2.0 RECOMMENDED OPERATIONAL STRATEGIES

The City of Cincinnati has undertaken many actions, with the cooperation of the users of the Airport and the Airport personnel, to mitigate noise impacts on residents of nearby communities. This chapter begins by examining the effectiveness of noise mitigation measures that are in place today, and recommends whether those actions should be continued.

This chapter continues by examining additional actions could be implemented. A number of actions were suggested by members of the PAC and the public. Also, a review of noise complaint data and information provided by the Airport's Noise Abatement Office identified several additional measures that the City of Cincinnati investigated. This chapter reviews these additional measures and identifies those that have merit and were evaluated further.

The chapter concludes with both current and additional operational strategies that are recommended for inclusion in Lunken's Noise Compatibility Program (NCP).

2.1 EFFECTIVENESS OF CURRENT NOISE MITIGATION MEASURES

The "Fly Neighborly" Program includes strategies to mitigation aircraft noise away from noise-sensitive areas in the vicinity of the Airport. *These strategies pertain only to Lunken operations and are applicable only when wind, weather, and capacity conditions permit. Safety is the paramount concern*. The objective of the "Fly Neighborly" review is to determine those strategies that have merit and should be continued. In some instances, the effectiveness of a strategy is questioned and a recommendation is made to reconsider or revise that strategy.

2.1.1 Preferential Runway Use

Preferential runway use is a concept that seeks to optimize runway use while mitigating aircraft noise impacts given the constraints of wind and weather conditions, capacity and airport

layout. Runway end use is expressed as the percentage of time during a year that a particular runway is used. The modification of runway use can mitigate aircraft noise by diverting aircraft operations away from runways that have incompatible or noise sensitive land uses within their approaches.

Runway 3L/21R is used mainly for pilot training called touch and go operations. Runway 7/25 is a short 5,000 feet and is primarily used by aircraft during crosswind conditions. Touch and go operations are mainly single engine piston(SEP)/turboprop aircraft. SEP aircraft are much slower than the multi engine piston, multi engine turboprop, business jet and military aircraft. Runway 3R/21L is the primary runway and is used mainly for larger aircraft, such as corporate and commercial operations. Keeping these operations separate results in increased capacity, efficiency and safety.

2.1.1.1 Flow of Airfield Operations

The flow of Lunken's airfield is dictated by the prevailing wind conditions, which necessitate that the airfield be operated in a southerly flow approximately 75 percent of the year and to the north the remaining 25 percent of the year. The 75/25 split also incorporates calm wind conditions at the airport. By maximizing the southerly flow, departures (which usually generate more noise than arrivals) occur more frequently over areas south of the airfield. These areas are less densely populated than those areas north of the airport and therefore, the runway utilization patterns provide effective noise mitigation at Lunken.

2.1.1.2 Nighttime Runway Use

The Airport's "Fly Neighborly" Program instructs aircraft operating between the hours of 11:00 p.m. and 7:00 a.m., all aircraft arriving or departing on Runways 3R, 3L, and 7 are to fly runway heading to 2,000 MSL to avoid the depicted areas. On Runways 21L and 21R aircraft are to follow the Ohio River southeast to 2,000 MSL before turning on course.

This measure has been reasonably effective in mitigating noise impacts; however, because pilots cannot easily identify visual approach fixes, many aircraft have deviated from the standard flight tracks.

2.1.2 Preferential Arrival/Departure Corridors

Lunken's "Fly Neighborly" Program was established to respond to complaints received from the community concerning aircraft flying over noise-sensitive residential areas. As a result, preferential arrival/departure procedures were developed by the Airport, the ATC, Lunken Users and local community representatives to avoid noise-sensitive areas "when possible" or "as best possible.

2.1.2.1 Arrival from Northeast

"Landing south, follow the Little Miami River Valley to Runways 21L, 21R or 25. Landing aircraft are to maintain 1,500 MSL or above until intercepting the centerline of the runways a distance of approximately two miles (2-mile fix).

Landing north – Follow interstate beltway and Ohio River Valley to Runways 3R, 3L and 7. Maintain 1,500 or above MSL to the 2-mile final or maintain 2,500 MSL while overflying noise sensitive areas.

2.1.2.2 Arrival from South and East

Landing south to Runways 21R, 21L or 25, maintain 2,500 MSL or above while overflying sensitive areas. Maintain 1,500 MSL or above until the 2-mile fix.

Landing north to Runway 3R. 3L or 7, follow Ohio River. Maintain 1,500 MSL or above until to the 2-mile fix.

2.1.2.3 Arrival from Southwest

Landing south to Runway 21R, 21L, and 25, follow the Ohio River; maintain 2,500 MSL or above while overflying sensitive areas. Maintain 1,500 MSL or above until the 2-mile final.

Landing north to Runway 3R, 3L, and 7 follow Interstate 275 northeast bound. Maintain 1,500 or above MSL or above until to the 2-mile final.

2.1.2.4 Arrival from Northwest

All runways – Maintain 2,500 MSL or above while overflying sensitive areas. Maintain 1,500 MSL or above until on 2-mile final.

2.1.2.5 Departure on Runway 3R, 3L, and 7

Fly runway heading to 2,000 MSL; Avoid depicted sensitive areas.

2.1.2.6 Departure on Runway 21L, 21R, and 25

Follow Ohio River southeast to 2,000 MSL before turning on course."

Preferential arrival/departure corridors also enable the Lunken ATC to direct aircraft when and where to turn. The implementation of preferential flight corridors at Lunken is an effective measure to reduce noise impacts in noise-sensitive residential areas. This FAR Part 150 Study recommends their use be continued with a few additions. Radar plots, provided by ATC, were reviewed to identify the effectiveness of the current procedures in avoiding noise-sensitive areas to the maximum extent possible. Overall, it was found that a small percentage of aircraft flight paths were out of the suggested "Fly Neighborly" corridors thereby affecting noise sensitive areas. Potential changes to this procedure are reviewed later in this chapter in order to support better adherence to these arrival/departure corridors.

2.1.3 Other Measures

The Lunken "Fly Neighborly" Program also includes several other measures that affect the surrounding communities. These measures all relate to time of operation. They are:

- Avoid flight training touch and go operations after 9:00 p.m. and before 10:00 a.m., especially on weekends.
- A letter agreement that no jet run-up and or maintenance procedures will be performed during the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday and between 9:00 p.m. and 9:00 a.m. on Saturday and Sunday.
- Night time noise abatement procedures for all turbine aircraft.

By restricting the time of operations for flight training, jet engine maintenance run-ups and nighttime turbine aircraft operations, the number of related noise complaints has decreased. However because of the lack of strict adherence by pilots to the "Fly Neighborly" Program, operations continue to occur over sensitive areas in the community. Therefore, as described later in the *Recommended Operational Noise*

Mitigation Strategies, additional measures that will help improve pilots' adherence to noise abatement procedures are presented.

2.2 RECOMMENDED OPERATIONAL NOISE MITIGATION STRATEGIES

A number of noise mitigation strategies are currently in use at the Airport. This analysis considered a number of additional noise mitigation measures for implementation at the Airport. Each of the operational strategies examined are based on several guidelines. These are:

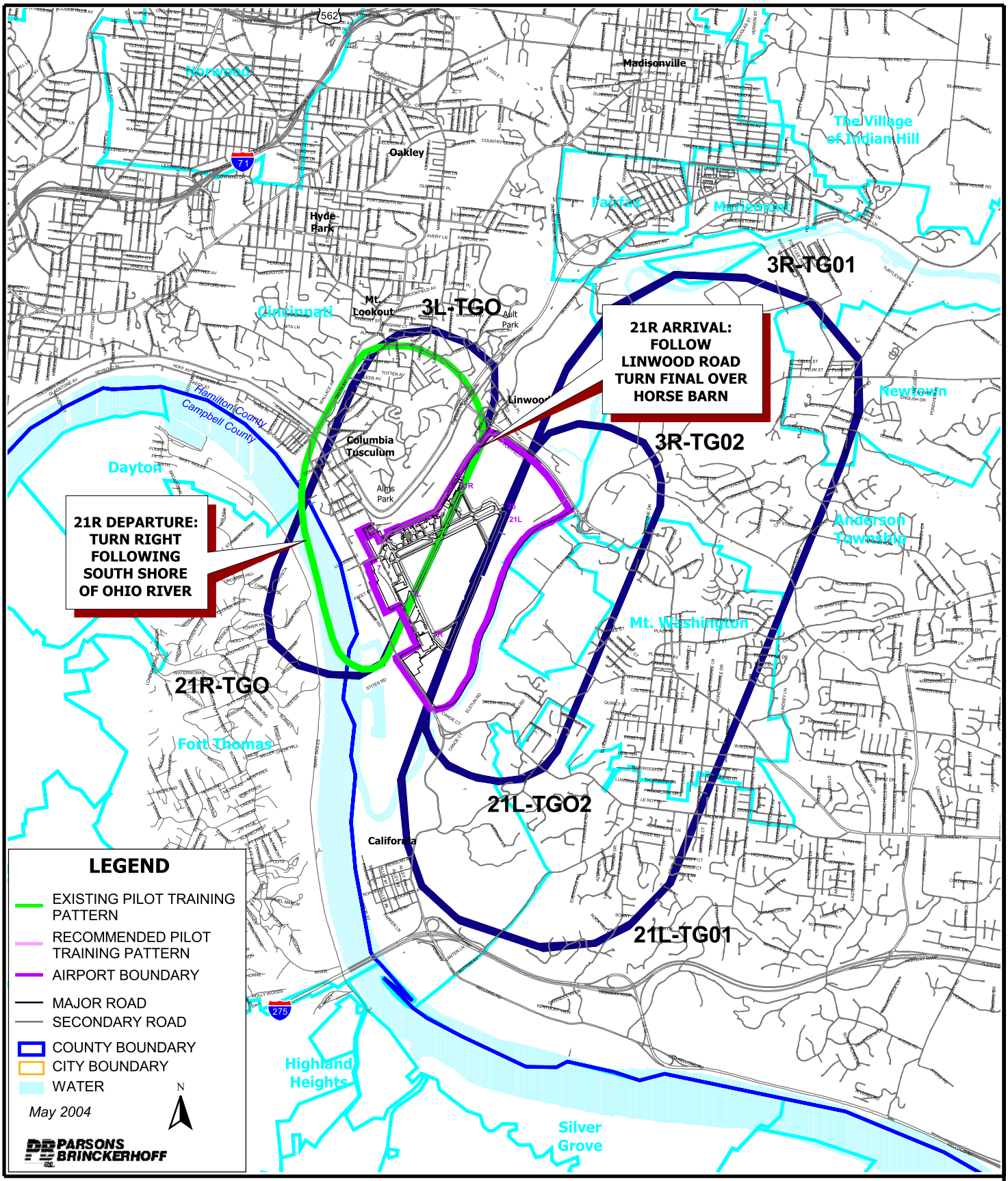
1. Applicability to environment/community setting
2. Ease of implementation
3. Effects on population/noise reduction
4. Capacity and airspace implications
5. Overall cost/benefit of implementation

Based on these guidelines, it is recommended that the following operational strategies be implemented.

2.2.1 Pilot Training Traffic Pattern

Runway 21R pilot training traffic pattern includes flying a runway heading to pattern altitude of 1,500 feet MSL. Turn west on the crosswind and follow the south shore of the Ohio River maintaining a traffic pattern altitude of 1,500 MSL or above. Turn north and fly a downwind heading along Delta Avenue. The base leg turns east along Linwood Avenue and uses the Horse Barn as a fix to turn south on final for landing on Runway 21R. Refer to **Exhibit 2.2-1** on the following page.

The Runway 21R pilot training traffic pattern heading along the south shore of the Ohio River eliminates flying over the Northern Kentucky communities. Shifting the downwind leg over the Delta Avenue arterial and the base leg over Linwood Avenue, places the aircraft flight pattern over established ground transportation networks and away from residential areas.



CINCINNATI MUNICIPAL-LUNKEN AIRPORT PART 150 STUDY

PILOT TRAINING TRAFFIC PATTERN

EXHIBIT 2.2-1

PB AVIATION

Adherence to the Runway 21R pilot training traffic pattern would reduce noise impacts to the communities of Linwood, Columbia Tusculum, Mount Lookout, and Hyde Park in Cincinnati, and the communities of Ft. Thomas and Highland Heights in Northern Kentucky.

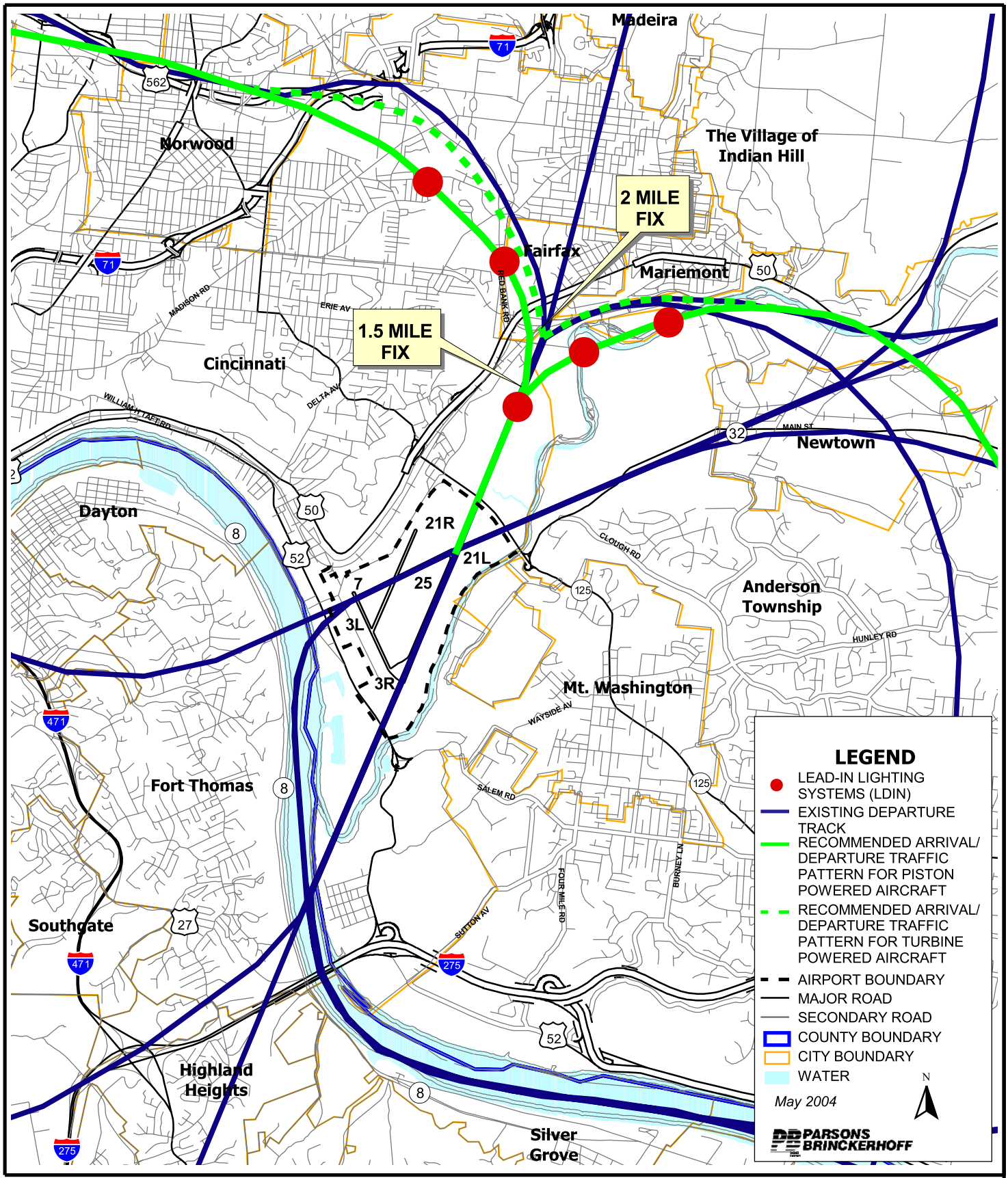
The Runway 3L pilot training traffic pattern includes flying a runway heading north to pattern altitude of 1,500 feet MSL. Turn west on the crosswind leg over the Horse Barn and follow Linwood Avenue. Turn south and fly a downwind leg along Delta Avenue, then turn east on the base leg following the south shore of the Ohio River. Turn north on final for landing on Runway 3L. Refer to Exhibit 2.2-1.

The Runway 3L pilot training traffic pattern heading shifting the crosswind leg over Linwood Avenue and the downwind leg over Delta Avenue places the aircraft flight pattern over established ground transportation networks and away from residential areas. Shifting the crosswind leg over the southern shore of the Ohio River eliminates flying over the residential communities of Campbell County, Kentucky.

The Runway 3L pilot training traffic pattern would also reduce noise impacts to the communities of Linwood, Columbia Tusculum, Mount Lookout, and Hyde Park in Cincinnati, the community of Ft. Thomas and Highland Heights in Northern Kentucky.

2.2.2 Arrival/Departure Patterns

The Runway 21L east arrival flight track for all piston engine aircraft involves flying a visual arrival corridor south of the Village of Mariemont along the center of the Little Miami River Valley to a point one and one half (1.5) miles to a point on the extended centerline of Runway 21L and to a point two (2) miles on the extended centerline of Runway 21L for turbine powered aircraft. The Runway 21L east arrival corridor differs from the 2002 existing radar track in that it flies over the center of the Little Miami River rather than over southern portion of the Village of Mariemont as shown in the case of the radar track. Refer to **Exhibit 2.2-2** on the following page.



CINCINNATI MUNICIPAL-LUNKEN AIRPORT PART 150 STUDY

ARRIVAL/DEPARTURE TRAFFIC PATTERN

EXHIBIT 2.2-2

PB AVIATION

The Runway 3R east departure flight track involves flying a visual departure corridor for all piston and turbine powered aircraft to a point one and one half (1.5) miles on the extended centerline off Runway 21L. Then turn east along the center of the Little Miami River valley. Runway 3R east departure corridor differs from the 2002 existing radar track in that this flight track flies over the center of the Little Miami River rather than the southern edge of the Village of Mariemont as in the case of the radar track. Refer to Exhibit 2.2-2.

Both flight patterns would reduce overflights in the areas around the Village of Mariemont and Fairfax and thereby reduce aircraft related noise to these residential areas.

The Runway 21L/3R east arrival/departure corridor modification would include continuing education for pilots and Air Traffic Control Tower (ATCT) personnel to learn the new procedures for the strategy to be successfully implemented.

The Runway 21L west arrival flight pattern follows a visual corridor along the Norwood Lateral (US-562) then to the Red Bank Expressway to a point 1.5 miles for piston powered aircraft and two miles for turbine powered aircraft on the extended centerline of Runway 21L.

Runway 21L west arrival flight track differs from the 2002 existing radar track in that it flies directly over the Norwood Lateral that stretches west to east through the City of Norwood, then south over the Red Bank Expressway to a point 2 miles on the extended center line of Runway 21L.

The Runway 21L west arrival flight corridor would also reduce overflights in the areas around the Village of Fairfax, Mount Lookout, Hyde Park and Madisonville. This strategy requires continuous education for pilots and ATCT personnel to learn the new routes for the strategy to be effective.

The Runway 3R west departure flight pattern involves flying a visual departure corridor for all piston and turbine powered aircraft to a point 1.5 miles off the extended centerline of Runway 21L. Then follow the Red Bank Expressway to the Norwood Lateral (US 562). Similar to Runway west arrival pattern this corridor differs from the 2002 existing radar track in that it flies directly over the Red Bank Expressway and the Norwood Lateral that stretches west to east through the City of Norwood, rather than over the residential communities.

These proposed arrival/departure patterns pulls the flight tracks 1.5 miles for piston powered aircraft closer to the runway and thereby further away from the affected neighborhoods.

It must be recognized that pilots are not prohibited from flying other than the recommended altitudes and/or heading if operational requirements dictate. These procedures do not relieve the pilot of the responsibility to maintain appropriate terrain and obstruction clearances.

A comparison between the Future Baseline 2007 NEM and the Future Recommended 2007 NCP shows a reduction of noise to the residential communities once recommended operational procedures are implemented and followed. Section 2.3.1 *Housing and Population Impacts* discusses the reduction of noise to the surrounding communities.

2.2.3 Lunken Airport ATCT Letter Agreement With CVG ATCT

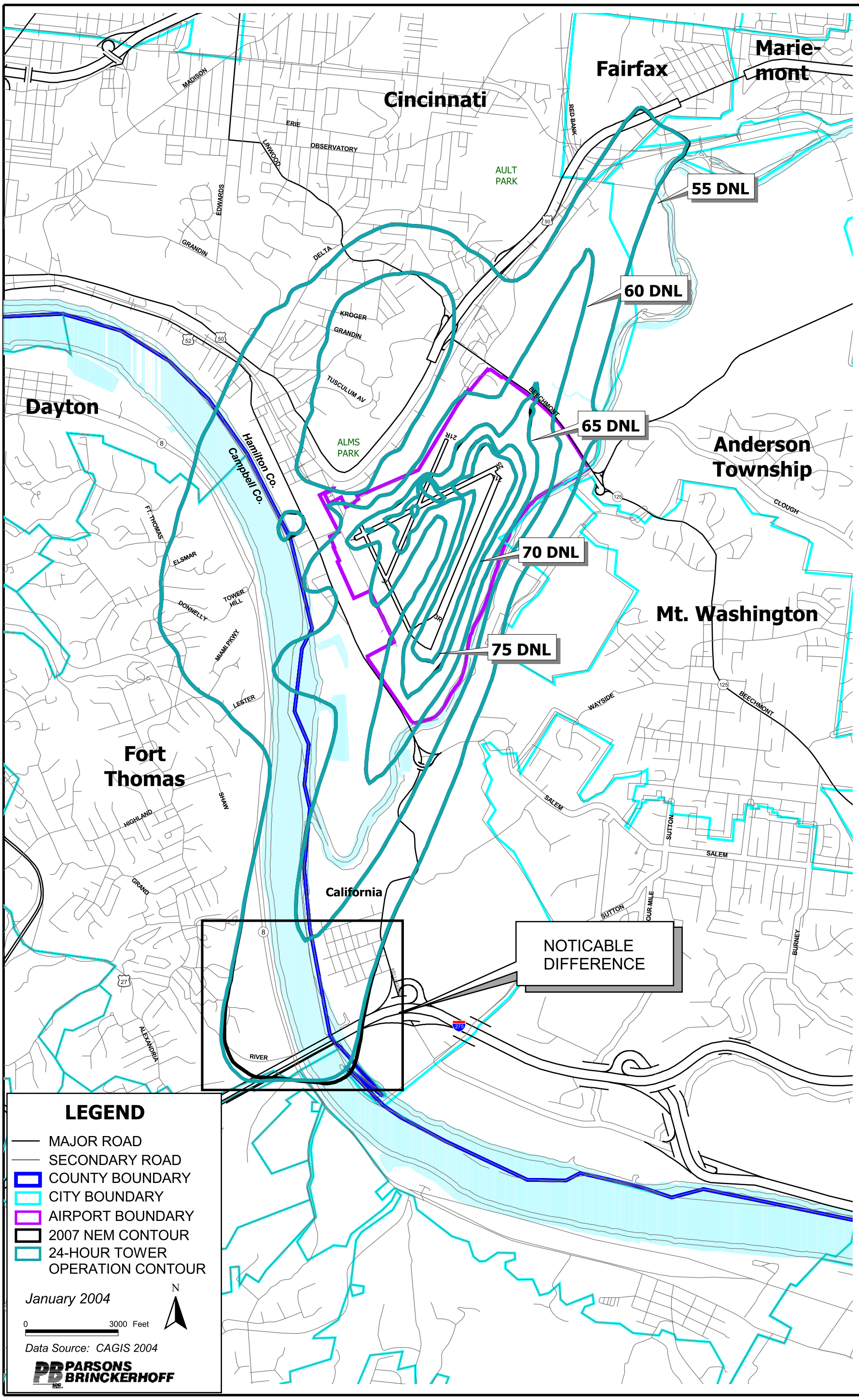
Several consultations between the Airport, Lunken ATCT and the Cincinnati Northern Kentucky International Airport Air Traffic Control Tower (CVG ATCT) have produced a draft letter agreement that would decrease the number of IFR early departure turns from aircraft departing Runway 21L. Under CVG ATCT responsibilities the letter agreement reads: Cincinnati Approach Control between the hours of 10:00 p.m. and 7:00 a.m. daily, IFR aircraft will be assigned initial departure headings, which correspond to

the departure runway used. Example: Departing Runway 21L assign heading of 210 degrees departing Runway 3R assign heading of 030 degrees. (If Runway 25 is used, assign heading of 180 degrees). Refer to **Exhibit 2.2-3.**

When the IFR letter agreement procedure was modeled, the 55 DNL noise contour was compared to the 55 DNL noise contour for 2007 Future Baseline NEM. The IFR letter agreement noise contour increased slightly to the south, however, this increase occurred on Interstate 275 and the Ohio River area. Despite the slight increase in the IFR letter agreement contour, it was suggested by several PAC members that the mitigation be retained. This strategy allows the aircraft continual increase in altitude until the aircraft reaches into CVG ATCT radar detection, thereby clear of any obstructions. This reduces the number of early turns over residential areas. This recommendation is included in the Lunken NCP.

2.2.4 Lead-in-Lighting System

For the purposes of visually defining the "Fly Neighborly" airspace approach corridors for both the east and west visual flight tracks for Runway 21L, it is recommended that the Airport install a Lead-In-Lighting System (LDIN). A Lead-In-Lighting system would enhance a pilot's ability to conform to the established noise abatement procedures thereby reducing noise in the surrounding communities. LDIN consists of at least three flashing lights installed at or near ground level to define the desired course to a runway threshold (AC 150/5300-13; 9/30/00). The LDIN system will be designed to overcome problems associated with hazardous terrain, obstructions, residents' view and noise sensitive areas. The lights will be installed on the desired approach path spaced at 3,000 foot intervals beginning at a point within visual range of the final approach. The cost benefit analysis for the proposed Runway 21L LDIN shows that since the system can only be used for VFR arrivals the benefit versus the cost to procure, install, and maintain is high. Installing a lighting system is expected to cost $525,000. Refer to **Appendix L** for a detail description of LDIN.



CINCINNATI MUNICIPAL-
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IFR LETTER AGREEMENT CONTOUR COMPARTED TO 2007 NEM

EXHIBIT

2.2-3

PB AVIATION

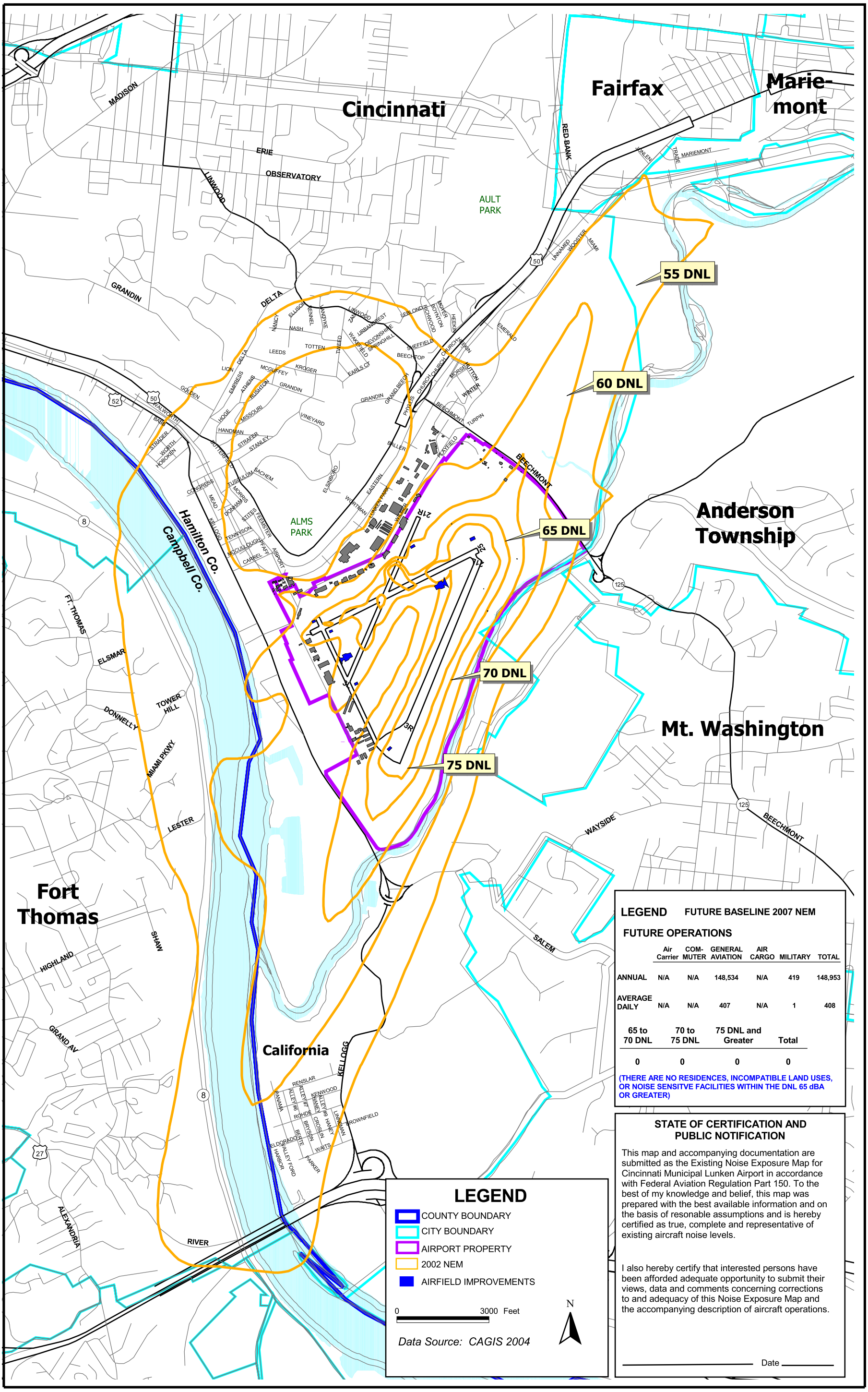
2.3 Recommended Noise Compatibility Program

The FAR Part 150 process requires identification of noise impacts reflecting the future (five year) baseline condition and the recommended noise abatement strategies. The Airport's 5-year baseline condition identified in Volume I Chapter 5.0 *Future Baseline Exposure Maps* reflects aircraft activity and operational characteristics projected for 2007. The 2007 Future Recommended Noise Exposure Map, referred to as the 2007 NCP, reflects the projected aircraft activity with the anticipated noise mitigation strategies implemented.

The recommended noise mitigation strategies are measured through the use of the FAA's Integrated Noise Model (INM) Version 6.1, which is described in Volume I, Chapter 2.0 *Aircraft Noise Levels*. FAA regulations require that the FAR Part 150 noise assessment focus on an average annual day's activity rather than a specific day of predominant activity. The 2007 Recommended NCP was developed to reflect DNL noise levels of 55 dBA, 60 dBA, 65 dBA, 70 dBA and 75 dBA.

Exhibit 2.3-1 presents the 2007 Recommended NCP. The 2007 Recommended NCP identifies the affected population associated with the Airport's future aircraft noise impacts, assuming the implementation of the recommended noise control strategies. As noted in DNL 65 dBA, 70, 75 dBA and greater, there are presidential units noise sensitive facilities.

The acreage encompassed by the Future 2007 Recommended NCP DNL 55 dBA, 60 dBA, 65 dBA, 70 dBA, and 75 dBA noise contours is listed in **Table 2.3-1**. Overall, the area of the DNL 55 dB or greater noise contours is expected to be approximately 7.5 square miles, a reduction of 0.4 square miles, assuming the implementation of the recommended noise mitigation strategies. The Future 2007 Baseline NEM totaled an area of 7.9 square miles.



CINCINNATI MUNICIPAL-
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PART 150 STUDY

2007 RECOMMENDED NCP

EXHIBIT
2.3-1

PB AVIATION

TABLE 2.3-1
Cincinnati Municipal-Lunken Airport
AREA WITHIN THE OPERATIONAL STRATEGY NOISE CONTOURS (2007)
(SQUARE MILES AND ACREAGE)

Noise Contours	Area in Square Miles	On-Airport Property Within Contour (acres)	Off-Airport Property Within Contour (acres)	Total Area Within Each Contour (acres)
DNL 55 to 60 dB	4.555	62.63	2,852.47	2,915.1
DNL 60 to 65 dB	1.864	321.02	872.48	1,193.5
DNL 65 to 70 dB	0.586	302.88	72.02	374.9
DNL 70 to 75 dB	0.237	151.3	0	151.3
Greater than DNL 75	0.248	159.0	0	159.0
Total	7.5	996.83	3,796.97	4,793.8

Source: PB Aviation

2.3.1 Housing and Population Impacts

The Future 2007 Recommended NCP was examined to determine the number of residential units and population that were included in each DNL noise contour. 2004 CAGIS data was used to determine the number of residential units within 2007 recommended NCP DNL 55 dBA, 60 dBA, 65 dBA, 70 dBA, and 75 dBA. In conjunction with 2004 CAGIS data, 2000 U.S. census data was added to determine the population within those residential areas.

The housing units impacted by DNL 55 dBA or greater decrease from 2,721 units in the Future 2007 Baseline condition to 1,615 units in the Future 2007 Recommended NCP condition. The population numbers also decrease from 5,330 persons in Future 2007 Baseline condition to 3,163 persons in the Future 2007 Recommended NCP condition. A summary of the housing units and population numbers affected by noise levels exceeding DNL 55 dB is provided in **Table 2.3.-2**.

Exhibit 2.3-2 illustrates a noise comparison between the Future Baseline 2007 NEM and the Future Recommended 2007 NCP. Exhibit 2.3-2 identifies the specific areas where 55 DNL contours increase or decrease due to the implementation and

adherence to the noise mitigation strategies. Only in DNL 55 dBA are there sensitive community impacts. Table 2.3-3 described these areas as follows:

TABLE 2.3-2

Cincinnati Municipal-Lunken Airport

FUTURE (2007) NCP NOISE IMPACTS TO HOUSING AND POPULATION

Municipality	75 + DNL Contour		70-75 + DNL Contour		65-70 + DNL Contour		60-65 + DNL Contour		60-55 + DNL Contour		Totals	
	Housing Units	Population	Housing Units	Population	Housing Units	Population	Housing Units	Population	Housing Units	Population	Housing Units	Population
Cincinnati, OH Fairfax, OH Mariemont, OH Anderson, OH Dayton, KY Fort Thomas, KY Heights, KY Silver Grove, KY	0	0	0	0	0	0	0	0	1,615	3,163	1,615	3,163

Source: 2004 Cincinnati Area GIS (CAGIS)
2000 U.S. Census

INCREASE OF ACRES IN THE 55 DNL	215
DECREASE OF ACRES IN THE 55 DNL	500
Total Acre Decrease	**285**

INCREASE OF RESIDENTIAL UNITS	173
DECREASE OF RESIDENTIAL UNITS	1267
Total Residential Unit Decrease	**1094**

51 ACRE
0 RESIDENT
UNIT DECREASE

135 ACRE
571 RESIDENT
UNIT DECREASE

23 ACRE
0 RESIDENT
UNIT INCREASE

75 ACRE
146 RESIDENT
UNIT INCREASE

11 ACRE
12 RESIDENT
UNIT DECREASE

60 ACRE
27 RESIDENT
UNIT INCREASE

95 ACRE
388 RESIDENT
UNIT DECREASE

160 ACRE
296 RESIDENT
UNIT DECREASE

20 ACRE
0 RESIDENT
UNIT INCREASE

75 DNL

70 DNL

65 DNL

60 DNL

55 DNL

Fairfax
Mariemont
Dayton
Bellevue
Fort Thomas
California
Alms Park
Mt. Washington
Hamilton Co.
Campbell Co.
MADISON RD
ERIE AV
OBSERVATORY AV
LINWOOD AV
KROGER AV
SCULUM AV
BEECHMONT AV
REDBANK RD
CLOUGH RD
FT. THOMAS AV
ELSMAR AV
DONNELLY DR
TOWER HILL RD
MIAMI PKWY
LESTER LN
HIGHLAND AV
SHAW LN
GRAND AV
ALEXANDRIA PK
RIVER RD
SALEM RD
SUTTON AV
21R
25
21L
7
3L
3R

LEGEND

- City Boundary
- Airport Boundary

Existing Landuse

- Agriculture, Parks
- Commercial, Office
- Institutional
- Industrial
- Single Family
- Multi Family
- Vacant, N/A
- Public Service & Utilities
- Mixed Use
- 2007 NEM Contour
- 2007 NCP Contour

0 3000 Feet

N

Data Source: CAGIS 2004

CINCINNATI MUNICIPAL-LUNKEN AIRPORT PART 150 STUDY

COMPARISON OF 2007 NCP AND 2007 NEM

EXHIBIT
2.3-2

PB AVIATION

TABLE 2.3-3
Cincinnati Municipal-Lunken Airport
COMPARISON OF FUTURE 2007 BASELINE NEM WITH FUTURE 2007 RECOMMENDED NCP

AREA	INCREASE/ DECREASE	ACREAGE	UNITS (housing)_
1	Decrease	51	0
2	Increase	23	0
3	Increase	20	0
4	Decrease	160	296
5	Increase	60	27
6	Decrease	95	388
7	Decrease	11	12
8	Increase		6
9	Decrease	75	146
10	Increase	135	571

Source: PB Aviation

2.4 AIRFIELD DEVELOPMENT STRATEGIES

An alteration to the airfield is another method of noise abatement. The initial suggestion for Lunken was a runway extension.

2.4.1 Runway 3R Modification

The runway extension began as a Part 150 recommendation an has been deferred to the current Master Plan Study. The Lunken Master Plan study recommends an extension to Runway 3R by 899 feet, bringing the total runway length to 7,000 feet. The recommended extension addresses the required runway length of the Master Plan design aircraft – the Gulfstream 550. The Master Plan recommendation, once implemented, will provide noise benefits to communities to the north, as aircraft departing on Runway 3R will initiate the departure 899 feet further to the south. The runway extension falls outside the time frame of this Part 150 Study.

2.5 OTHER STRATEGIES NOT CARRIED FORWARD

2.5.1 Raise ILS Approach Slope

This strategy involves raising the ILS approach slope on Runway 21L from 3 degrees to 4 degrees. Raising the ILS approach slope would allow aircraft to enter the approach at a higher altitude further away from the Airport, thus reducing noise to local communities further away from the Airport.

An increase in the ILS approach slope is unfavorable for several reasons. It increases the rate of decent and places the aircraft in a steeper approach which increases the risk to the safe landing of aircraft.

As the aircraft follows a steeper decent, it must eventually flatten its approach to follow the standard glide path angle just before landing on the runway. The aircraft's engine power will be increased, thereby, increasing noise levels during the last part of the approach.

Raising the ILS approach slope should be discouraged because it would also cause the Airport to lose the capability of operating aircraft in FAA Aircraft Category 3 B and C. FAA's FAR 8260.3B change 19 Standard PA Landing Minimums, shown on **Table 2.5-1,** Category A aircraft, which are predominantly propeller fixed wing aircraft, can operate under a raised ILS approach slope of 3.81 to 4.20 degrees; therefore, this strategy has not been recommended.

TABLE 2.5-1

Cincinnati Municipal-Lunken Airport

STANDARD GLIDE PATH ANGLE LANDING MINIMUMS

Glide Path Angle (with approach light configuration)	Minimum HAT*	AIRCRAFT CATEGORY MINIMUM VISIBILITY			
		A	B	C	D&E
3.00 - 3.10 (degrees)	200	3/4 4000			
	200	1/2 2400			
	200	1800			
3.11 - 3.30 (degrees)	200	3/4 4000		NA	
	250	3/4 4000		1 5000	NA
	200	1/2 2400		NA	
	250	1/2 2400		3/4 4000	NA
	200	1800		NA	
	250	1800		1/2 2400	NA
3.31 - 3.60 (degrees)	200	3/4 4000		NA	
	270	3/4 4000		1 5000	NA
	200	1/2 2400		NA	
	270	1/2 2400		3/4 4000	NA
	200	2000		NA	
	270	2000		1/2 2600	NA
3.61 - 3.80 (degrees)	200	3/4 4000		NA	
	200	1/2 2400		NA	
3.81 - 4.20 (degrees)	200	3/4 4000		NA	
	250	3/4 4000	1 5000	NA	
	200	1/2 2400	NA		
	250	1/2 2400	3/4 4000	NA	
4.21 - 5.00 (degrees)	250	3/4 4000	NA		
	250	1/2 2400	NA		
5.01 - 5.70 (degrees)	300	1 5000	NA		
	300	3/4 4000	NA		
5.71 - 6.40 (degrees)	350	1 1/4	NA		
Airspeed NTE 80 knots	350	1 5000	NA		

Source: FAA Far 8260.38
CVG Tracon

* Height Above Terrain

2.5.2 Restrict Training Operations on Runway 3L/21R

Restrict Training operations on Runway 3L/21R and relocate operations to Runway 3R/21L. In the preliminary set of alternatives, Restrict Training Operations on Runway 3L/21R and relocate training operations to Runway 3R/21L involved the restriction of training operations and placing these operations on the primary Runway 3R/21L. This alternative was considered unsafe and unreasonable restrictive. It could

compromise the Airport operations by mixing the larger jet aircraft arrival and departure activities with smaller turbo propeller fixed wing aircraft touch and go operations. This alternative can constrain the airport by placing over 50 percent of pilot training operations from Runway 3L/21R to Runway 3R/21. This measure significantly reduced the capacity of the airport and has not been recommended.

2.6 CONCLUSION

This chapter examined noise operational mitigation strategies aimed at mitigating or redirecting aircraft noise away from noise-sensitive areas in the vicinity of the Airport. These strategies pertain to all aircraft operations and can be implemented only when wind, weather, and capacity conditions permit. Safety must always be the paramount concern. This chapter analyzed the effectiveness of operational measures in place at the Airport and considered several additional measures for implementation at the Airport. The noise mitigation strategies that have been implemented at the Airport in the past have resulted in an effective program. Many of the strategies in place at the Airport are successful and once complimented with modified versions or additional measures, these strategies should be continued.