understood that the NCP would dictate reasonably equal and equitable use of both runways taking into runway preferences. It was not the intent of the committee to allow FedEx to use RNWY 5R (or 5L, 23R, 23L) for most arrivals/departures simply because only one plane rather than two were involved in a single operation at PTIA at a given moment in time.

I also agree with Scott's concerns about the proper definition of nighttime and about NA-4, NA-5, and NA-6 (all on page 50). The changes he suggests should be implemented. Likewise, LU-2 (page 57), LU-3 (page 58), and LU-4 (page 59) and/or the glossary should be changed to reflect the limit on the avigation easement conditions. Including an attachment describing the proposed sale/purchase assistance program (LU-4 on page 59) would also be very helpful to homeowners.

NA-11 (page 52) Based on the experience of the Minneapolis-St. Paul International Airport (MSP), I remain concerned that the use of Close-in Noise Abatement Departure Profiles may have little perceptible benefit to residents adjacent to the North end of the airport runways. The departure noise will remain unreasonably and unacceptably loud for many no matter what type of departure profile is used. It is also likely that residents outside the PTI airport part 150 study area (which does not even include the airport's BRANT outer marker) to the North will experience additional overflight noise as departure noise is shifted to areas further from the airport. My opinion is largely based on the discussion (apparently backed up by extensive data analysis by the airport's noise abatement department and a citizen advisory board) provided by the MSP airport

noise abatement department. I have excerpted MSP's earlier discussion (that is still available at http://www.boeing.com/commercial/noise/minneapolis.html) below because it best describes my persistent concerns about this particular issue.

Noise Abatement Departure Profiles (NADP)

In the early 1990s, the Federal Aviation Administration responded to numerous requests for unique noise abatement departure procedures, by studying the viability of using different procedures off different ends of runways at the same airport. The result of exhaustive testing at the John Wayne/Orange County Airport (SNA) in Santa Ana, CA, was Advisory Circular 91-53A, Noise Abatement Departure Profiles. The Advisory Circular recommended two specific departure profiles, the close-in departure profile and the distant departure profile. These two procedures are to be used by the airport operators to specify to air carriers serving their facility, which departure profile should be flown off each end of the airport.

AC 91-53A specified roles for each participant in the noise abatement departure profile (NADP) process. The Advisor Circular (AC), outlined acceptable criteria for speed, thrust settings, and airplane configurations used in connection with each NADP. These NADPs could then be combined with preferential runway use selections and flight path techniques to minimize, to the greatest extent possible, the noise impacts.

Air carriers were to develop a close-in departure procedure, and a distant departure procedure for each aircraft in their fleet, in accordance with specific criteria for developing safe departure profiles outlined in AC 91-53A. Airport operators were to specify to air carriers serving their facility, which departure profile should be flown off each end of the airport, a function of the noise sensitivities off each departure end. The Close-in NADP was designed to benefit noise sensitive areas close to the airport (3.5 miles from start of take-off roll) while the distant NADP was to be specified when noise sensitive areas were farther from the airport.

An extensive cost/benefit analysis of each departure profile was initiated for MSP through the Metropolitan Aircraft Sound Abatement Council (MASAC). As a result, contours were developed utilizing ANOMS flight path, aircraft type, and operations count information. MAC's Geographic Information System (GIS) was used to objectively determine impact, by analyzing parcel data provided by communities surrounding the Minneapolis-St. Paul International Airport (MSP).

The final NADP analysis was presented to MASAC in the spring of 1997. This analysis indicated that the Close-In Departure Procedure would be most beneficial if flown off Runways 30L and 30R, and the Distant NADP would be

most beneficial if flown off all other ends. This provides the greatest overall noise benefit at MSP with respect to all of the communities as a whole. Based on this extensive analysis, MASAC forwarded a recommendation to the Full Commission, which resulted in the adoption of the following procedures:

- Close-In Departure Profile for Runways 30L and 30R
- Distant Departure Profile for Runways 12L, 12R, 04, and 22

The use of the Close-In NADP on Runways 30L and 30R was predicated on the existence of Stage 2 aircraft at the time and the associated reduction of population within the 65 dB DNL contour. As the national aircraft fleet has transitioned to an all Stage 3 fleet, the benefits of the Close-In NAPD have diminished. Considering the present and future trends in the aircraft fleet mix and the associated noise impacts out to the 60 dB DNL contour, the communities and the airport users at MSP, recommended as a noise abatement measure in the Draft November 2001 MSP Part 150 Update Noise Compatibility Program (NCP) that the Distant NADP (as outlined in AC #91-53A) be flown off all runways at MSP (30L, 30R, 12L, 12R, 22, 04).

On June 26, 2003 the MSP Noise Oversight Committee (NOC) reviewed the Distant NADP option on Runways 30L and 30R. Considering previous analysis conducted by MAC, communities and airport users, and the associated noise impact reduction out to the 60 dB DNL contour, the NOC voted unanimously to endorse implementation of the Distant NADP on Runways 30L and 30R without delay. The MAC reviewed the NOC recommendation on July 21, 2003 and approved the immediate implementation of the Distant NADP on Runways 30L and 30R.

I presume that the NA-11 Close-in NADP recommendation has been made based on some type of quantitative analysis by the consultants rather than by simple proclamation. Will the study data be available in the final report submitted to the FAA? Is the MSP analysis on Close-in NADP flawed? If so, what are the reasons? Could Close-in NADP be limited only to retrofitted Stage 3 (i.e.,727) planes?

I suggest the **NA-12 (page 54)** language "to intercept the final approach on the glide **slope at or before 5.5 nautical miles**" be changed so that it is more clear that the intercept is to occur at point that is greater than or equal to (> or =) 5.5 nautical miles from the intended runway.

In **NA-13 (page 54)**, it remains unclear what "abeam the airport" means. Consequently, the noise abatement benefits that the proposed procedure might achieve cannot be reasonably quantified or easily understood. It is not clear to me how the "approach noise" issue has been transformed and seemingly now limited into one that is only concerned with "downwind legs" of planes arriving to 5L or 5R. In fact, for all four runways (5L, 5R, 23L, and 23R), properties under a "straight in" approach path as well as those underlying an approach requiring "downwind legs" will be affected by significant nighttime overflight noise. Please remember the corollary fact arising from Scott's 11/13/06 analysis of NA-13. If no more than 1/3 of the FedEx flights arrives at PTI from the North, then fully 2/3 will arrive from the South or the West. When the FedEx hub is operating under northeastern flow conditions (i.e., arrivals and departures to the

northeast), many planes (arriving from the South or the West) may require "downwind legs" and approaches over Summerfield and Greensboro. Please refer to Figure A-5 (page 99) as discussed below.

This issue has been bounced around for months. Most all committee members now understand the problem. The pilots have offered reasonable guidance and practical solutions. I suggest that NA-13 be reworked in conjunction with Ron Carter, Lee, ATC controllers, and Scott with the intent of finding a reasonable compromise some where in the 3,500 - 4,000 AGL range for the glide slope intercept. The compromise conditions should apply to **all** types of FedEx approaches and to **both** the southwestern and the northeastern flow scenarios.

I find no figure specifically depicting the 2014 FedEx night arrival flight tracks. I have assumed in my discussion that the FedEx arrivals will occur somewhat as those illustrated in Figure A-5 - Arrival Flight Tracks - 2014 Base Case (See page 99). The final part 150 document should include a figure depicting the 2014 FedEx nighttime arrival flight tracks as was done for departures.

Scott has very adroitly expressed the disappointment of most committee members in his discussion of **NM-1 (page 60)** and NM-3 (page 62). The failure to include specific language establishing a citizens oversight committee is unacceptable and unreasonably dismissive of common practices found in respected airport noise abatement programs throughout the country. I am especially perplexed at this development because the PTAA Board Member with whom I spoke just after the January, 2006 meeting agreed with the committee's recommendation. He indicated, without any hesitation or reservation, that such a committee would be supported and was needed. In my view, failure to include clear language establishing a functioning oversight committee in the NCP will perpetuate the perception that the PTAA will not fairly address ongoing noise problems related to FedEx operations.

On page 9, the draft NCP report indicates that Figure 2 on page 11 shows "the DNL contours for Forecasts A and B". However, only forecast A contours are shown. It would be helpful to see both DNL contours (forecasts A and B) displayed on the same figure as the text describes.

It was my understanding that the NCP report would contain representative SEL noise contours for "information only" purposes.

I have listed below a few additional items that should be included in **Appendix B**. I agree with Scott and apparently with you that the Citizens Advisory Committee through the leadership of Lee, Scott, Jean Black, Ron Carter and many others, has done an exemplary job in ferreting out the very best noise abatement methods that other airports facing similar problems have found helpful. The work of the committee members should be duly celebrated by listing more of the noise abatement strategies developed by them. I would also suggest that as part of the final draft of the NCP that one or more appendix documents include verbatim, unedited email discussions as well as the collated email summary documents prepared by the consulting staff. I definitely **do not believe** that "Measures Involving Airport Plan" (See Committee E-mails Re: Comments and Recommendations for Part 150 Noise Mitigation - March/April 2005 at

http://ptipart150.com/pdfs/Email%20Record%20Category%20P150.pdf) is a satisfactory summary for documenting the work of the committee. This particular document does **not** include any discussion from meetings held after the March/April 2005 time period. Much of the detailed understanding and specific noise abatement proposals provided by the pilots came after that date (e.g., the 1/8/06 Lee Whitaker analysis).

I will also take this opportunity to frame the request by some committee members to include in the NCP a 55 DNL contour for informational purposes in a more practical and favorable light than offered by the consultant. It was the belief of some committee members that certain particularly noise sensitive individuals and families moving into the general airport area or those simply wishing to avoid housing areas incompatible to them would find a 55 DNL contour very useful. No one ultimately demanded the type of formal noise contour document that apparently runs afoul of the FAA's prescribed "scale rules" for published noise exposure maps. The 55 DNL contour map suggested was similar to the type **currently available** to citizens who live near RDU. Please refer to the attached RDUMap032004.pdf or go to http://www.rduaircraftnoise.com/noiseinfo/Composite_Noise_Contours_11x17.pdf . HMMH, a company we all know well, apparently helped RDU provide this valuable service to the respected Wake County citizens that the airport serves. HMMH also generated a similar noise exposure map for the Portland airport that depicts 55 DNL contours. Refer to the attached PortlandNEM.pdf.

Finally, I would like to remind all that a significant number of the so-called noise abatement flight procedures that have been suggested and hopefully accepted by the FAA will be implemented on a day by day and night by night basis by **employees of the FAA** who work in ATC and other FAA sites. If the FAA does not provide adequate staffing (either in quality or in quantity), I strongly suspect the noise abatement program at PTIA may suffer. For example, ILS approaches carefully managed by ATC personnel with proper staffing may be converted to visual approaches when staffing is short. As we have learned from Lee, Gil, Ron, and other pilots, such approaches can be more noisy than ILS arrivals that are carefully managed by ATC personnel.

I cite once again HMMH's recommendation to Fort Lauderdale (FXE). After analysis, HMMH suggested that FXE subsidize a FAA ATC employee position so that more satisfactory implementation of the airport's noise abatement flight procedures might occur. Refer to http://www.hmmh.com/aviation_part150_02fxe.html or to the excerpt below). Such a recommendation indicates to me that the level of FAA staffing during nighttime hub operations (as well as other times) may significantly affect the management of noise at the FedEx hub. Also, please recall the 8/27/06 tragedy in Lexington, Kentucky in which inadequate ATC staffing arguably may have contributed to a major accident. Refer to http://en.wikipedia.org/wiki/Comair_Flight_5191 and attached NTSBAdvisoryKY.pdf

Multiple Part 150 Studies and On-Call Consulting for Fort Lauderdale Executive Airport

HMMH has provided noise consulting services to the City of Fort Lauderdale, for Executive Airport (FXE) since 1984, including the following principal assignments:

- the airport's original 1988 Part 150 Study
- noise elements of the 1988 Master Plan Update
- 1994 Part 150 and Master Plan Updates
- 2002 Part 150 and Master Plan Updates
- assistance related to an EA for a change in departure flight tracts
- noise monitoring system design, installation, and support services

The City of Fort Lauderdale considers airport noise abatement to be a continuous, high-priority process. The airport commits a high percentage of staff and financial resources to the process. **As an example of this commitment, the City reimburses the FAA for nighttime air traffic control tower staffing, to permit 24-hour implementation of noise abatement procedures. This action was a recommendation of the 1988 Part 150 study**

The cornerstone of the FXE noise abatement program is a flight track procedure that calls for all jet departures on Runway 8, with destinations north and west of the airport (approximately 60% of all departures), to turn to the northwest, along the compatible commercial/industrial corridor on either side of Interstate 95. The following figure shows the modeled flight tracks for Runway 8 departures. The track usage assignments show the effectiveness of this procedure. It has reduced the number of "high-range" noise events measured to the east of the airport to less than 5% of all Runway 8 departures.

The 2002 Part 150 Update is focusing on potential improvements to this already positive situation, through reduction in flight track dispersion, and increasing the departure destinations assigned to the noise abatement turn. HMMH has assisted the airport in the design, implementation, and ongoing monitoring of this procedure, including installation of a comprehensive noise and flight track monitoring system.

Ted Baldwin, Senior Vice President

Finally, in view of the documented responses to the many significant changes that were made to the NCP since the last Citizens Advisory Committee meeting, I would suggest that PTAA publish a second NCPdraft for public review and comment if indeed it intends to address the serious flaws now identified. Furthermore, I am especially concerned about the consultants' disclosure at the 11/16/06 public hearing that the final NCP document to be submitted to the FAA will be much "thicker" than the 11/07/06 Draft NCP presented to the public. Is there a mechanism in place for the public to comment on the actual NCP submitted to the FAA? Will the final document be posted on the website?

Thank you for the opportunity to comment on the 11/7/06 draft NCP document.

Don Matthieu

APPENDIX B

Additional Measures Considered by the Citizens Advisory Committee for Inclusion in the NCP

Charted Visual Approaches as suggested by Lee Whitaker
60 DNL Noise Mitigation Program
Indianapolis type of Homeowner Sales Assistance Program as researched by Jean Black
55 DNL Noise Contour (for information only) as suggested by Jean Black
FAA Staffing for Better NCP Implementation
Low Frequency Noise Mitigation

November 30, 2006

Andrew S. Harris
Andrew S. Harris, Inc.,
Consultants in Noise Control at Airports
19 University Lane, Manchester, MA 01944

Ref: PTIA Part 150 Draft Report

Dear Mr. Harris:

I have reviewed the PTIA Part 150 draft report dated November 7, 2006, particularly in comparison with the letter to you from High Point Mayor Rebecca Smothers dated February 24, 2006, which I have attached. That letter was written to provide additional input for your consideration and inclusion in the final draft report. Members of the Part 150 Study citizens committee and government advisory committee from the High Point area met in February to discuss the draft noise compatibility program (NCP). It was the consensus of those present that the draft NCP along with some additional changes could provide appropriate noise mitigation measures; thus, the basis for the February 24th letter.

It appears based upon my review of the November 7th draft report that most of the comments in the February 24th letter were addressed. There are some comments that I would like to make based upon that letter.

First, thank you for providing the City of High Point the additional analysis utilizing the Number of events Above (NA) metric. The February 24th letter had requested this alternative analysis be conducted. This measure was used by the City, based upon data in the final EIS, to determine the potential for sleep disturbance from single nighttime aircraft events and upon which the City's current land use regulations were adopted in 2003 for the airport area in the City of High Point. The information from this additional analysis

will assist us in determining any needed adjustments in the City's land use policy and regulations based upon preferred alternative 2C.

Second, the letter stated in comment # 7 that "Proposed Measure NA-11 [now NA-12] states that PTAA will request the tower to direct arrivals to "maintain altitudes consistent with the glide slope for instrument approaches even when not using an instrument approach". It went on to recommend that all aircraft should intersect the glide path and slope not less than 4,000 AGL (above ground level). The November 7th report notes that distance at 4,000 MSL (mean sea level), which is approximately 900 to 1,000 feet less than recommended.

And third, the letter stated in comment # 8 that "Proposed Measure NM-1 regarding the recommendation that PTAA establish a Noise Monitoring Function ("NMF") should be amended to add a requirement that the PTAA establish a Citizens Advisory Board ("CAB") composed of representative members of affected communities, to periodically meet with and advise the NMF on issues related to the NCP." The November 7th report did not include this measure. I believe there is validity in maintaining and improving communication between citizens in any affected community and the airport regarding aircraft noise. While the implementation of this measure may not be practical until the cargo hub facility is close to operational, I believe that the creation of a citizen committee could allow the citizens an opportunity to better understand noise impacts and any associated issues, and allow a route for citizen noise concerns to be reviewed and possible addressed. This could be a positive for both the citizens and the airport authority.

I appreciate your consideration of these comments in the final report and the opportunity to participate in the Part 150 study process.

Sincerely,

G. Lee Burnette, AICP
Director of Planning & Development

Attachment: February 24, 2006 letter

Cc: Mayor Rebecca R. Smothers
City Manager Strib Boynton

CITY OF HIGH POINT
NORTH CAROLINA

REBECCA R. SMOTHERS
MAYOR

February 24, 2006

Andrew S. Harris

Andrew S. Harris, Inc
19 University Lane

Attachment:

Manchester, MA 01944 USA

Re: Proposed Part 150 NCP

Dear Andy:

This letter is written to provide additional input for your consideration and inclusion in the final draft of the Noise Compatibility Program (NCP). Recently, members of the Part 150 Study citizens committee and government advisory committee from the High Point area were invited to meet and discuss the draft NCP. It was the consensus of those present that the draft NCP along with some additional changes could provide appropriate noise mitigation measures. This letter represents comments, concerns and suggestions by members of the citizens committee and government advisory committee from the High Point area.

The City of High Point has consistently acted to reduce, prevent and mitigate noise-sensitive development in jurisdictional areas of the City of High Point beyond the ONL 65dB contour with respect to land use planning, zoning and other measures.

The citizen committee and government advisory committee members from High Point request that the following recommendations for noise mitigation and reduction be included as part of the proposed NCP:

1. It appears that Alternative 2C may be the better alternative for nighttime departures and a suitable compromise that minimizes the number of residents that will be

exposed to single event aircraft noise, which has the potential to disrupt sleep. Like Alternative 2C, Alternative 20, which involves the utilization of the Alternate 2C departure corridor for flights during daylight hours, may Be the best alternative provided that modeling data supports its inclusion in the NCP. These departure flight tracks may change the aircraft noise footprint as compared to the base alternative. Therefore, if 2C or Alternative 20 is recommended as the preferred alternative in the NCP, then the City of High Point will need to examine its current
P.O. BOX 230. 211 SOUTH HAMILTON STREET. HIGH POINT. N.C. 27261
336.883.3289. FAX 336.B83.3O52. TDD 336.883.8517

Andrew Harris
February 24, 2006
Page2of 3

land use regulations to insure their continued effectiveness. The City has requested

that the Part 150 Study provide an additional analysis utilizing the Number of events

Above (NA) metric in a measure to determine the potential for sleep disturbance

from single events and upon which the City's current land use regulations are based.

It is the City's understanding that this analysis will be conducted and provided to the

City once a recommended departure alternative is determined.

2. Proposed Measure NA-3 should apply to, and should clearly define "Stage 3 Aircraft" as those aircraft "built as" Stage 3 Aircraft, and should define "Modified Stage 3 Aircraft" as all aircraft which have had hush kits installed.

3. Proposed Measure NA-4 should be amended to require aircraft departing southbound on existing runway 23L under Alternate 2C (and under Alternate 2D if adopted), to turn toward NC Highway 68 not later than one mile from the end of the runway to avoid overflight of residential areas. This procedure should commence promptly after FAA approval of the NCP rather than waiting until the new runway 5L/23R is constructed and in use.

4. Proposed Measure NA-5 should be amended to require aircraft departing northbound from existing runway 23L under Alternate 2C (and Alternate 2D if adopted), turn left to a northeasterly heading no later than one and one-half miles from the end of the runway, to avoid overflight of residential areas. This procedure should commence promptly after FAA approval of the NCP rather than waiting until the new runway 5L/23R is constructed and in use.
5. Proposed Measure NA-6 should be amended to require aircraft departing southbound or westbound on new runway 23R adjust turns to avoid overflight of the River Landing nursing home, congregate care and elderly housing development on Sandy Ridge Road.
6. Proposed Measure NA-10 designates the close-in noise abatement departure profiles for departures on runways 5L and 5R. Similarly, a measure should be

added to the NCP for departures on runways 23L and 23R that provides Noise Abatement Departure Procedures (NADP) that achieve a higher altitude in the shortest distance.

7. Proposed Measure NA-11 states that PTAA will request the tower to direct arrivals to "maintain altitudes consistent with the glide slope for instrument approaches even when not using an instrument approach". The benefit of NA-11 is to cause aircraft released for visual'approach to come in no lower than tt1eg~ideslope, as if they were coming in on instruments. While NA-11 is acceptable, it does not go far enough in that it does not specify the point at which all aircraft (whether on instrument or visual approach) should intersect the glide path, which can be very low, depending on many factors. Therefore, as a guideline, the following procedures are recommended:

Andrew Harris
February 24, 2006
Page3of 3

a. On approach, all aircraft should intersect the glide path and slope at not less than 4,000 feet AGL (above ground level) to reduce disturbance to residential areas, including those residences outside the DNL 65 contours.
b. The minimum overflight height should be increased at least 2,000 feet AGL for all approaches and departures.
8. Proposed Measure NM-1 regarding the recommendation that PTAA establish a Noise Monitoring Function ("NMF") should be amended to add a requirement that the PTAA establish a Citizens Advisory Board ("CAB") composed of representative members of affected communities, to periodically meet with and advise the NMF on issues related to the NCP.

On behalf of the members of the citizens committee and government advisory committee from the High Point area, we appreciate the opportunity to participate in the Part 150 Study process. We urge you to include these recommendations in the final

draft of the NCP.

Sincerely,

Rebecca R. Smothers, Mayor
City of High Point

Citizens Committee Government Advisory Committee

Grady Barbee Rebecca Smothers
Dennis Borugian Strib Boynton
Ron Carter Lee Burnette
Doug Dreyer

Scott Gayle
Brett McDaniel
Lee Whitaker

Mike Foster, Alternate
Dan Reynolds, Alternate
Don Webb, Alternate

From: Ron Carter [mailto:rcarter114@triad.rr.com]
Sent: Wednesday, November 08, 2006 4:54 PM
To: andy
Subject: Re: Altitudes

Andy,

In my conversations with the controllers, they said they anticipated the downwind legs would go about 10 nm before turning base. Most airports we go into are pretty much that scenario. If we have between 30-60 arrivals then you are certainly looking at least 10 nm. I was originally anticipating 6000 msl downwind until turning on final and then intercepting the approach. I certainly would entertain this scenario and see how the controllers answer us. The higher, the quieter...

Ron Carter

My Comments presented at the PTIA's Public Hearing for the FAR Part 150 Study Report Draft, Airport Marriott Hotel, 16 November 2006, at 7:00 pm.

Hi Andy,

In reading the 11-07-06 Draft Report, I am concerned about the FedEx (nighttime) departure flight tracks for Alternative 2C, Figure A-9, as they relate to departures from runways 5R & 5L. When I compared this map to the map, Figure 9, that came out with the January 2006 Draft I noticed a big change.

When comparing the left hand turn flight tracks of Figure 9 to those in Figure A-9, there is a noticeable encroachment by new flight tracks into the residential areas on Figure A-9. These new flight tracks are tucked in closer to the airport and directed over some of the most densely populated residential areas in close proximity to the NE of the runways 5L & 5R. I am greatly concerned about this change of departing flight track locations as nighttime noise is doubled, thus increasing the noise exposure to residential area under the flight tracks.

I wish that this change could have been discussed in Committee!

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~~~~~~~~

I am concerned about another change since our last Citizens Committee meeting last January. That change is to
Proposed Measure NA-8 Departures from Runway 5L
Proposed Measure NA-9 Departures from Runway 5R

Both of those measures are to establish a procedure to delay initial turns from runway heading by aircraft departing on runway 5L & 5R. The January draft read, "**until aircraft are 2 (statute) miles from the northeast end of the runway"**. The November draft was changed to read, "**until such aircraft reach an altitude of 3,000 MSL"**

- Instead of **reaching an altitude of 3,000 MSL,** I would like you to consider **reaching an altitude of 3,000 AGL,** which would place the aircraft almost 1,000 feet higher above residential neighborhoods when making nighttime turns from runways 5L & 5R.

I wish that this change could have been discussed in Committee, also!

~~~~~~~~~~~

- Regarding Proposed Measure NA-1 ~ I would like this measure to state that there is a nighttime time frame of **10:00 pm to 7:00 am for NO ENGINE RUN-UPS**. These engine run-ups, when they occur at nighttime, are very invasive to residential areas near the NE end of the airport.

~~~~~~~~~~~

Regarding Proposed Measure NA-3 ~ I have talked about this before in Committee, and I am still very much concerned about placing all of the 727 aircraft, departing to the SW, on the new runway, 23R. I am concerned because these 727 aircraft departures could impact the Cardinal neighborhoods with their very noisy 'Back Blast' noise.

There is no Noise Abatement for the 'Back Blast' from initial start up/rollout of aircraft departing to the SW from either runway at night which currently, often impacts neighborhoods NE of the existing runway, 23L.

~~~~~~~~~~~

Regarding Proposed Measure MN-1 ~ Establish a Noise Monitoring Function at PTIA.

- I strongly recommend that this be put on a fast track and established as soon as possible. The Citizens Committee had agreed at the January meeting that a Citizens Advisory Board be established under this measure. This **Citizens Advisory Board** has been omitted from the November draft and should be added to this Measure, MN-1.

~~~~~~~~~~~

I did not find the **SEL Contours**, for informational purposes only, in this Part 150 Draft. It was my understanding that these Contours would be included, but for only informational purposes.

Jean Black
Citizens Committee

Comments Submitted through the Website

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>> 11/30/2006 8:36:45 PM 24.148.138.7
>> Subject: Questions re. 150 Study
>> Comments: 1. On average how much heavier are planes fully loaded with
>> packages and paper compared to planes fully occupied by people?
>>
>> 2. Heavy cargo planes can not gain altitude nearly as rapidly as
>> passenger
>> planes. Was this taken into account when establishing the noise contours?
>>
>> 3. What is the correlation between 24 hr DNL contours and the noise
>> generated every 2.38 minutes by the 126 projected FedEx flight operations
>> between midnight and 5 AM?
>>
>> 4. FedEx is known to use old and noisy planes as long as possible, as
>> shown by recent problems of dropped engine parts (Nutley, NJ), aborted
>> take off (Louisville, KY), crash landing at Memphis, TN), all during this
>> year. Was the safety of these old planes considered in this study? Does
>> FedEx accept any restrictions of the type of planes that they can use at
>> PTIA?
>>
>> 5. Is there any type of a meaningful contractual agreement that FedEx and
>> its pilots, wind conditions permitting, will follow the recommended
>> flight
>> corridors and runway use?
>>
>> 6. The FedEx hub was only to serve the East coast. In March 2000 a
>> confidential document came to light, which stated that FedEx will
>> eventually extend shipments to Europe, Asia and South America. Will still
>> larger and heavier planes be used for such overseas shipments? Was this
>> increased source of noise included in the currently published contours?
>> Was this the reason for paving the 1500 foot safety zone, thus extending

>> the runway to accommodate overseas flights?
>>
>> 7. Jet fuel is known to cause highly toxic pollution. Some scientists
>> consider this an even greater health danger than sleep deprivation. Was
>> pollution abatement ignored?
>> Name: Fernand Schlaeppi
>> Company: retired
>> Address1: 3609 Wildflower Drive
>> Address2:
>> City: Greensboro
>> State: N.C.
>> Zip: 27410
>> UserEmail: fschlaeppi@earthlink.net
>> UserTel:
>
>

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>> 11/30/2006 1:44:19 PM 207.4.122.178
>>
>> Subject: Noise Levels
>> Comments: I am writing as a concerned homeowner living less than 1 mile
>> from the Piedmont Triad International Airport - near PTI maintenance, the
>> Harris Teeter warehouse , ComAir and Trade Winds. I purchased my home at
>> Friendly Plantation in May 2002 unaware of any airport/FedEx noise
>> problems.
>>
>> Will these properties be acquired because of the noise levels by FedEx,
>> will sound proofing of residence be paid for, or what assistance will be
>> provided for residential property owners.
>>
>> Please respond to Margaret Cole, 7155-D W. Friendly Ave,
>> Greensboro NC 27410.
>> Name: Margaret Cole
>> Company:
>> Address1: 7155-D West Friendly Ave
>> Address2:
>> City: Greensboro
>> State: NC>> Zip: 27410
>

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm

>> Form: Comments
>> 11/29/2006 1:20:50 PM 63.166.216.16
>>
>> Subject: Air Corridors
>> Comments: In looking at the map with the air corridors, I see no routes
>> over the house my family lives in. (Cardinal Cove north of airport)
>> Planes do fly over our house were the frequency varies from once a week
>> to
>> once a day. What can be done to stop this? How do I know that the
>> frequency of planes not following the air routes will increase with the
>> additional runway and air traffic?
>> Name: Dean Hoegemeyer
>> Company:
>> Address1: 4500 Spinnaker CT
>> Address2:
>> City: Greensboro
>> State: NC
>> Zip: 27410
>> UserEmail: hoegmyr@bellsouth.net
>> UserTel:
>
>

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>>
>> ---
>>
>> 11/29/2006 9:07:19 AM 168.241.243.2
>>
>> Subject: Noise Study
>> Comments: I attended the various meetings and I am writing to address
>> the proceedings of the latest meeting at the Marriott.
>>
>> The more I listened to the speaker and the concerned citizens the more
>> aggravated I got over the whole process. It has been apparent from the
>> very beginning that this study has been nothing but a smokescreen and to
>> pad the pockets of PTI. There was no one, even elected officials, at the
>> meeting prepared to answer any concerns. I found it interesting that our
>> local elected officials stayed away. The comment was made that no
>> answers
>> would be given at this meeting and that all questions would be addressed
>> in the final document. This will be way too little way too late. It
>> seemed like the speaker was more concerned with going home than
>> addressing
>> the concerns.

>>
>> I tried to understand the logic the Noise Study Team used to get the
>> contour noise numbers but the whole process is severely flawed and will
>> never reflect the true noise levels we will experience. To take sporadic
>> readings and average them over a 24 hours period is voodoo math. It has
>> been reported over and over that the main concentration of noise will be
>> from 10:00 pm to 4:00 am. Do the math... 128 flights during this time
>> period will be 6 hours of constant rumble and shake. Has anyone taken the
>> time to sit in anyone's home in this area around 10:30 pm when Timco is
>> clearing engines. The noise and vibration is very apparent.
>>
>> I also found it amazing how the noise contours magically stopped around
>> Bryan Boulevard area. It was obvious that no one wanted the noise levels
>> toreach too far into the Cardinal or Edinburgh area. We would not want
>> an
>> international multi-billion corporation to have to buy extra homes,
>> especi
>> ally when they (Fed Ex) would be responsible for ruining the quality of
>> life and destroying the value of the home.
>>
>> But I guess one of the more disturbing facts, other than a de-valued
>> home,
>> is that there was no open public debate or discussion about whether to
>> bring Fed Ex or not. At the least, other cities in NC has the decency to
>> do so. In this case big business waved money in Greensboro's officials
>> faces and the deal was done.
>>
>> It is a joke to think that only 22 homes or so will have to be purchased
>> due to the noise. Has history not shown that the home purchase numbers
>> were severely mis-calculated at other major installations?
>>
>> I know this email will not no impact on the study or process but I could
>> not let it go by.
>>
>> Dale Arnold
>> Name: Dale Arnold
>> Company:
>> Address1: 6215 High View Road
>> Address2:
>> City: Greensboro
>> State: North Carolina
>> Zip: 27410
>> UserEmail: darnold101@peoplepc.com
>> UserTel: 336 664 1243
>
> The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm

>> Form: Comments
>> 11/23/2006 11:22:51 AM 74.226.136.63
>>
>> Subject: Noise Contours
>> Comments: How come the 2014 Forecast A Alternate 1 & 2C DNL Contours
>> do not extend into the residential section of the cardinal for the new
>> rwy,but the lines for the (current rwy 5/23 extend parallel and far
>> beyond
>> the residential area?
>> Name: William Colozzi
>> Company:
>> Address1: 5406 pigeon cove drive
>> Address2:
>> City: greensboro
>> State: north carolina
>> Zip: 27410
>> UserEmail: gcolozzi@aol.com
>> UserTel: (336) 393-0568
>
>

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>> 11/17/2006 10:50:40 PM 71.76.135.132
>>
>> Subject: noise/vibration from flights even flying over Summerfield
>> Comments: We thought we were well protected from much of the airport
>> noise when we bought our home in Summerfield last year. But, sometimes
>> late at night or before dawn, we can hear the loud rumbling of
>> approaching
>> planes that seem to pass over our home before making their southeasterly
>> turn toward the airport. You can hear the low but intense rumble start as
>> the planes approach - and I'm always keeping my fingers crossed that it
>> doesn't wake our 3-year-old. I hope that consideration will be given to
>> the approach paths many of these planes will be taking as they arrive
>> (not
>> just departing paths) -- and know that those neighborhoods are also
>> feeling the impact.
>> Name: Annette Ayres
>> Company:
>> Address1:
>> Address2:
>> City: Summerfield
>> State: NC
>> Zip:
>> UserEmail: annetteayres@triad.rr.com

>> UserTel:
>
>

The following information was submitted by web browser
>>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>> 11/16/2006 4:19:08 PM 152.163.100.74
>>
>> Subject: Noise Level
>> Comments: I have attended one of the past Noise Impact Community
>> Meetings and was told that my home was not in a high impact noise zone
>> based on the test run in my area.
>> It is hard for me to imagine how bad the noise level will be when Fedex
>> gets in full operation based on how bad it is now when the Planes are
>> taking off and landing from the west.
>> Will the noise level for my area be re-tested once Fedex is up and
>> running
>> and the new runway is open?
>> Name: Donald J Beeson
>> Company:
>> Address1: 7919 Eric Road
>> Address2:
>> City: Greensboro
>> State: NC
>> Zip: 27409
>> UserEmail: djnabeesom@aol.com
>> UserTel: 336 668 9572
>
>
>> Web Server: www.ptipart150.com
>> Web Page: http://www.ptipart150.com/feedback.htm
>> Form: Comments
>> 11/6/2006 11:42:07 AM 65.13.133.6
>>
>> Subject: Ground Noise from engines
>> Comments: I moved to Greensboro 1 and a half years ago and I did my
>> homework as it pertains to the noise cone. However, I did not consider
>> other ground noise like that provided by TIMCO. I live in Felming
>> Meadows
>> S/D on Fleming Road just south of Bryan Blvd. I have a good visual of
>> the
>> planes serving PTI and their noise is no problem. However, the noise
>> from
>> TIMCO is unbearable. They run rev-up type tests all day and night. The
>> noise inside my well insulated new home is unbearable at times and occurs
>> both day and night. They will test well past midnight which will disturb

>> my sleep. Then they will begin at 6:01 am, further disrupting my ability
>> to catch up on the sleep lost when they woke me up past midnight. The
>> noise requirements appear to not be strong enough and to say the least,
>> enforcement is non-existant. There should be additional enforcement and
>> some sort of penalty upon regulation breach. Can monitors be installed
>> so
>> that noise levels can be measured, documented and enforced? Further, the
>> personnel who answer the call line for noise problems are arrigant and
>> make me feel as if I am the problem for reporting the incident. Upon
>> calling I am already irritated however after having to answer 5 or more
>> questions about myself,prior to being able to report the problem, makes
>> me
>> much more irritated than just the noise disruption and sends a message
>> that PTI cares more about documenting who called rather than the
>> complaint
>> and rectifying it.
>> Name: Ray Hart
>> Company:
>> Address1: 5809 Kacey Meadows Drive
>> Address2:
>> City: Greensboro
>> State: NC
>> Zip: 27410
>> UserEmail: rhart_00@yahoo.com
>> UserTel:
>

Written Comments

Virginia Allen 7155-A West Friendly Avenue Gso 27410
3237679/Friendly Plantation

I am wondering how this will affect the homes in Friendly Plantation – I bought in last phase in 2002. Can anyone clarify noise limits in this area and how will affect sales of homes?

Anonymous (written comment)

Does the FAA and this study measure the back blast from airplanes and include these measurements in the DNL measurement and the noise cones? If not, why not, since back blasts are very loud?

Spencer Burke (written comment)

Question:

Have the task forces who have worked on the Part 150 study considered supplying those outside the 65 dnl lines information on how to improve their quality of living with sound proofing techniques for their homes? Pamphlets or website links.

GOLDEN TRIANGLE COUNTRY CLUB ESTATES [written comment]
Tam O'Shanter, O'Rourke & Brae Burn
May contact: celdon@att.net, 668-2081 or any of the below names

The Community members that attended the Part 150 Public Hearing were very surprised and disappointed that we were not in the 70+ noise area for buyout.

Several things were of surprise:

4) We had no representation on the committees.
5) It was stated that there were 5 newsletters; but we only received the Part 150 letter and some did not receive it.
6) No noise monitor in our neighborhood.

Yet in the Alternative C plan which was chosen; planes would be landing from the S.W. and taking off toward the S.W. This puts the flights over our neighborhood, making our subdivision the most effected area in Greensboro.

We cannot talk to our neighbors in our yards when a plane goes over now. Our windows shake when a plane lands from the S.W. during the day, and the night is worse. With the increase in flights, no amount of insulation, sound barriers, etc. can make this kind of situation conducive for rest at night.

We feel someone needs to further evaluate our situation be it PTI, FedEx, ore the FAA because it appears we have been overlooked, and will soon be in an area unbearable for human habitation.

Those in agreement with above comments:

- Karen Channell 8104 Tam O'Shanter Drive, Greensboro, NC 27409
- Robert Channell 8104 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8106 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8103 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8105 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8101 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 8111 Tam O'Shanter Drive, Greensboro, NC 27409
- Chris [name illegible] 8016 Tam O'Shanter Drive, Greensboro, NC 27409
- [name illegible] 511 Brae Burn Lane, Greensboro, NC 27409
- Margaret & Harrison Akingsale 8004 Tam O'Shanter Drive, Greensboro, NC 27409
- Lorie and Craig Dobert 509 Brae Burn Ln., Greensboro, NC 27409
- [name illegible] 8012 Tam O'Shanter Drive, Greensboro, NC 27409
- Frank [name illegible] 512 Brae Burn Lane, Greensboro, NC 27409
- [name illegible] 7912 Tam O'Shanter Drive, Greensboro, NC 27409

- Mrs. Ann Hampton, 513 Brae Burn Lane, Greensboro, NC 27409
- Robert & Shelia Wells, 8102 Tam O'Shanter Drive, Greensboro, NC 27409
- Elizabeth & Rickey McCoy 604 O'Rourke Drive, Greensboro, NC 27409
- Michael & Lisa O'Beirne, 607 O'Rourke Drive, Greensboro, NC 27409
- Sonia & Jose Sedano, 8015 Tam O'Shanter Drive, Greensboro, NC 27409
- Bonita Kersey 8100 Tam O' Shanter Drive, Greensboro, NC 27409
- Lucille McCormick 603 O'Rourke Drive, Greensboro, NC 27409

Dear PTAA and FAA:

Attached is a letter dated December 27, 2005, with cc: to Andrew S. Harris who never replied to my letter.

The noise monitor placed at 6504 Lytham Court, Greensboro, NC 27410, does not represent where we live at 6264 Cheswick Drive Greensboro, NC 27410. Lytham Court is in the valley surrounded by trees and Cheswick Court is on a hill with very few trees. The back blasts from the planes flying southwest is extremely loud causing vibration of our house. Planes also, fly directly over our homes contributing to the loud noises. Now we all know that night time noises are louder than daytime noises. Our value of life will be forever harmed by the FedEx hub and the third runway.

The F.A.R. Part 150 Study Proposed Measure NM-2 Section 3.6.3 Install and Operate an Aircraft Noise and Operations Monitoring System. It states the permanent monitors will have one or two portable monitors. Again, I am requesting a monitor be placed at our house or the street near by at your earliest convenience, since our house in propinquity to the FedEx Hub and the third runway.

Sincerely yours,

Pauline H. Austin

Attachment

PTAA
Mr. Mickie Elmore
PO Box 35445
Greensboro, NC 27425

Dear Mr. Elmore:

This letter is in reference to a recent phone call to PTAA, due to very loud aircraft noise. A reply was received from Edward (Ted) Johnson, Director of PTAA. The letter suggested I contact you for further discussion.

We have experienced loud aircraft noise over the years and lately it is more unbearable. It is causing our house to vibrate and our wall treatments are in constant need of erecting.

The times of aircraft noise that have been documented. 8:08 a.m., 8:28 a.m., 6:04 p.m., 7:15 p.m., 10:28 p.m., 10:49 p.m., 11:08 p.m., 11:12 p.m. There have also been times between 12:00 a.m. and 6:00 a.m. that we have experienced loud aircraft noise. Because of the location of our home to the FedEx Hub and Third Runway, I therefore request a noise monitor be placed at my home or on my street to measure the DNL Decibels.

A reply is requested.

Sincerely yours,

Pauline H. Austin

Cc: Andrew S. Harris

Scott Gayle (Written Comment)
3842 Briarwood Avenue
High Point, NC 27265

See attached e-mail of 11/13/06 to Andy Harris.
Original Message -----
From: Gayle, Scott
Sent: Monday, November 13, 2006 7:30 PM
Subject: RE: Comments of Scott Gayle Regarding Changes to Draft Report of Nov. 7, 2006 FAR Part 150 Study

Dear Andy and Staff (with copy to all committee members):

I am taking this opportunity to make 13 comments on the Draft of 11/7/06 before the last public hearing this coming Thursday, November 16th. They are not in order of importance. They start with Glossary, then follow the text as it appears through Appendix B.

Most of these comments are based upon, or reiterate, my comments contained in my email to everyone (attached for reference below) dated Feb. 20, 2006, regarding the points covered at our last Citizens Committee meeting in January, 2006:

1. Definition of Nighttime.

The Glossary for "nighttime" says: "For noise analyses, the hours from 10:00 p.m. to 7:00 a.m.". My notes of our January meeting indicate that you agreed that we would define "nighttime" for all purposes, not just for analysis of data, but for implementation of the NCP, as being from 10:00 p.m. to 7:00 a.m. LOCAL TIME. Please add the following in BOLD: "For noise analyses AND FOR THE NCP, 10:00 p.m. to 7:00 a.m. LOCAL TIME."

2. Proposed NA-2: Preferred Runway Use.

As you note on p. 10 of the Draft of 11/7/06, "during head to head operations, FedEx aircraft will land on runways 5L and 5R and taxi to the FedEx hub". Likewise, on page 13 of the draft, you note that "it was assumed that the FedEx night operations would be evenly divided between the parallel runways". You indicated in our meetings that NA-2 applies to FedEx only. Therefore, NA-2 needs to clarify that NCP requires that FedEx cause approximately half of its night time arrivals for 5L and half for 5R, in order to follow the NCP. Otherwise, FedEx could frustrate the NCP by having most arrivals on 5R, as many in North High Point have feared it will. Please suggest appropriate language.

3. Proposed NA-3. Night Runway Use Assignments.

In the draft of 1/18/06, each subsection of NA-3 (1) -(4) starts with the phrase " When departures are using runways ____ and _____". I always interpreted this to mean that if both runways were completed and available for use, then the provisions would apply. I did not interpret the conjunctive "and" to mean that both runways had to be in actual use by FedEx before the provisions would apply. However, one change in NA-3 (4) made since the last draft now leads me to believe that this wrong-headed interpretation could be applied by FedEx to frustrate our intent.

Specifically, in this new draft of 11/7/06, NA-3 (4) has been changed (for some reason) to read "When departures are using runways 5L "OR" 5R . . . " However, the other three subsections (1)-(3) still say "AND". There is no justification for the difference. The intent of the committee (and I assume of the Staff) is actually to say "and/or", meaning that if either one or both runways is available for use, the provisions for designated night time departure provisions will apply. Please change each section (1) through (4) to read "and/or" as needed; otherwise, FedEx could simply elect to use one runway over the other, claiming they were not using both, and that therefore the provisions don't apply. If that is not acceptable to you, then please change (4) from "or" back to "and" so that at least all sections are consistent.

4. Proposed NA-4.

The 1/18/06 draft heading was "Night Southbound Departure Corridor from Runway 2L". In the 11/7/06 draft, the word "Night" was apparently inadvertently omitted from the heading and should be restored for clarity to match NA-5, NA-6 and NA-7, all of which start with "Night". (I presume this change was originally made when we were considering both day and night use of the Hwy. 68 corridor for departures off 23L).

5. Proposed NA-5. Night Southwest and West Departure Procedures from Runway 23R.

As I mentioned in par. 8 of my comments (below) of 2/20/06, this procedure, which is very desirable for north High Point, needs one further refinement as suggested by Lee Whitaker in the January meeting: that is, aircraft departing at night on 23R turning right

for SW or W destinations need to make one slight additional turn to avoid over flight of the River Landing retirement/nursing home community on Sandy Ridge Road, as discussed in that meeting. Figure 9 shows River Landing in pink as being over flown, yet I think there is an FAA rule imposing an affirmative duty to avoid over flights of nursing homes. The City of High Point has passed an Resolution (see my par. 13 below) which specifically requests this accommodation for River Landing.

6. Proposed NA-6: Night Northbound Departure Corridor from Runway 23L.

For some reason, changes have been made to water this provision down from the 1/18/06 draft. It now says "encourage" instead of "establish". The original draft of 1/18/06 said "establish a departure procedure". Also, the provisions of NA-6 should be identical to the provisions of NA-4 and NA-7 in this regard. Therefore, NA-6 should be altered to read: "Promptly after FAA approval of this measure, ESTABLISH A NEW NIGHTTIME DEPARTURE PROCEDURE FOR aircraft departing from runway 23L to northern destinations to initiate a left departure turn to a northeasterly heading as soon as practicable". We have established everything else, so why would we merely want to "encourage" this procedure? (Thanks to Don Mathieu who brought this to my attention).

7. Proposed NA-13. Altitude for Downwind Legs. (a new provision)

Ron Carter and other pilots have already written to Andy this week reminding him of their discussions at the January 2006 meeting about this issue. For those non-pilots, such as myself, the Glossary defines "downwind path" (or "leg") as "a flight track followed by aircraft that are approaching the airport in the opposite direction from their final approach as such aircraft maneuver past the airport and then turn into position to make their turns onto final approach". For our purposes, it means FedEx airplanes arriving generally from the north, flying over the airport and then turning around to land on 5L or 5R from the south at night.

Ron Carter has explained several times that his recommendation is that such planes remain at 6000 feet MSL (mean sea level) while over (abeam) the airport and on the downwind leg, and THEN to remain at 4000 AGL (above ground level) until intercepting the glide slope on approach. Andy agrees that was the proposal but has said recently that the air traffic controllers wanted to avoid having large numbers of aircraft extending their downwind legs so far, and that "we settled on 4000 MSL minimum altitude that would coincide approximately with the glide slope altitude at the outer marker". As you probably know, 4000 MSL is about 3100 AGL in north High Point, which is not very high up.

I would hope that after further conversations with the air traffic controllers, we could amend this NA-13 to read 4000 AGL instead of 4000 MSL (i.e. 900 feet higher on average). Even 900 feet more will help considerably with nighttime noise for north High Point residents. There should not be large numbers of aircraft extending their downwind legs unduly. I doubt that more than 1/3 of the FedEx flights will arrive from the north. The provision has minimal cost, if any, to the airlines and no cost to implement.

8. Avigation Easements under LU-2, LU-3 or LU-4.

In the January 2006 meeting, my notes reflect that it was agreed that any avigation easement given by a homeowner to the PTAA would not exceed 65 DNL in the future. There is no limit in the LU-4 or in the glossary. This should be added to be fair to the homeowners who give one and elect to remain at the home, as discussed. Andy should suggest the exact language here.

9. Sales Assistance or Purchase Assistance under LU-4.

Although defined in the text on page 58, I understood from Andy at the January 2006 meeting that these procedures were well established by FAA rules and such rules would be incorporated by reference and also set out in an attachment for review by homeowners who might wish to take advantage of these forms of assistance. Otherwise, the homeowner has insufficient information on how these plans work. I hope this can be improved upon.

10. Proposed NM-1. Establish a Noise Monitoring Function at PTIA.

While this version is an improvement over the 1/18/06 draft, it does not include some crucial
provisions that my notes of the January 2006 meeting reflect were agreed upon, including the establishment of a Citizens Advisory Board.

Specifically, in our detailed discussions at the January 2006 meeting, I believe that the language following in quotes was approved by the committee and generally accepted (after some modifications) by Andy for proposal to PTAA. According to my notes (which I wrote at the meeting and summarized in my email of 2/20/06 attached) the approved language was that the point of contact within the PTAA "would be responsible for noise reduction programs" (not just monitoring aircraft noise as stated), and would "maintain liaison with the carriers for compliance with the procedures and policies of the NCP" (and not just keep the carriers informed about their own compliance, as now stated). This current version, to have any teeth and to fairly meet what the Citizens Committee agreed upon should be revised to add the following BOLD:

"NM-1. Establish a Noise Monitoring Function at PTIA. The PTAA will establish a noise monitoring function within the PTAA with responsibilities that include: TO OVERSEE NOISE REDUCTION PROGRAMS AND MAINTAIN LIAISON WITH AIR CARRIERS FOR COMPLIANCE WITH THE PROCEDURES AND POLICIES OF THE NCP; to monitor aircraft noise; to provide a point of contact within the PTAA for issues related to aircraft noise; to serve as a liaison with the community for such issues; and to keep air carriers and the public informed about compliance with measures in the NCP."

In addition, language establishing a Citizens Advisory Board must be added to NM-1 as was agreed at the January 2006 Citizens Committee meeting. Andy even negotiated the exact language for most of this

recommendation, when concerns came up about how to fill the positions on such a board.

My notes reflect that it was agreed that the noise monitoring function, through the PTAA would "establish a Citizens Advisory Board" composed of "members of affected communities" as appointed by their respective governmental bodies to "periodically meet with and advise the noise monitoring function on issues related to the NCP".

Why the creation of the Citizens Advisory Board has been completely omitted from this 11/706 is a mystery and frankly, a surprise. Various members of the citizens committee have reported to me conversations with PTAA officials indicating no opposition to a Citizens Advisory Board. Therefore, a second sentence should be added to NM-1 as follows:

"IN ADDITION, THE NOISE MONITORING FUNCTION AT PTAA WILL ESTABLISH A CITIZENS ADVISORY BOARD COMPOSED OF MEMBERS OF AFFECTED COMMUNITIES, APPOINTED BY THEIR RESPECTIVE GOVERNMENTAL BODIES, TO PERIODICALLY MEET WITH AND ADVISE THE NOISE MONITORING FUNCTION OF THE PTAA ON ISSUES RELATED TO THE NCP".

11. Proposed NM-3. Install and Operate Monitoring System.

The only thing that I believe we discussed at the January 2006 Citizens Meeting not contained in this revised NM-3 in some form is the requirement that the PTAA web site publish summaries of SEL data and contours along with DNL data and contours. We all understand that the SEL data is available because it forms the basis for the DNL data. Having such SEL data available to the public will help the Citizens Advisory Board and the noise monitoring function of the PTAA explain to individual citizens why individual (single event) noise may be louder than DNL's and acknowledge that reality, rather than making it look like a secret or cover up. Further, there is no other way for the public to access the SEL data, which should be continually online as it becomes available. Last, this information should be updated per Part 150 regulations, in the same language as NM-2.

Therefore the last sentence of NM-3 should be revised to add the following BOLD:

"Summaries of the monitoring results (BOTH DNL AND SEL DATA AND CONTOURS) will be reported regularly on the PTAA web site, AND UPDATED AS REQUIRED BY FAR PART 150."

12. Appendix B: Measures not recommended for inclusion in the NCP.

While Appendix B contains summaries of the provisions of five recommendations posed by either Staff or by the Citizens Committee, it certain does not contain a reference to the many other ideas and proposals submitted by the members of the Citizens Committee for consideration. Andy and the Staff have prepared a summary of the various memoranda submitted by the members of the Citizens Committee, entitled

"Measures Involving Airport Plan" consisting of about 30 pages, which has excerpts from the various members sorted by topic. Many members of the Citizens Committee have devoted countless hours to review, comment and submit suggestions. It is important for the public to realize not only that the Citizens Committee had the opportunity to participate, but that it did in fact participate and make suggestions, even if all of those suggestions were not accepted or included.

Therefore, I submit that either Appendix B needs to be revised to cover all the major topics proposed by the members of the Citizens Committee, or in the alternative, that the entire "Measures Involving Airport Plan" memorandum, as prepared by the Staff, be included in its 30 page entirety as a part of Appendix B to the Part 150, with some appropriate introduction (and disclaimer if needed) by Andy to explain its inclusion. To do neither of the above would be a disservice to the public and to the members of the Citizens Committee.

13. Inclusion of Resolutions of Cities or other Governmental Bodies.

I understand from Lee Burnette, with the City of High Point, that the City Council in February, 2006 adopted Resolutions of City of High Point Respecting Proposed Noise Compatibility Program Under FAR Part 150 for Piedmont Triad International Airport. It may be that other government entities likewise adopted resolutions. It was my understanding last Februrary from Andy that any such governmental submissions reflecting the consensus of citizens through their elected officials would be included in the Part 150 report, as an appendix, so that such matters can be reviewed by the FAA and considered. I cannot find any governmental resolutions in this draft of 11/7/06, and I ask that they all be included in the Appendix and Table of Contents, and referred to in the text introduction for easy reference by citizens and the FAA alike.

The draft of the Resolutions from the City of High Point which I have seen requests that the PTAA and the FAA approve Alternative 2C (or 2D if the data supports it) and many of the other NM type provisions added to the current draft. It also asks that PTAA establish a Citizens Advisory Board under NM-1 Finally, it asks PTAA to implement with FAA approval an "informal Noise Abatement Program" requiring all aircraft to voluntarily intersect the glide path at not less than 4000 AGL , and follow an informal minimum over flight height of at least 2000 AGL, among other provisions. For the residents of the City of High Point, these Resolutions carry as much or more weight than the suggestions of the High Point members of the Citizens Committee, because they reflect the consensus of the citizens of High Point as expressed through their elected officials. I trust that these Resolutions will be added along with those of any other government.

Andy, thank you for your attention and consideration of these changes. If I have misquoted anyone or misstated any facts, please accept my apology in advance.

Yours,

Scott Gayle
Member, Citizens Committee (High Point)

Scott C. Gayle
TUGGLE DUGGINS & MESCHAN, P.A.
100 N. Greene St., Suite 600
Greensboro, NC 27401
Direct: (336) 271-5232
Fax: (336) 274-6590
Original Message-----
From: Gayle, Scott
Sent: Monday, February 20, 2006 5:47 PM
Subject: Comments of Scott Gayle on proposed changes to NCP draft of 1/18/06

Dear Andy, Staff and all Committee Members,

Before the 2/24/06 deadline for comments on the draft NCP, I wanted to submit some suggestions and review what I think was understood at our last Citizens Committee meeting:

1. Alternative 2C:

I fully support Alternative 2C, and I believe from the discussion at the meeting, though no vote was taken, that approval of 2C appeared to be unanimous by the Citizens Committee.

2. Alternative 2D:

As suggested, I understand that the staff is doing a modeling (to be called Alternative 2D) to determine if the data support using Alternative 2C during the day as well as the night. If the data support day time use, I recommend it be adopted, and I believe that all the High Point representatives agree on that point, so that all aircraft departing 23L to the South will leave following the east side of Hwy. 68, both day and night.

3. Proposed Measure NA-3:

Instead of 727 and non-727 aircraft, this provision will refer to "Stage 3" and "Modified Stage 3" aircraft, defining each term in the glossary, so that Stage 3 means "as built" and Modified Stage 3 means all aircraft that have been modified with a hush kit in some manner.

4. Proposed Measure NA-4:

It was agreed that this would commence "promptly after FAA approval" rather than waiting until new runway 5L/23R is in use.

5. Proposed Measure NA-4:

Based on comments of the pilots, I believe that NA-4 should be amended to require aircraft departing Southbound on 23L to turn toward Hwy. 68 not later than one mile from the end of the runway to avoid overflight of residential areas to the immediate west of Hwy. 68. This would apply to Alt. 2C and to 2D if adopted. In the alternative, if you will

not include the one mile designation, it should say "as soon as practicable" at the very least.

6. Proposed Measure NA-5:

It was agreed that this would commence "promptly after FAA approval" rather than waiting until new runway 5L/23R is in use.

7. Proposed Measure NA-5:

Again, based on comments of the pilots on the Committee, I believe that NA-5 should be amended to require aircraft departing Northbound from 23L to turn left to a NE heading no later than 1 and 1/2 miles from the end of the runway to avoid overflight of residential areas. This would apply to Alt. 2C and to 2D if adopted.

8. Proposed Measure NA-6:

I didn't know where to put this recommendation, which should probably have its own number, but because it relates to Night Departure from 23R, I suggest we add this to NA-6: Aircraft departing Southbound or Westbound on 23R should adjust turns on departure to avoid overflight of the River Landing nursing home and assisted living buildings in N. High Point, which are shown in pink on Figure 9 as being overflown). I think there is an FAA rule imposing an affirmative duty to avoid overflights of nursing homes. According to Lee Whitaker, this can be easily remedied by a slight additional turn on departure.

9. Proposed Measure NA-9:

I had suggested that that future "tenants" as well as future facilities be included in this measure and you indicated that this would be up to PTAA; however, I cannot fathom why new tenants should not be asked to restrict night time auxiliary power unit operations. We also agreed to insert 10:00 pm. to 7:00 a.m. local time to define night-time here and at every other place in the NCP where "night-time" appears.

10. ("NEW") Measure NA-12 (proposed by Scott Gayle and others):

There was much discussion concerning measure NA-11 which is the ONLY noise abatement APPROACH procedure recommended. NA-11 states that PTAA will request the tower to direct arrivals to "maintain altitudes consistent with the glide slope for instrument approaches even when not using an instrument approach". The benefit of NA-11 is to cause aircraft released for visual approach to come in no lower than the glide slope, as if they were coming in on instruments. While NA-11 is acceptable, it does not go far enough in that it does not regulate the point at which all aircraft (whether on instrument or visual approach) intersect the glide path, which can be very low, depending on many factors. Several pilots have repeatedly indicated in multiple meetings that if PTAA offers, the FAA would likely approve (as I understand it has done in other cities) a guideline that all "aircraft should intersect the glide path and slope at not less than 4000 feet AGL". This provision would help reduce the sound of the first two Fed Ex planes in a long line of landings intersecting the glide path "too low" as the fleet

begins to approach each night. No one doubts that such a guideline would significantly reduce disturbance to residential areas in North High Point in the standard arrival paths of both 23L and new 23 R. This would be a procedure change only, without any cost to PTAA or to Fed Ex. Therefore, I ask that it be added as new NA-12. If the FAA rejects NA-12, it will not harm the rest of the measures. (I understand that the City of High Point may request that such a guideline adopted as part of an informal noise abatement program, but it seems to me that this provision has sufficient data behind it that it can be included in the formal NCP). Either way, it should be proposed to the FAA and included.

11. Proposed Measure LU-4:

I think it was agreed at the meeting that the avigation easement given by a homeowner to PTAA would not exceed 65 DNL in the future. Also, in order to clarify the terms of the Sales Assistance and the Purchase Assistance, you noted that the glossary or other addenda would explain and refer to the appropriate FAA regulations defining and outlining these Assistance plans so that the public would have the details.

12. Proposed Measure NM-1:

After much discussion, I believe it was agreed at the meeting that NM-1 should be amended to state that (a) the Noise Monitoring Function (NMF) point of contact within the PTAA would be "responsible for noise reduction programs" and (b) would "maintain liaison with the carriers for compliance with the procedures and policies of the NCP" and (c) would "establish a Citizens Advisory Board" composed of "members of affected communities" as appointed by their respective governmental bodies to "periodically meet with and advise the NMF on issues related to the NCP". There is a strong sentiment on the Citizens Committee that this Citizens Advisory Board be set up promptly, and that it have open and regular access and input to the NMF. I sincerely hope that the PTAA will not object to these provisions, which the FAA has no reason to reject.

12. Proposed Measure NM-2:

It was agreed that this provision would be amended to say that the noise contours (starting at 60 DNL) will be "updated with new NMF data in accordance with FAA regulations".

13. Proposed Measure NM-3:

After some discussion, I believe it was agreed that the PTAA will install and operate a "new, mobile" (rather than "permanent") aircraft noise and operations monitoring system. It was also agreed to add substantially the following: "The pertinent data collected shall be made available to the public at the PTAA website, updated as required by FAA regulations. The monitoring system shall have at least 2 movable microphones and 6 stationary microphones."

14. Other Issues:

(a) Many committee members requested that the not only the NCP but the entire Part 150 that can be send by email to all the members of the committees so that we can see the entire final product. I think Andy said that this would be possible (without the bulky and or non-essential attachments) and we look forward to seeing the entire FAR Part 150 down the road.

(b) Local Consensus from City of High Point. I understand that the City of High Point intends to send you an outline this week with a request that the FAA to approve implementation of other noise mitigation provisions affecting areas outside of the 65 DNL contours, as part of an informal noise abatement plan. I think you told us once before that anything submitted will be included in the FAR Part 150, but probably in the attachments, and referred to, where appropriate, by footnotes. I am sure that you will put any such submission in the appropriate place, but the High Point representatives do want to make sure that it is included in the formal Part 150 report.

Andy, thanks for allowing us additional time for comments on the proposed NCP. I look forward to seeing the revised final NCP.

Yours,

Scott Gayle

KAREN CHAPPELL [written comment]
8104 Tam O'Shanter Drive

My big question is why was the noise level not checked on Tam O'Shanter Drive? It is the main street thru a subdivision of 28 houses where the planes fly directly over very low. Low enough to read lettering with the naked eye.

FROM LEE WHITAKER
November 16, 2006 (written comments)

Proposed Measure NA-13, change to read:

Altitude for Downwind Legs. Under this measure, the PTAA requests that FAA Air Traffic Control Tower personnel direct aircraft on the downwind leg for arrival on runways 5L, 5R, 23L or 23R to remain at or above 4000' MSL until abeam the final approach fix.

Rationale: Keeps the arriving aircraft higher over residential neighborhoods, requires lower power settings and thus less noise, and provides a stable descent rate from downwind to landing.

A 4000' MSL downwind leg is a good altitude for planning the visual approach. Using the arrival flight tracks in figures A-3 and A-5, for 2006 Base Case and 2014 Base Case respectively, you can measure the downwind legs' lateral displacement from the runway. The nearest flight track for 5R, as an example, is 4 nautical miles from the runway. Allowing for visual patterns to be slightly closer, I assume lateral displacement of 3 miles from the runway for planning.

Proposal NA-12 requires intercepting final approach on the glide slope no closer than the final approach fix, at approximately 5.5 miles form the runway. Discussion earlier in this section, on page 53, places the final approach fix altitude at approximately 2800' MSL. Once the aircraft is abeam the final approach fix at 4000', the pilot starts a descending 90 degree standard rate turn to base leg. After rolling out on base leg, another 90 degree standard rate turn is flown to roll out on the final approach course, slightly outside the final approach fix. The air distance flown in this maneuver from downwind to final approach course is the sum of the displacement distance and any additional distance flown in the two standard rate turns. The combined turning distance is approximately 1 nautical mile at airspeeds of 160 to 180 knots (normal maneuvering speeds to final approach fix). So, to loose 1200 feet altitude (4000' downwind – 2800' final approach fix altitude) in 4 miles (3 mile displacement + 1 mile distance in two turns) requires a descent rate of 300 feet per mile. This is the exact same descent rate on a standard ILS final approach, and gives the arriving aircraft a stable descent rate all the way from leaving downwind to landing.
[see attached visual]

To: PTI Part 150 committees
To: Andy S. Harris, Inc
To: PTIA

From: Robert Fricke
612 Tara Drive
High Point, N.C. 27265

November 30, 2006

NCP recommendations from 11-16-2006 meeting.

Dear members:

First, what a 'hock of crock' when Mr. Harris applauded efforts of committee members, for their efforts and 'tireless' efforts. I'd like to know how many Citizen Committee members actually live anywhere near the 'Cones of Noise'. Their concerns aren't for citizens living in affected areas. But their own financial and political interests.

2nd. Why Part 150 isn't publishing the 55 and 50 DNL lines? And, since FAA-ATC will have majority of landing flights at 2800msl for arrival to 5L-R- What will de SEL levels for that 1-2 hours period when simultaneous approaches are conducted?

Hence, the 'Cone of Noise' will permeate areas thru-out the Arrival Corridors and between both arrival paths.

3nd. Why hasn't PTIA and Part 150 recommended Noise Abatement actions like Charlotte Douglas airport? They restrict arrivals and departures to runway 5/23 to avoid heavily populated areas below parallel runways 36/18? Ie: doesn't the health and quality of life matter to citizens living under the 50 and 550 DNL areas? They could use 32/14 from 10:00pm till 7:00am like CLT? Don't we deserve that?

4th; Why hasn't PTIA and Part 150 recommended similar actions the BWI airport has in place to restrict all aircraft landing-departing 15l-33r? These are 'all air carrier aircraft' and other jet aircraft that meet or exceed a 90SEL? Don't the citizens deserve the most stringent measures to preserve out quality of life? OTHER AIRPORTS DO, WHY NOT PTI?

5th, Steep approaches. London city and Toronto City airports have this. I'd expect Part 150 and PTAA to recommend this w/o reservation.

6th, FAA Part 25 Regs. Requirement for all Certified part 25 jets to takeoff with no more than 10 knot tailwinds. And FAA recommended practice to 'takeoff into the wind'. Will FAA-ATC always plan Runway Operations using the runway(s) most aligned into the wind? If not, isn't the safety and well-being of flight crews and passengers most important? If this is so, Why not? I'd expect safety and well-being to be paramount.

7th. Departure paths and SIDS-for Noise abatement climb-outs. Why isn't the well-being and quality of life of citizens in the 'cone of noise' deserving off Stringent measures to 'Get Jets High" without fail? FAA TERPS only require a 152 ft per nm gradient for obstacle clearance, How about a 400 to 500ft per NM climb out-SID procedures after 10:00PM and before 6:00AM? And early turnouts within 1-3 nm of airport center to keep noise paths along I-40 west-bound?

8th, Establish Noise monitoring equipment at both Outer Markers and between the two runways from just outside the outer markers, just inside outer markers and half-way to runways between the two runways? This area will be saturated with Air Carrier jet noises constantly. Doesn't the Safety, Health, and quality of Life for citizens inside this area deserving of these steps?

9th, Does PTAA, PTIA, Andy Harris and committees really think all Guilford Co, citizens really believe the NCP will "ease concerns of north High Point Residents? I 'laugh' at such feeble and flawed recommendations. The arrogance and obnoxious attitudes of all those in 'favor' of FEDEX, is without bounds.

My concerns are not satisfied. Just like communities around SDF airport when UPS came there. No body buying these houses, and no funding to purchase the properties.

What steps is PTIA going to take to assure citizens that 'funds are on-hand' to buy these properties without delay? If not, what's more important?

LASTLY, I FEEL ENTIRE SITUATION, THE NORTH HIGH POINT LANDOWNERS ARE GETTING THE 'SHAFT' W/O A VOICE, VOTE, OR CHAMPION TO VOICE ALL OUT CONCERNS.

Rob Fricke