

TABLE OF CONTENTS

	<u>PAGE</u>
CHAPTER ONE – BACKGROUND	
1.1	FAR PART 150 1-1
1.1.1	Purpose of Conducting a Part 150 Study 1-1
1.1.2	Part 150 Planning Process 1-2
1.1.3	Noise Exposure Maps 1-5
1.1.4	Noise Compatibility Program 1-6
1.2	PUBLIC INVOLVEMENT 1-7
1.2.1	Planning Advisory Committee (PAC) 1-7
1.2.2	Public Information Workshops 1-8
1.2.3	Public Hearing and Comment Period 1-8
1.2.4	Additional Public Coordination 1-9
1.3	STATUS of 1998 NOISE COMPATIBILITY PLAN 1-9
1.3.1	Summary of the 1998 NCP Noise Abatement Measures 1-9
1.3.2	Summary of the 1998 NCP Land Use Compatibility Measures 1-10
1.3.3	Summary of the 1998 NCP Implementation Measures 1-12
1.4	AIRPORT FACILITIES AND ACTIVITY 1-12
1.4.1	Airport History 1-12
1.4.2	Airport Location 1-13
1.4.3	Airport Runways 1-15
1.4.4	Airport Operators and Facilities 1-15
1.4.5	Fixed-Base Operator 1-17
1.4.6	Based Aircraft 1-17
1.4.7	Annual Operations 1-19
CHAPTER TWO – AFFECTED ENVIRONMENT	
2.1	AIRPORT LOCATION 2-1
2.1.1	Columbus Regional Airport Authority 2-1
2.1.2	Airport Environs 2-1
2.1.3	Detailed Study Area (DSA) 2-3
2.1.4	Existing Land Uses in the Study Area 2-3
2.1.5	Existing Noise-Sensitive Public Facilities in the Study Area 2-6
2.1.6	Existing Historic Sites 2-6

PAGE

CHAPTER TWO – AFFECTED ENVIRONMENT, *Continued*

2.2	EXISTING LAND USE GUIDELINES/PLANNING DOCUMENTS	2-10
2.2.1	Franklin County.....	2-11
2.2.2	Pickaway County	2-12
2.2.3	City of Columbus	2-12
2.2.4	Village of Groveport	2-17
2.2.5	Village of Canal Winchester	2-17
2.2.6	Village of Obetz	2-17
2.2.7	Village of Lockbourne	2-17
2.3	GROWTH RISK/SIGNIFICANT DEVELOPMENT TRENDS.....	2-19

CHAPTER THREE – BASELINE NOISE EXPOSURE

3.1	OVERVIEW	3-1
3.2	EXISTING (2006) BASELINE NOISE CONTOUR	3-1
3.3	FUTUTRE (2011) BASELINE NOISE CONTOUR	3-4
3.4	BASELINE NOISE CONTOUR INCOMPATIBILITIES	3-6

CHAPTER FOUR – NOISE COMPATIBILITY PROGRAM

4.1	NOISE COMPATIBILITY PROGRAM MAP	4-57
4.2	NOISE COMPATIBILITY PROGRAM COSTS.....	4-57
4.3	IMPLEMENTATION SCHEDULE.....	4-58

APPENDICES

	<u>PAGE</u>
APPENDIX A	FAA POLICIES, GUIDANCE, AND REGULATIONS A-1
APPENDIX B	FIELD NOISE MEASUREMENTS AND NOISE COMPLAINTS B-1
APPENDIX C	NOISE MODELING METHODOLOGY..... C-1
APPENDIX D	LAND USE ASSESSMENT METHODOLOGY D-1
APPENDIX E	NOISE ABATEMENT ALTERNATIVES E-1
APPENDIX F	LAND USE ALTERNATIVES F-1
APPENDIX G	PUBLIC INVOLVEMENT G-1
APPENDIX H	2022 BASELINE NOISE EXPOSURE CONTOUR H-1
APPENDIX I	NOISE-SENSITIVE FACILITIES GRID POINTS..... I-1
APPENDIX J	FORECAST..... J-1

TABLES

	<u>PAGE</u>
CHAPTER ONE – BACKGROUND	
Table 1-1 Based Aircraft	1-17
Table 1-2 Aircraft Operations by User Group Existing (2006) Baseline Conditions	1-19
CHAPTER TWO – AFFECTED ENVIRONMENT	
Table 2-1 Historic Sites	2-9
Table 2-2 Permitted and Prohibited Uses Within the City of Columbus Airport Environs Overlay District	2-14
CHAPTER THREE – BASELINE NOISE EXPOSURE	
Table 3-1 Areas Within Existing Noise Exposure Contour (In Square Miles)	3-3
Table 3-2 Comparison of Areas Within Future (2011) and Existing (2006) Noise Exposure Contour (In Square Miles)	3-4
Table 3-3 Existing (2006) Baseline Housing, Population, and Noise-Sensitive Facility Incompatibilities	3-7
Table 3-4 Future (2011) Baseline Housing, Population, and Noise-Sensitive Facility Incompatibilities	3-8
Table 3-5 Existing (2006) Baseline Versus Future (2011) Baseline Housing, Population, and Noise-Sensitive Facility Incompatibilities.....	3-9
CHAPTER FOUR – NOISE COMPATIBILITY PLAN	
Table 4-1 Noise Compatibility Program Recommendations	4-3
Table 4-2 Comparison of Existing (2006) Baseline and Future (2011) NEM/NCP Housing, Population, and Noise-Sensitive Facilities Incompatibilities	4-57
Table 4-3 NCP Implementation Costs	4-58
APPENDIX A – FAA POLICIES, GUIDANCE, AND REGULATIONS	
Table A-1 Land Use Compatibility Guidelines – FAR Part 150.....	A-8

TABLES, *Continued*

PAGE

APPENDIX B - FIELD NOISE MEASUREMENTS AND NOISE COMPLAINTS

Table B-1	Acoustical Measurement Instrumentation	B-6
Table B-2	Temporary Noise Monitoring Results	B-8

APPENDIX C - NOISE MODELING METHODOLOGY

Table C-1	Average Day Operations Existing (2006) Baseline Conditions	C-18
Table C-2	Average Day Operations by Aircraft Type Existing (2006) Baseline	C-19
Table C-3	Average Day Operations – Future (2011) Baseline	C-20
Table C-4	Average Day Operations by Aircraft Type – Future (2011) Baseline	C-21
Table C-5	Existing (2006) Baseline and Future (2011) Baseline Conditions Detailed Runway End Utilization by User Group	C-23
Table C-6	Arrival Flight Track Utilization by Aircraft Category – Existing (2006) Baseline	C-36
Table C-7	Departure Flight Track Utilization by Aircraft Category – Existing (2006) Baseline	C-37
Table C-8	Arrival Flight Track Utilization by Aircraft Category – Future (2011) Baseline	C-38
Table C-9	Departure Flight Track Utilization by Aircraft Category – Future (2011) Baseline	C-39
Table C-10	Departure Trip Length Distribution - Existing (2006) Baseline Conditions	C-41
Table C-11	Departure Trip Length Distribution - Future (2011) Baseline	C-41

APPENDIX D - LAND USE ASSESSMENT METHODOLOGY

Table D-1	Generalized Land Use Classifications	D-2
Table D-2	Noise-Sensitive Public Facilities	D-4
Table D-3	Generalized Zoning Classifications	D-19

APPENDIX E - NOISE ABATEMENT ALTERNATIVES

Table E-1	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-E	E-11
Table E-2	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-F	E-19
Table E-3	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-G	E-27

TABLES, *Continued*

PAGE

APPENDIX E - NOISE ABATEMENT ALTERNATIVES, *Continued*

Table E-4	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-H	E-35
Table E-5	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-I	E-43
Table E-6	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-J	E-51
Table E-7	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-K	E-59
Table E-8	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-L	E-67
Table E-9	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-O	E-81
Table E-10	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-P	E-89
Table E-11	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-Q	E-94
Table E-12	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-S	E-99
Table E-13	Comparison of Impacts Future (2011) Baseline Versus 2011 Alternative NA-T	E-104

APPENDIX G – PUBLIC INVOLVEMENT

Table G-1	Planning Advisory Committee (PAC) Membership	G-2
-----------	--	-----

APPENDIX H - 2022 BASELINE NOISE EXPOSURE CONTOUR

Table H-1	Average Day Operations 2022 Baseline Conditions	H-2
Table H-2	Average Day Operations by Aircraft Type - 2022 Baseline Conditions	H-3
Table H-3	2022 Baseline Conditions Detailed Runway End Utilization by User Group	H-5
Table H-4	Arrival Flight Track Utilization by Aircraft Category 2022 Baseline Conditions.....	H-7
Table H-5	Departure Flight Track Utilization by Aircraft Category 2022 Baseline Conditions.....	H-8
Table H-6	Departure Trip Length Distribution - 2022 Baseline Conditions	H-9
Table H-7	Areas Within Existing Noise Exposure Contour (in Square Miles)	H-13
Table H-8	2022 Baseline Housing, Population, and Noise-Sensitive Facility Incompatibilities	H-14

TABLES, *Continued*

	<u>PAGE</u>
APPENDIX I - NOISE-SENSITIVE FACILITIES GRID POINTS	
Table I-1 Noise-Sensitive Facilities	I-2
Table I-2 Noise-Sensitive Facilities Grid Point Results	I-7
Table I-3 Noise-Sensitive Facilities Grid Point Results	I-10

EXHIBITS

PAGE

CHAPTER ONE – BACKGROUND

Exhibit 1-1	Noise Compatibility Planning Process.....	1-3
Exhibit 1-2	Airport Location Map.....	1-14
Exhibit 1-3	Airport Layout Plan.....	1-18

CHAPTER TWO – AFFECTED ENVIRONMENT

Exhibit 2-1	Airport Environs	2-2
Exhibit 2-2	Detailed Study Area.....	2-4
Exhibit 2-3	Existing Land Uses	2-5
Exhibit 2-4	Existing Noise-Sensitive Public Facilities.....	2-7
Exhibit 2-5	Historic Resources	2-8
Exhibit 2-6	Local Planning Jurisdictions.....	2-18

CHAPTER THREE – BASELINE NOISE EXPOSURE

Exhibit 3-1	Existing (2006) Noise Contour.....	3-2
Exhibit 3-2	Future (2011) Baseline Noise Contour	3-5

CHAPTER FOUR – NOISE COMPATIBILITY PLAN

Exhibit 4-1	Proposed Airport Land Use Management District (ALUMD)	4-45
Exhibit 4-2	Proposed Voluntary Acquisition/Avigation Easement of Undeveloped Parcels within 65 DNL	4-47
Exhibit 4-3	Future (2011) NEM/NCP Noise Contour.....	4-59

APPENDIX B - FIELD NOISE MEASUREMENTS AND NOISE COMPLAINT

Exhibit B-1	Noise Measurement Sites	B-3
Exhibit B-2	Location of Noise Complaints (2004 through 2005)	B-13

APPENDIX C - NOISE MODELING METHODOLOGY

Exhibit C-1	Example of Addition of Two Decibel Levels	C-3
Exhibit C-2	Example of Sound Level Averaging	C-5
Exhibit C-3	Comparison of Different Types of Sound	C-9
Exhibit C-4	Relationship Among Sound Metrics	C-13
Exhibit C-5	INM South Flow Jet Tracks.....	C-25
Exhibit C-6	INM South Flow Prop Tracks	C-27
Exhibit C-7	INM North Flow Jet Tracks	C-29

EXHIBITS, *Continued*

PAGE

APPENDIX C - NOISE MODELING METHODOLOGY, *Continued*

Exhibit C-8	INM North Flow Prop Tracks	C-31
Exhibit C-9	INM Touch-and-Go Tracks	C-33

APPENDIX D - LAND USE ASSESSMENT METHODOLOGY

Exhibit D-1	Existing Noise-Sensitive Public Facilities	D-7
Exhibit D-2	Existing Zoning	D-17
Exhibit D-3	Columbus South-Central Accord Planning Area	D-23

APPENDIX E - NOISE ABATEMENT ALTERNATIVES

Exhibit E-1	Alternative NA-E Flight Tracks	E-9
Exhibit E-2	Alternative NA-E Noise Contour	E-13
Exhibit E-3	Alternative NA-F Flight Tracks	E-17
Exhibit E-4	Alternative NA-F Noise Contour	E-21
Exhibit E-5	Alternative NA-G Flight Track	E-25
Exhibit E-6	Alternative NA-G Noise Contour	E-29
Exhibit E-7	Alternative NA-H Flight Track	E-33
Exhibit E-8	Alternative NA-H Noise Contour	E-37
Exhibit E-9	Alternative NA-I Flight Track	E-41
Exhibit E-10	Alternative NA-I Noise Contour	E-45
Exhibit E-11	Alternative NA-J Flight Track	E-49
Exhibit E-12	Alternative NA-J Noise Contour	E-53
Exhibit E-13	Alternative NA-K Flight Track	E-57
Exhibit E-14	Alternative NA-K Noise Contour	E-61
Exhibit E-15	Alternative NA-L Flight Track	E-65
Exhibit E-16	Alternative NA-L Noise Contour	E-69
Exhibit E-17	Alternative NA-N Comparison of Arrival Procedures	E-75
Exhibit E-18	Alternative NA-O Displaced Landing Threshold	E-79
Exhibit E-19	Alternative NA-O Noise Contour	E-83
Exhibit E-20	Alternative NA-P Displaced Landing Threshold	E-87
Exhibit E-21	Alternative NA-P Noise Contour	E-91
Exhibit E-22	Alternative NA-Q Noise Contour	E-95
Exhibit E-23	Alternative NA-S Noise Contour	E-101
Exhibit E-24	Alternative NA-T Noise Contour	E-105

EXHIBITS, *Continued*

PAGE

APPENDIX F - LAND USE ALTERNATIVES

Exhibit F-1 Proposed Voluntary Acquisition/Avigation Easement of
Undeveloped Parcels Within 65 DNL F-17

Exhibit F-2 Proposed Airport Land Use Management District (ALUMD) F-19

APPENDIX H - 2022 BASELINE NOISE EXPOSURE CONTOUR

Exhibit H-1 Future (2022) Noise Contour H-11

APPENDIX I - NOISE-SENSITIVE FACILITIES GRID POINTS

Exhibit I-1 Existing Noise-Sensitive Public Facilities I-5