

Record of Decision

New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign



September 5, 2007 (Issue Date)

September 28, 2007 (Corrected Version Date)

U.S. Department of Transportation
Federal Aviation Administration

This is a copy of the corrected Record of Decision (ROD) for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area Airspace Redesign. Please take notice that this is a corrected ROD and all references should be made to this document. On September 5, 2007, the FAA signed and issued its ROD for the NY/NJ/PHL Airspace Redesign project. After signing the ROD, the FAA identified several items in the document that were omitted or incorrect due to editing mistakes. As a result, on September 18, 2007, the FAA posted an Errata Sheet on its website. For clarity and ease in reference, the FAA subsequently incorporated all the corrections from the errata sheet into this corrected ROD. No changes were made to the corrected version of the ROD other than what was identified in the Errata dated September 14, 2007. Please note, however, that page 56 of the corrected ROD states that there are "six" states within the Study Area. There are five states in the Study Area. If you would like to see a copy of the signed ROD as posted on September 5, 2007 or the Errata Sheet, both documents are available on the FAA's Airspace Redesign website, www.faa.gov/nynjphl airspace redesign

ERRATA

The following errors were identified in the Final Environmental Impact Statement (FEIS) following printing and distribution of the document.

1. FEIS ES-1, footnote 1 provides an incorrect reference to NEPA. The correct cite is 42 U.S.C. §4321 et. seq.
2. FEIS 2-1 references the relevant CEQ regulation as 40 CFR 1502.1(c). The text should be revised to reference 40 CFR 1502.14(c).
3. FEIS 3-1, footnote 1 references June 8, 2004 version of FAA Order 1050.1E. Correct reference is FAA Order 1050.1E Change 1 (March 20, 2006).
4. FEIS at 5-136 incorrectly references the cumulative impact discussion as Section 4.17 of the FEIS. The cumulative impact discussion is set forth in the FEIS at Section 4.18.
5. FEIS Chapter 7 (List of Acronyms, Abbreviations and Glossary of Terms in this EIS) inadvertently omits “ADD Average Annual Day” and “ADT Airspace Design Tool.” These abbreviations and their meanings should be added into the list.

Table of Contents

I.	Introduction	1
II.	Background	2
III.	Purpose & Need	6
IV.	Alternatives Analysis	11
V.	Preferred and Environmentally Preferred Alternatives	21
VI.	Environmental Impacts & Mitigation	22
VII.	Public and Agency Involvement	48
VIII.	Comments on the FEIS	50
	United Parcel Service, Mr. Tim Stull, Manager Air Traffic Systems	
	Mr. Michael Kroposki, Esq-Ridgeland, CT	
	New Jersey Coalition Against Aircraft Noise (NJCAAN)	
	Rockland County (2)	
	Representative Eliot L. Engel	
IX.	Agency Findings	54
X.	Decision and Order	58

Appendices

	Page
Appendix A: Figures	
Figure 2.1 Future No Action Airspace Alternative – JFK Major Departure Flows	A-1
Figure 2.2 Future No Action Airspace Alternative – JFK Major Arrival Flows	A-2
Figure 2.3 Future No Action Airspace Alternative – LGA Major Departure Flows	A-3
Figure 2.4 Future No Action Airspace Alternative – LGA Major Arrival Flows	A-4
Figure 2.5 Future No Action Airspace Alternative – EWR Major Departure Flows	A-5
Figure 2.6 Future No Action Airspace Alternative – EWR Major Arrival Flows	A-6
Figure 2.7 Future No Action Airspace Alternative – TED Major Departure Flows	A-7
Figure 2.8 Future No Action Airspace Alternative – TEB Major Arrival Flows	A-8
Figure 2.9 Future No Action Airspace Alternative – PHL Major Departure Flows	A-9
Figure 2.10 Future No Action Airspace Alternative – PHL Major Arrival Flows	A-10
Figure 2.24 Integrated Airspace Alternative Variation with ICC- JFK Major Departure Flows	A-11
Figure 2.25 Integrated Airspace Alternative Variation with ICC –JFK Major Arrival Flows	A-12
Figure 2.26 Integrated Airspace Alternative Variation with ICC – LGA Major Departure Flows	A-13
Figure 2.27 Integrated Airspace Alternative Variation with ICC – LGA Major Arrival Flows	A-14
Figure 2.28 Integrated Airspace Alternative Variation with ICC – EWR Major Departure Flows	A-15
Figure 2.29 Integrated Airspace Alternative Variation with ICC – EWR Major Arrival Flows	A-16
Figure 2.30 Integrated Airspace Alternative Variation with ICC – TED Major Departure Flows	A-17
Figure 2.31 Integrated Airspace Alternative Variation with ICC – TEB Major Arrival Flows	A-18
Figure 2.32 Integrated Airspace Alternative Variation with ICC – PHL Major Departure Flows	A-19
Figure 2.33 Integrated Airspace Alternative Variation with ICC – PHL Major Arrival Flows	A-20

Appendix B: Additional Analysis

Section 4(f) Analysis	B-1 thru B-15
Figure B.1 Appalachian National Scenic Trail – Panel 1	B-16
Figure B.2 Appalachian National Scenic Trail – Panel 2	B-17
Figure B.3 Appalachian National Scenic Trail – Panel 3	B-18
Figure B.4 Appalachian National Scenic Trail – Panel 4	B-19
Section 106 resources not identified in the FEIS	B-20 thru B-22

Appendix C: Agency Coordination

The appendix includes correspondence between the FAA and various federal or state agencies.

January 24, 2007 Letter from Fish and Wildlife Service to FAA (sensitive information redacted)	C-1 thru C-4
August 27, 2007 Letter from FAA to Fish and Wildlife Service	C-5 thru C-7
August 29, 2007 Email from FAA to National Park Service	C-8
August 29, 2007 Email from FAA to New York State Department of Environmental Conservation	C-9

August 31, 2007 Letter from EPA to FAA	C-10 thru C-11
September 5, 2007 Email from Pennsylvania SHPO to FAA	C-12
September 5, 2007 Letter from FAA to FWS	C-13 thru C-17
September 5, 2007 Email from Lynne Pickard, FAA	C-18
September 5, 2007 Letter from FWS to FAA	C-19 thru C-22

Appendix D: Comment Letters on the FEIS

United Parcel Service, Mr. Tim Stull, Manager Air Traffic Systems	D-1
Mr. Michael Kroposki, Esq-Ridgeland, CT	D-2 thru D-5
NJCAAN	D-6 thru D-27
Rockland County (8/30/07)	D-28 thru D-32
Congressman Eliot L. Engel, dated 8/31/07	D-33 thru D-34
Rockland County (8/31/07)	D-35 thru D-133

I. Introduction

This Record of Decision (ROD) represents the culmination of over nine years of study and evaluation by the FAA to address congestion and delays at some of our nation's busiest airports. This document sets forth the agency's final decision to approve the project to redesign the airspace in the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area. This Airspace Redesign Project is critical to enhance the efficiency and reliability of the airspace structure and the Air Traffic Control (ATC) system for pilots, airlines, and the traveling public. It is needed to accommodate growth while enhancing safety and reducing delays in the NY/NJ/PHL Metropolitan Area. Most importantly, the Airspace Redesign Project modernizes the structure of the NY NJ PHL air traffic environment in an environmentally responsible manner, and lays a foundation for achieving the Next Generation Air Transportation System in 2025. By 2011 this project is predicted to reduce the number of people exposed to noise above 45 dB DNL noise levels by 619,023 people, reduce fuel burn and emissions by the airlines, and reduce delays by 20%.

This ROD is based upon an Environmental Impact Statement (EIS) prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as implemented by Council on Environmental Quality (CEQ) regulations, 40 C.F.R. 1500 et seq., and FAA Order 1050.1E Change 1, Policies and Procedures for Considering Environmental Impacts. In this document, the FAA discusses the reasons it decided to undertake the Airspace Redesign project, the alternatives it considered in accomplishing its objectives, and the environmental impacts including mitigation of the alternatives it considered. This ROD includes additional information about steps taken to assure compliance with Department of Transportation Section 4(f), Section 106 of the National Historic Preservation Act, and Section 7 of the Endangered Species Act. Finally, the ROD contains a discussion of the selected project and the reasons for its selection.

After a careful consideration of all the available information, the FAA has decided to select the mitigated Preferred Alternative, known as the Integrated Airspace Alternative with Integrated Control Complex (ICC). The selected project consolidates many sectors of airspace under one Air Route Traffic Control Center (Center) and represents an innovative approach to airspace design in the NY/NJ/PHL area. The ICC uses of the 3 nautical mile separation criteria for flights in terminal airspace rather than the standard 5 mile criteria for en route airspace over a larger geographic area and up to 23,000 feet above mean sea level in some areas. The airspace will incorporate the sectors of airspace currently handled by the NY Terminal Radar Approach Control facility (TRACON) and the NY Center as well as some handled by the Washington and Boston Centers.

In addition to reconfiguring the airspace to implement the selected project the FAA will take several other direct actions to take advantage of improved aircraft performance and emerging air traffic control (ATC) technology. As part of the selected project the FAA will design new and modified ATC procedures, modify multiple departure gates and add arrival posts, and departure headings. Mitigation measures include use of fewer dispersal headings at times of lower volume, use of continuous descent approaches, and raising arrival altitudes.

The selected project will require installation of additional equipment in FAA facilities to provide a common automation platform and communications network. However, it does not require any external physical changes to existing facilities, construction of new facilities, or local or state actions. Although the nomenclature “Integrated Airspace Alternative with Integrated Control Complex (ICC)” might suggest otherwise, the shared platform needed for the ICC can be established within existing facilities. The proposed replacement of the NY TRACON building would facilitate implementation of the ICC, however the TRACON replacement project has independent utility. Approval of the Airspace Redesign project does not depend upon replacement of the TRACON. Therefore, the selected project requires no physical alteration to any environmental resource or permits/licenses. Additionally, the Airspace Redesign does not require changes to any Airport Layout Plan.

II. Background

We know from experience and from economic studies how vital Newark Liberty, La Guardia, Kennedy and Philadelphia Airports are to the region. Domestic air carriers have built thriving international hubs at three of these airports, connecting their international services to a network of domestic routes that allows service to even more international locations. Foreign air carriers provide non-stop service to destinations as close as Toronto, and as far away as Singapore. Activity by low-cost carriers continues to grow at these airports, and the traveling public in the area continue to have an unparalleled choice of non-stop service to cities around the world. As this aviation growth so essential to the region was happening, we made the airplanes quieter, and minimized their impact upon people living below, but we did not make more efficient use of the sky above. It is the FAA’s judgment that the continued health of the aviation industry is dependent upon the modernization actions contained in the preferred alternative as mitigated, that will bring 21st century efficiencies to this vital component of the region’s economy.

It is often said that the airspace in the New York/New Jersey/Philadelphia area is some of the most complex anywhere in the world. Throughout the EIS and in other parts of the administrative record, there are many charts and diagrams using the latest graphic technology to depict flight paths, arrival fixes, departure gates and the whole panoply of air traffic concerns in the region. Even these visual images, though more effective than words, fail to depict fully the complexity and interdependences that these different procedures have on each other. One way to grasp the complexity of the problem and the delicacy of the limited options available as potential solutions is to observe, on a delayed but real time basis, the radar tracks of aircraft landing and departing at Newark Liberty, La Guardia, Kennedy, and Philadelphia, over the internet. For the New York/New Jersey area, the best platform is www4.passur.com/lga.html set to a 40 mile range, and for Philadelphia, the helpful website is www4.passur.com/phl.html. Observers can see, for example, how only a few miles separates the streams of arrivals at Newark and La Guardia, how southbound La Guardia departures are “climbed over” Newark Arrivals, and how the approach path to La Guardia can depend in part on runway use at Kennedy. Throughout all of this, the FAA’s primary goal is one of safety, which is why there are so many delays using today’s air navigation system in this airspace.

The basic air traffic environment for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area airspace was designed and implemented in the 1960s. While FAA made some adjustments to that airspace in the mid-1980's, as part of the Expanded East Coast Plan, the basic structure of the NY/NJ/PHL airspace has remained largely the same since the 1960s. In contrast, the use of the airspace and the Air Traffic Control system has changed significantly. The volume of air traffic has increased significantly since the 1960s, as has the use of smaller and regional jet aircraft in the ATC system. Additionally, the NY/NJ/PHL airspace has seen radical growth at airports that once had lower volume, such as Newark Liberty International Airport. The basic structure of the NY/NJ/PHL airspace, however, has essentially remained the same and has not been adequately modified to address changes in the aviation industry, including increasing traffic levels and use of new types of aircraft. Therefore, the NY/NJ/PHL Airspace Redesign is needed to accommodate growth while maintaining safety and mitigating delays, and to accommodate changes in aircraft fleet mix using the system (e.g., increased use of smaller and regional jet aircraft). The purpose of the Airspace Redesign is to increase the efficiency and reliability of the airspace structure and ATC system to accommodate growth while enhancing safety and reducing delays in air travel.

As the agency responsible for managing the National Airspace System (NAS), the FAA continuously seeks ways to control air traffic more efficiently. In 1998, the FAA Administrator chartered the National Airspace Redesign as the primary means of modernizing the nation's airspace. The National Airspace Redesign was to take advantage of opportunities arising from new technologies, new aircraft equipage, improved infrastructure, and procedural developments to enhance safety and efficiency. From the beginning, the importance of the New York/New Jersey Philadelphia area was recognized. This airspace formed the northeast corner of the "Eastern Triangle" where the first redesign efforts were focused.

The current delay performance of the airspace around the New York/New Jersey and Philadelphia Metropolitan Areas illustrates the need for redesign. The Bureau of Transportation Statistics collects information on major airport on-time arrival performance. For the first quarter of 2007, out of their list of 32 major airports¹,

- Newark was the top-delayed, with 55% on time performance;
- LaGuardia was second from the top, 58% on time performance;
- JFK was fourth from the top, 60% on time performance;
- Philadelphia was fifth from the top, 65% on time performance.

The only airport in the top five as of the first quarter of 2007 that is not in this study area is Chicago-O'Hare International Airport. Airports in the NY/NJ/PHL Metropolitan Area are routinely among the top 10 most delayed airports in the nation. Of all the factors in the system that can cause delays, these airports have only one in common. Some are dominated by one or two carriers and others are not. Some have many foreign airlines,

1

http://www.bts.gov/programs/airline_information/airline_ontime_tables/2007_03/html/table_04.html

others have few. Some support hub-and-spoke operations and others do not. Some have very large aircraft, others have mostly smaller aircraft. Some are large, with long taxiways, others are small and cramped. At some, the traffic has grown substantially in recent years, at others it has not. The thing these airports have in common is the airspace used by their arrivals and departures. To solve the delay problem, the airspace must be addressed.

The Study Area for the project consists of the geographic area in which natural resources and the human environment are potentially affected by the proposed action, reasonable alternatives, and proposed mitigation. The Study Area was defined to include the areas underlying proposed changes to aircraft routes below 14,000 feet above mean sea level (MSL). According to FAA Order 1050.1E, the altitude ceiling for noise environmental considerations regarding airspace studies is 10,000 feet above ground level (AGL). The point at the highest altitude of the area where proposed airspace changes would occur was Hunter Mountain, New York at 4,000 feet above MSL. As a result, the overall altitude ceiling of the Study Area was 14,000 above MSL (resulting in 10,000 feet AGL). The Study Area includes the entire state of New Jersey, and portions of Connecticut, Delaware, New York, and Pennsylvania, an area of approximately 31,180 square miles. Section 3.1.1 of the Final EIS contains a more specific description of the Study Area.

The Study Area contains numerous public and privately owned airports. It would have been extremely difficult and unwieldy to include all of the airports in the Study Area in the analysis. The airspace design planning and environmental review process focused heavily upon the eight airports that were likely to be most affected by proposed airspace changes. These are: LaGuardia Airport (LGA), John F. Kennedy International Airport (JFK), Newark Liberty International Airport (EWR), Teterboro Airport (TEB), Philadelphia International Airport (PHL), Morristown Municipal Airport (MMU), Islip Long Island MacArthur Airport (ISP) and White Plains/Westchester County Airport (HPN). Airports that had more than 20 Instrument Flight Rule (IFR) operations on an average day were also included in the focused analysis. Airports with fewer than 20 IFR average annual day operations would have little impact on design elements or noise impacts in the study area. The thirteen additional airports that were included in the focused analysis are:

- Allentown/Lehigh Valley International (ABE)
- Atlantic City International (ACY)
- Bridgeport/Igor I. Sikorsky Memorial (BDR)
- Caldwell/Essex County (CDW)
- Westhampton Beach/The Francis S. Gabreski (FOK)
- Linden (LDJ)
- Newburgh/Stewart International (SWF)
- New Haven/Tweed-New Haven (HVN)
- Northeast Philadelphia (PNE)
- Republic (FRG)

- Trenton/Mercer County (TTN)
- Wilmington/New Castle County (ILG)
- McGuire Air Force Base (WRI)

To plan airspace redesign, the FAA undertook an extensive study. Technical specialists with in-depth knowledge of regional ATC issues evaluated the existing airspace structure, ATC procedures and routes, and the interaction of local air traffic with the NAS as a whole. The result of this team's effort is set forth in the EIS and supporting documentation in the administrative record.

Implementation of the Selected Project

This redesign project is very large and complex. We will begin implementation as soon as practicable. Implementation of the selected project is estimated to take five years. The implementation of the selected project contains several qualitatively different stages.

The first stage involves elements of the selected project that do not require large-scale changes to other parts of the system. These items may be implemented without changes to the current airspace structures or operations of neighboring facilities.

- Right turns for departures off Runway 31R at JFK
- Departure dispersal headings at EWR, PHL and LGA
- RNAV overlay procedures for TEB departures and approaches
- RNAV overlay for PHL river visual approach
- Develop an additional parallel airway to Jet Route 80
- A third westbound departure fix for PHL
- RNAV overlay for LGA Localizer Type Directional Aid (LDA) approach to Runway 22
- RNAV fix on the VOR 13L/R and 13L/R visual approaches to JFK

The next stage of implementation entails the integration of the terminal and en route airspace. At some point in this phase, we will address the NY TRACON and NY Center facility airspace structure will be addressed. This phase also concerns no change to the current airspace structures or operations of neighboring facilities. Aspects of the second phase include:

- Expanding the use of terminal separation rules
- Expanding the west gate for NY departures
- Opening the west gate for JFK departures
- Allowing stacked departures at the departure fixes
- Providing flexible use of the arrival airways
- Establishing a new arrival route into PHL

The next stage requires changes at other facilities, such as resectorization or shifting boundaries, but no changes to the current operational structure.

- Adding a third airway to the north gate

The remaining stage of implementation requires changes at facilities. This may include transfer of sectors as well as operational changes for the neighboring facilities. Aspects of the final stage of implementation include:

- Creating a new jet airway for departures to the west
- Enabling dependent instrument arrivals to the parallel runways at EWR and the required shift of the arrival streams into the NY/NJ area
- Creating a south gate for departures out of the NY/NJ area

III. Purpose and Need

The FAA's first consideration and highest priority in defining the Purpose and Need for any proposed action is to serve the public interest by exercising its authority to assign, maintain, and enhance safety and security of the national airspace (49 U.S.C. §40101(d)). The FAA also has the statutory responsibility to manage the use of navigable airspace to assure safety and efficiency. (49 U.S.C. §40103).

A. Need for the Project

As noted, congestion and delays at airports in the NY/NJ/PHL Metropolitan Area are some of the worst in the country and aircraft operations are forecast to continue to grow. In considering the need for an Airspace Redesign project, the FAA looked at the increase in traffic levels, safety, delays, and changes in the types of aircraft using the NAS.

1. Increased Aircraft Traffic Levels

Aircraft operations in the Study Area are growing despite the operational delays experienced by aircraft operators. Instrument operations² at most of the major airports in the Study Area have increased. See FEIS, Table 1-3. Dramatic increases have occurred at Newark (EWR), Philadelphia (PHL), and Teterboro (TEB) and these increases are forecast to continue. Current traffic at JFK has increased 44% from the year of 2004.³ Inefficiencies due to the inherent limitations of the existing airspace design, including route structure and ATC procedures, will be exacerbated by growth in air traffic operations. For example, in 2006 the NY TRACON handled 2,090,977 operations and is expected to handle 2,400,143 operations by 2011. FEIS at 1-23. As traffic increases, the system will become increasingly inefficient and unreliable (unpredictable in terms of

² Commercial operators and operators of certain large aircraft, e.g., business jet aircraft, are required to operate under Instrument Flight Rules. Additionally, many aircraft that are not required to operate under IFR choose to do so because of the air traffic services it provides.

³ FAA OPSNET Data

scheduling) in order to ensure safe operations. The following inefficiencies must be addressed in order to accommodate growth that will occur with or without the project:

- Access to en route airways is restricted by downstream congestion.
- EWR and LGA final approach courses are restricted and do not allow for optimal aircraft sequencing to the runways.
- Airspace sectors are currently associated with specific airports which cause an unbalanced use of the airspace, thus requiring excessive communications between controllers.
- Westbound departures from JFK create delays for westbound departures from EWR and LGA due to in-trail sequences.
- NY Metropolitan Area departures to north departure gate fixes are restricted due to inefficient airspace allocation.
- Arrivals to PHL are directed to lower altitudes to maintain separation from arrivals to the NY Metropolitan Area.

The airspace must accommodate growth in air traffic. To accommodate growth, the enhanced airspace system must maintain the current high level of safety and mitigate delays.

2. Safety

As noted above, the FAA has the statutory responsibility to control the use of navigable airspace in the interest of safety and efficiency. The following safety-related inefficiencies currently exist in the NY/NJ/PHL Metropolitan Area airspace:

- Arrivals to Westchester County Airport (HPN) from the south cross several traffic flows and create unnecessary complexity.
- Arrivals for airports to the north of the Study Area must be assigned high altitudes to avoid conflicts with the NY Metropolitan Area traffic. This creates the need to cross several traffic flows in a short distance while descending.
- Traffic to PHL, Islip (ISP), and their associated satellite airports⁴ is restricted to intersecting courses in narrow corridors of airspace.

⁴ PHL satellite airports include Chester County, Brandywine, New Garden, Wings Field, Northeast Philadelphia, Doylestown, Pottstown Limerick, and Capital City Airports. ISP Satellite airports include Brookhaven, Spadaro, Francis S. Gabreski, Republic, and Montauk Airports. Source: NPIAS 2005-2009.

- Airspace restrictions require incremental changes in altitude for arrivals and departures causing radio frequency congestion associated with additional control instructions.
- Departures from EWR to the Caribbean and South America must climb through PHL and Atlantic City (ACY) traffic resulting in traffic conflicts.
- High-performance general aviation aircraft operating out of satellite airports are restricted to less efficient altitudes below major airport flows. This creates increased controller workload to resolve traffic conflicts.
- Departures from ISP and ISP satellite airports to the south/southwest conflict with arrivals to the NY Metropolitan Area and northeast-bound departures from PHL.

Addressing the safety-related inefficiencies will contribute to enhanced safety in light of the growing traffic.

3. Delays

Delays affect aircraft operators with increased fuel use and operating costs, which are passed on to consumers in the form of higher ticket prices. Delays also impact the public by causing inconveniences with late arrivals, missed connections, and cancelled flights. The public expects a stable and reliable aviation system that supports on-time flights. People have dramatically increased their use of aviation as a mode of travel and increasing delays continue to receive much public attention. Delays are expected to increase in the future as traffic levels continue to grow. These issues prompted the airline industry and the Federal government to search for ways to reduce delays.

The current basic airspace structure was designed and implemented in the 1960s, based on the interaction of independent TRACONS and several overlying Centers.⁵ Today, the airspace system cannot efficiently handle the current and projected levels of traffic within the NY/NJ/PHL Metropolitan Area. In 1988, when the last large-scale airspace changes were made, the New York TRACON alone managed approximately 1,710,000 operations annually. In 2006, the New York TRACON handled 2,090,977 operations. By the year 2011, the traffic level is projected to increase to 2,400,143⁶ annual operations. The increasing traffic levels result in excessive user delays and inefficient routes. Between 2000 and 2006, total aircraft delays at TRACONS and Centers in the Study Area have increased dramatically. In addition, airports in the NY/NJ/PHL Metropolitan Area are routinely among the top 10 most delayed airports in the nation, due in part to the inefficiencies of the current airspace structure.

The following are among the causes for delay in the existing NY/NJ/PHL Metropolitan Area airspace:

⁵ See FEIS sections 1.2.1 – 1.2.3 for a discussion of the NAS and a description of the types of ATC facilities.

⁶ FAA APO Terminal Area Forecast Issued December 2006.

- Aircraft departing from the NY Metropolitan Area to the Washington Metropolitan Area are sequenced onto the same routes as long-haul destinations (e.g., Los Angeles).
- Entering and exiting holding patterns in en route airspace are inefficient because more restrictive en route separation rules are used and require extensive coordination.
- Chicago O'Hare International Airport (ORD) is one of the busiest airports in the nation and experiences significant delays. Because of the inflexibility of the current airspace structure, the in-trail restrictions placed on the ORD departures end up affecting all of the westbound departures from the New York/New Jersey/Philadelphia metropolitan areas routed over the same departure fix regardless of the destination airport.
- Aircraft departing from LGA and HPN have poor access to departure routes during severe weather conditions.
- Severe weather that occurs during periods of heavy traffic reduces flexibility for aircraft rerouting resulting in delays.
- During peak demand periods individual arrival fixes can become saturated while other arrival fixes are under used.

The Airspace Redesign is needed to address the system inefficiencies that cause delay.

4. Changes in Type of Aircraft

The mix of types of aircraft used by domestic air carrier and general aviation operators has changed rapidly over the past decade. Regional airlines have replaced propeller-driven aircraft with regional jets in response to consumer preferences and to begin service to new markets. Mainline air carriers have transitioned service on some routes from larger narrowbody aircraft to smaller regional jets because of the lower operating costs for regional jets. The net effect of these changes is that the same numbers of passengers are being transported with a higher number of operations by smaller aircraft. Additionally, there has been an increase in the use of private jets. The convenience of business jets, e.g., avoiding security delays and freedom to set one's own flight schedule, has encouraged many corporate travelers to increase their use of business jets. Fractional ownership programs have put the ability to use business jets into the hands of many more people. These factors have placed new strains on the NAS by increasing the number of high performance jets vying for the same routes and altitudes. Previously there were substantial numbers of propeller-driven aircraft operating at lower altitudes on separate routes. This increasing number of jets has resulted in a saturation of jet routes.

B. Purpose of the Project

The purpose of Airspace Redesign is to increase the efficiency and reliability of the airspace structure and ATC system, thereby accommodating growth while enhancing

safety and reducing delays in air travel. By taking advantage of new technologies and responding to new trends, the Airspace Redesign will increase efficiency and the reliability of the air traffic system.

A nationwide study conducted by Logistics Management Institute (LMI) in 1999 found that air traffic congestion nationwide could cost 46 billion dollars to the nation's economy in 2010 because of increased travel time. The nationwide change in travel time that was anticipated for 2010, converted to its equivalent in terms of the metrics used for this study, is approximately 3 minutes per flight. This includes costs to airlines, loss of service to people who wish to travel, and over 200,000 lost jobs in aviation and other industries. The NY/NJ/PHL airspace will handle 15-20% of all the air traffic in the nation in 2011. This airspace redesign is concerned with removing inefficiencies. Enhancing efficiencies would, conservatively estimated, yield benefits to airlines, passengers, and businesses of \$7 billion to \$9 billion in 2011.

Air traffic delays also increase costs associated with providing air traffic control services. Additional air traffic control staffing is needed during periods when there are air traffic delays. Analyzing FAA's delay summary report over the past two years for JFK, LGA, EWR and PHL, it is estimated that delays at these four airports alone cost \$30.5 million.

The Airspace Redesign is also needed to accommodate changes in the fleet mix using the system (e.g., increasing numbers of smaller and regional jet aircraft). These needs are tied to the fundamental purpose of the Airspace Redesign: to increase the efficiency and reliability of the airspace structure and ATC system in the study area.

Noise reduction is not a Purpose and Need for Airspace Redesign. In the case of the national airspace redesign (NAR), reduction of noise is not appropriately identified as a Purpose. Airspace redesign can not remedy noise problems for the 29 million people living in the study area. In fact, for many people within 10 to 15 miles of the airport, depending on where they live in relation to the runway alignments, there may be little or no mitigation possible and no noise benefits possible. Additionally, in heavily populated areas, such as those surrounding Philadelphia, Newark, LaGuardia, and Kennedy Airports, mitigation of noise in one neighborhood usually means moving the noise to another neighborhood, not moving it to an unpopulated area. Moreover, it is unclear how noise reduction should be defined where noise is predicted to increase and decrease over large populated areas experiencing different noise levels. Although reduction of noise is not included in the Purpose and Need, the FAA recognizes that aircraft noise was the major issue raised in agency and public comments throughout the EIS process. During the scoping meetings held in 1999 and 2001, the FAA committed to using the various techniques to reduce aircraft noise and other potential environmental impacts. These techniques included increasing altitudes, dispersing or concentrating tracks where appropriate, reducing flying time, and routing aircraft over less noise-sensitive areas where feasible.

IV. Alternatives Analysis

CEQ regulations require the FAA to “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” 40 C.F.R. §1502.14(a). In addition to a No Action alternative, as required by the CEQ regulations, 40 C.F.R. §1502.14(d), the FAA developed five categories of alternatives and evaluated them against the purpose and need for the project. Those categories of alternatives that did not satisfy the purpose and need for the project were not considered reasonable alternatives and were eliminated from detailed analysis. The categories of alternatives considered in the initial screening of alternatives in the EIS included the following:

- Alternative Modes of Transportation and Telecommunication—Using alternative modes of transportation and communication including travel by rail, bus, and automobile, as well as the use of telecommunication methods such as videoconferencing.
- Changes in Airport Use—Moving operations to satellite airports or improving infrastructure of existing airports.
- Congestion Management Programs—Regulating air travel demand by limiting flight operations. Three major congestion management techniques are administrative approaches, voluntary de-peaking, and market based-approaches.
- Improved Air Traffic Control Technology—Using newly developed air traffic control technologies.
- Airspace Redesign Alternatives—Creating restructured airspace routes, altitudes, and sectors.

A. Alternative Categories Eliminated from Detailed Study

In determining the reasonable alternatives for the project, the FAA looked at the categories of alternatives to determine whether each would meet the purpose and need for the Airspace Redesign project. Those categories of alternatives that did not meet the purpose and need for the project were eliminated from detailed study in the EIS. Four of the categories of alternatives, Alternative Modes of Transportation and Technology, Changes in Airport Use, Congestion Management Programs, and Improved Air Traffic Control Technology, were eliminated because they did not meet the purpose and need of the Airspace Redesign project. While the Alternative Modes of Transportation and Technology (Section 2.3.1), Changes in Airport Use (Section 2.3.2), Congestion Management Programs (2.3.3), and Improved ATC Technology (2.3.4) categories of alternatives may have had the potential to decrease delays they would not have addressed the inefficiencies in the current NY/NJ/PHL Airspace. Because these alternatives did not meet the purpose and need for the Airspace Redesign project, they were not considered reasonable alternatives and were not carried forward for detailed environmental analysis.

B. Alternative Concepts Considered for Detailed Analysis

Of the five categories of alternatives, one, Airspace Redesign, was found to meet the purpose and need for the Airspace Redesign project, and was carried forward for detailed analysis in the EIS. Additionally, as required by the CEQ regulations, the No Action Alternative was carried forward for detailed study.

Airspace in the NY/NJ/PHL Metropolitan Area could be redesigned by changing or enhancing departure gates, arrival posts, routes, and/or the airspace boundaries of the various ATC facilities. For the Study Area under examination, new departure gates and arrival posts would permit the development of new routes in the airspace structure. Expanding the boundaries of the terminal airspace environment would permit less restrictive separation rules to be used in a larger volume of airspace. These actions have the potential to meet the need to accommodate growth in air traffic levels while maintaining safety and mitigating delays. New routes could add efficiency by reducing delays and providing more direct routings; this has the potential to achieve the purpose of increasing the efficiency and reliability of the airspace structure and ATC system.

The FAA began consideration of airspace and ATC changes by analyzing potential airspace redesign alternatives for the NY/NJ/PHL Metropolitan Area airspace. A working group was formed to design and evaluate conceptual airspace alternatives. The working group included representatives from the affected facilities: NY TRACON, Philadelphia TRACON, New York Center, Boston Center, and Washington Center. The working group also included representatives from ATC facilities outside the Study Area to ensure the alternatives developed would be compatible with airspace requirements in those facilities. Also as part of the development of redesign concepts, input from external sources such as airlines, airport operators and the public was solicited and considered.

The working group developed assumptions and objectives for airspace redesign alternatives. The assumptions included point-to-point navigation and use of terminal separation standards over a larger airspace area. The objectives that guided the development of airspace redesign concepts were:

- Reduce congestion in airspace sectors
- Shorten routes
- Segregate routes for aircraft with dissimilar operating characteristics (i.e., large aircraft from small aircraft)
- Impose fewer climb restrictions on departing aircraft and keep arrivals higher longer
- Allow aircraft to operate at higher, more fuel-efficient altitudes for longer periods
- Use area navigation (e.g., RNAV, GPS, etc.)
- Create a flexible airspace structure
- Accommodate projected growth
- Reduce environmental impacts, where possible

Using the assumptions and objectives, the working group developed broad concepts that met the design objectives: the Four Corner-Post, Modifications to Existing Routing, a Clean Sheet approach. Additionally, the working group considered an Ocean Routing concept submitted by New Jersey Citizens for Environmental Research (NJCER) at the request of the New Jersey Coalition Against Aircraft Noise (NJCAAN).

After further consideration, the working group determined that the Four Corner-Post was a concept ill-suited to the NY/NJ/PHL Metropolitan Area airspace (Section 2.4.1.1) and was eliminated from further consideration because it did not meet the purpose and need of the airspace redesign project. Two of the remaining design concepts, modifications and clean sheet, would meet the purpose and need and were studied in detail in the EIS. Although Ocean Routing did not meet the purpose and need, it was studied in detail in order to address the long-standing concerns of NJCAAN.

Modifications to Existing Routing

This concept involves modifying the current route and procedures to improve efficiency in the current airspace.

Ocean Routing

This alternative routes all departing flights from EWR over the Raritan Bay to the Atlantic Ocean before turning them back over land to head to their departure gates. The Ocean Routing alternative does not meet the purpose and need for the airspace redesign project. It is designed to reduce noise impacts on the citizens of New Jersey, and would not increase the efficiency and reliability of the NY/NJ/PHL Metropolitan Area airspace. Because all EWR departures would use the same departure route, this alternative would inherently result in a large increase in airport departure delay. While Ocean Routing does not meet the purpose and need for the project, the FAA elected to retain it for detailed analysis because of the long-standing concerns of NJCAAN.

Clean Sheet Concept

The Clean Sheet approach began as an attempt to redesign the airspace in an atmosphere independent of existing routes. Designers were given a clean sheet of paper and were asked to design the most efficient airspace structure for the study area without reference to current procedures, departure gates, and arrival posts. It was initially explored as a concept that would be developed within the boundaries of the current NY Center and NY TRACON airspace. Any changes within this airspace would not require changes in adjacent Center's or TRACON's airspace. The working group discovered that the constraints of the NY Center's and NY TRACON's airspace boundaries did not facilitate the use of the clean sheet approach. This alternative, therefore, evolved into an integrated airspace concept that used some of the initial design elements of the Clean Sheet "Area Concept," and then added elements that more efficiently integrated the functions of the NY TRACON and NY Center to operate more seamlessly in either a standalone or consolidated manner. Therefore, a detailed airspace redesign alternative was developed based on the Integrated Airspace Concept.

C. Alternatives Analyzed in the EIS

After the working group validated the airspace redesign concepts, it developed detailed alternatives for the Modifications and Integrated concepts. The detailed alternative for Ocean Routing was developed by NJCER. The working group also developed criteria to evaluate the degree to which the alternatives met the purpose and need and to permit the

comparison of the alternatives to each other. These criteria fall into two groups, operational viability and operational efficiency.

The operational viability criteria consider whether a particular airspace redesign is workable and thus, safe. The criteria include:

- Reduce airspace complexity
- Reduce voice communications

The operational efficiency criteria consider how well a particular design works. The criteria include:

- Reduce delay
- Balance controller workload
- Meet system demands
- Improve user access to the system
- Expedite arrivals and departures
- Increase flexibility in routing
- Maintain airport throughput

1. The Alternatives

No Action Alternative

The No Action alternative represents all major traffic flows into and out of the Study Area in the study years 2006 and 2011 if no changes are implemented as a result of the Airspace Redesign project. The only major difference between this alternative and present day operations will be the type and quantity of aircraft operations. Under the Future No Action Airspace Alternative, the airspace will operate as it did during existing or baseline conditions (2000), with the exception of two procedural changes (i.e., the Dual Modena and the Robbinsville-Yardley Flip-Flop) that have been implemented and have independent utility with regards to the Airspace Redesign, see Section 1.2.6. As these changes have been implemented, they are included as part of the Future No Action Airspace Alternative. Figures 2.1 through 2.10 in Appendix A to this ROD identify existing major routing and flow patterns associated with the Future No Action Airspace Alternative.

Modifications Alternative

The Modifications alternative includes minor modifications to the current airspace and routing, improving operations as much as possible within the limitations of the current ATC facility boundaries. Figures 2.11 through 2.14 in the Final EIS identify major routing changes associated with the Modifications alternative. The table below summarizes the Modifications alternative.

Table 2.1

Summary of Modifications to Existing Airspace Alternative

Airport	Changes from Future No Action
JFK	No Changes
LGA	South departure gate shifted to the northwest New departure headings for aircraft departing Runway 4 to the North departure gate New propeller aircraft procedures departing Runway 13 to West departure gate New departure headings for propeller aircraft departing Runway 13 to the South departure gate New distant procedures for aircraft departing Runways 4 and 13 to the South departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	South departure gate shifted to the northwest New procedures for aircraft heading to new South departure gate New departure headings from all runways to all gates New departure headings off Runways 4L dependent on TEB Runway 6 New departure headings off Runways 22R dependent on TEB Runway 11
TEB	South departure gate shifted to the northwest New distant procedures for aircraft heading to shifted South departure gate
HPN	South departure gate shifted to the northwest New distant procedures for aircraft departing to the south gate
PHL	East departure gate shifted further east New procedures for aircraft heading to new East departure gate New departure headings for aircraft heading to the North, East, West, and South departure gates

Ocean Routing Alternative

The Ocean Routing alternative includes changes at EWR, LGA, and JFK and routes all EWR departing flights over the Raritan Bay to the Atlantic Ocean before turning them back over land to head to their departure gates. Figures 2.15 through 2.18 in the Final EIS identify major routing changes associated with the Ocean Routing alternative. The table below summarizes the Ocean Routing alternative.

Table 2.2
Summary of Ocean Routing Airspace Alternative

Airport	Changes from Future No Action
JFK	Shifted West departure gate New procedures for aircraft heading to the West departure gate Split of the FNA Ocean departure gate into the Ocean and South departure gates New procedures for aircraft heading to the South departure gate South arrival post shifted to the east New procedures for aircraft arriving from the South arrival post New procedures for aircraft arriving from the North arrival post
LGA	New procedures for aircraft heading to the North departure gate
EWR	Shifted West departure gate New procedures for aircraft heading to the West departure gate Shifted South departure gate New procedures for aircraft heading to the South departure gate New procedures for aircraft departing Runways 22L/R to the North departure gate New procedures for aircraft departing Runways 22L/R to the East departure gate
TEB	No Changes
PHL	No Changes

Integrated Airspace Alternative

The Integrated Airspace alternative combines the New York TRACON airspace with portions of the surrounding Centers’ airspace, permitting more seamless operations. The Integrated Airspace Alternative can be accomplished either with existing standalone facilities or in a consolidated facility. The key component of the Integrated Airspace alternative is a common automation platform.⁷ Using existing facilities, airspace would be reallocated among the facilities in order to facilitate a more seamless operation. At the time the Airspace Redesign project was begun, the FAA had not yet decided to approve an Integrated Control Complex (ICC) concept.

As a result, the Integrated Airspace alternative was designed with two variations. The initial phase (2006) is the same for both variations because an ICC will not exist in 2006. It involves modifications to a departure gates as well as additional diverging departure headings, however, airspace facility boundaries would not change. In the second phase (2011) there are two variations:

- Without ICC, which will integrate the airspace to the extent possible without the common automation platform includes expanded use of terminal separation, reallocation of airspace sectors and new technologies.
- With ICC, which involves full airspace integration includes multiple departure gates, additional arrival posts, and additional diverging departure headings.

⁷ A common automation platform includes shared displays on screens, radar data processing and presentation, and communication.

Figures 2.19 through 2.22 in the Final EIS identify major routing changes associated with the Integrated Airspace alternative without ICC. The table below summarizes the Integrated Airspace alternative without ICC.

Table 2.3

Summary of Integrated Airspace Alternative Variation without ICC

Airport	Changes from Future No Action
JFK	No Changes
LGA	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate New departure headings for aircraft departing Runway 4 to the North departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	New departure headings for all runways and all gates Procedures off Runway 4L dependent on TEB Runway 6 to West departure gates New procedures for aircraft heading to the West departure gate Procedures off Runway 4L dependent on TEB Runway 6 to North and East departure gates Procedures off Runway 22R dependent on EWR Runway 11 use Expanded West departure gate
TEB	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate New procedures for turboprop aircraft arriving from the northeast
HPN	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate New distant arrival procedures
PHL	New departure headings for aircraft heading to the North, East, West, and South departure gates

Figures 2.24 through 2.33 in Appendix A identify major routing changes associated with the Integrated Airspace alternative with ICC. The table below summarizes the Integrated Airspace alternative with ICC.

Table 2.4

Summary of Integrated Airspace Alternative Variation with ICC

Airport	Changes from Future No Action
JFK	North departure gate shifted 15 miles northeast New distant procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate Future No Action Ocean departure gate split into Ocean and South departure gates New distant procedures for aircraft heading to the Ocean departure gate New procedures for aircraft heading to the South departure gate North arrival post shifted five miles southeast New distant procedures for aircraft arriving from the North arrival post East arrival post shifted northwest New procedures for aircraft arriving from the East arrival post South arrival post shifted to the northeast New procedures for aircraft arriving from the South arrival post

Table 2.4

Summary of Integrated Airspace Alternative Variation with ICC

Airport	Changes from Future No Action
LGA	East departure gate shifted east North departure gate shifted 15 miles northeast New procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate South departure gate shifted to the northwest New procedures for aircraft heading to the South departure gate North arrival post shifted 30 miles east New procedures for aircraft arriving from the North arrival post West arrival posts shifts to coincide with Future No Action South arrival post New procedures for aircraft arriving from the west to coincide with the South arrival post
	West arrival flow split into two arrival flows, one to the north and one to the south New departure headings for aircraft departing Runway 4 to the North departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	New departure headings for all runways and all gates East departure gate shifted to the east New procedures for aircraft heading to the East departure gate North departure gate shifted to the northeast New procedures for aircraft heading to the North departure gate West departure gate expanded to the north and south New procedures for aircraft heading to the West departure gate South departure gate shifted to the southwest New procedures for aircraft heading to the South departure gate New Ocean departure gate New procedures for aircraft heading to the Ocean departure gate North arrival post moved to 50 miles north of EWR New procedures for aircraft arriving from the North arrival post West arrival post shifted to be near Greenville, NY West arrival flow split into two arrival flows, one to the north and one to the south New procedures for aircraft arriving from the South arrival post Use of both parallel runways for arrivals
TEB	Departure gates match those of EWR Integrated Airspace with ICC New distant procedures for aircraft heading to the North departure gate New distant procedures for aircraft heading to the West departure gate New distant procedures for aircraft heading to the South departure gate West arrival post shifted 15 miles south New procedures for aircraft arriving from the West arrival post New procedures for aircraft arriving from the West arrival post from the vicinity of Yardley, PA
HPN	North departure gate shifted 15 miles northeast New distant procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate South departure gate shifted to the west New departure procedures for aircraft departing to the south gate North arrival post shifted to the east New distant procedures for aircraft arriving from the north gate New distant procedures for aircraft arriving from the south
PHL	West departure gate expanded to the northwest

Table 2.4

Summary of Integrated Airspace Alternative Variation with ICC

Airport	Changes from Future No Action
	New procedures for aircraft heading to the West departure gate East departure gate is shifted to the east New procedures for aircraft heading to the East departure gate West arrival post shifts to the northeast New distant procedures for aircraft arriving from the West arrival post New departure headings for aircraft heading to the North, East, West, Southwest, and South departure gates Additional route added to North arrival post

A summary of the comparison of the alternatives can be found below.

Table 2.6

Operational Comparison of Alternatives

(The most advantageous operational metric has been shaded and boldfaced)

Purpose & Need Evaluation Criteria	How Measured	Alternative				
		Future No Action	Modifications to Existing Airspace	Ocean Routing Airspace	Integrated Airspace	
					without ICC	with ICC
Reduce Complexity	Jet route Delays + time below 18,000 feet (minutes)	12	12	12	11	10
	Arrival Distance below 18,000 feet (nautical miles)	96	95	99	96	102
Reduce Voice Communications	Max Interfacility handoffs per hour	525	525	521	529	382
Reduce Delay	Traffic weighted arrival delay 2011 (minutes)	22.9	22.6	23.6	22.8	19.9
	Traffic weighted departure delay 2011 (minutes)	23.3	20.9	29.5	20.8	19.2
Balance Controller Workload	Equity of West gate fix traffic counts	0.37	0.37	0.37	0.34	0.30
Meet System Demands & Improve User Access to System	End of day's last arrival push (time)	23:54	23:54	23:54	23:54	23:00
Expedite Arrivals and Departures	Time below 18,000 ft (minutes)	18.5	18.2	18.8	18.2	18.6
	Change in route length per flight (nautical miles) ⁽¹⁾	0.0	0.0	4.5	-1.2	3.7
	Change in block time (minutes per flight) ⁽¹⁾	0.0	-0.9	3.9	-1.0	-1.4
Flexibility in Routing	Delay saved per flight per day (minutes)	0	0	0	0	12.6
Maintain Airport Throughput	Arrival Max Sustainable Throughputs	223	223	223	223	238
	Departure Max Sustainable Throughputs	238	239	221	240	245

Notes: (1) A negative value indicates a net decrease in the category.

Source: Operational Analysis of NY/NJ/PHL Metropolitan Area Airspace Redesign Alternatives, (MITRE Technical Report - MTR 05W0000025, March 2005, Table ES-1. Summary of Operational Impacts, p. ix.).

V. Preferred and Environmentally Preferred Alternatives

At the time the Draft EIS was published, the FAA had not selected a preferred alternative. The FAA preferred to consider public and agency comments on the DEIS prior to identifying its preferred alternative. In March 2007, FAA announced the Integrated Airspace Alternative with ICC as its preferred alternative. This alternative was preferred because it best meets the purpose and need for the project: to improve the efficiency and reliability of the airspace thereby accommodating growth while enhancing safety and reducing delays. Table 2.6 provides an operational comparison among the alternatives. The Integrated Airspace Alternative in its ICC variation provides the best improvement in ten of the thirteen metrics that quantify each element of the purpose and need for the redesign. While the Modifications alternative and the Integrated Airspace alternative without ICC variation would provide marginal reduction in many metrics, the Integrated Airspace Alternative with ICC would provide substantial benefits. The metrics that relate most directly to user costs (delay, routing flexibility and block time) are only improved by the Integrated Airspace alternative with ICC. Ocean Routing would decrease the airspace efficiency and add complexity to the airspace, thus it does not meet the purpose and need for the project. Therefore, the Integrated Airspace Alternative with ICC is the preferred alternative.

After selecting the Integrated Airspace Alternative with ICC as the preferred alternative, FAA began the process of developing measures to alleviate, to the extent possible, the impacts associated with the preferred alternative. Mitigation measures are those designed to avoid, minimize, rectify, reduce, eliminate, or compensate for environmental impacts. Because the preferred alternative would result in significant noise and noise-related (environmental justice) impacts in some areas, mitigation measures were developed to reduce the noise impacts where possible. FAA considered mitigation for all areas, including areas that did not receive a significant or slight to moderate impact. FAA also considered mitigation to address long-standing issues that might be improved as a result of airspace redesign.

After the Draft EIS was published, FAA identified a number of potential mitigation measures for the project. Additionally, FAA considered all public comments that included potential mitigation measures, which numbered over 450. Many of the public mitigation comments focused on similar issues and techniques as those identified by the FAA. An initial screen was performed on each proposed measure. Some measures were immediately discarded because they presented operational or safety problems. Each remaining proposed mitigation measure was subjected to a two-step operational modeling. This modeling was both qualitative and quantitative. The two-step operational modeling identified whether a proposed measure was viable and the degree to which the proposed measure impacted the operational efficiency of the preferred alternative. In some cases a noise screen was applied to determine which measures provided the best alternatives for noise reduction. Details of this process can be found in Chapter 5 of the Final EIS.

FAA considered the environmental impacts of the preferred alternative with the mitigation that resulted from the screen. The results of those analyses, the Mitigation Report, were published in April 2007. FAA solicited comments on the Noise Mitigation Report including holding several public meetings. Mitigation measures were then incorporated into the preferred alternative resulting in the mitigated preferred alternative: the Integrated Airspace Alternative with ICC and mitigation measures.

The following mitigation measures have been identified as part of the selected project:

- HPN Departures—Departure routes shifted to the north shifted closer to the no action location
- LGA Departures—Departure headings reduced to two except during the morning push
- LGA Arrivals—Increased use of Localizer Directional Aid (LDA) arrival to Runway 22
- EWR Departures—Number of departure headings used based on demand; at night use modified ocean routing procedure
- EWR Arrivals—Raised arrival altitudes for Runways 22L/R in the vicinity of Bergen County, New Jersey and Rockland County, New York; raised arrival altitudes for Runways 4L/R in the vicinity of Sussex and Morris Counties, New Jersey; use continuous descent approach (CDA) during nighttime hours for arrivals from the northwest and southwest
- PHL Departures—Use one departure heading for Runways 9/27 L/R during nighttime hours
- PHL Arrivals—Increased use of River Approach (visual) to Runway 9; use CDA during nighttime hours for arrivals from north, northwest, and southwest

The mitigated preferred alternative is also the environmentally preferred alternative. In 2006 it reduces the number of persons who would be significantly impacted by noise to 545 people near PHL. In 2011, the mitigated preferred alternative would result in no significant impacts. The mitigated preferred alternative is the FAA's selected project.

VI. Environmental Impacts and Mitigation

In accordance with the guidelines set forth in the CEQ regulations and FAA Order 1050.1E, Chapter 4 of the EIS describes the potential impacts of implementing the project. Potential impacts include both the direct and indirect effects of the proposed project and all reasonable alternatives. A total of nineteen impact categories were analyzed. The technical findings in the EIS provide federal decision-makers and officials, as well as the public, with an understanding of the potential effects of the project on the human, physical, and natural environment.

The potential impacts of the Airspace Redesign project were determined by comparing the projected future conditions without the project (Future No Action) with the projected future conditions for each action alternative. As discussed in section III above, the action alternatives analyzed for environmental impacts are: Modifications, Ocean Routing, and two variations of the Integrated Airspace, without ICC, and with ICC.

A. Study Years

The EIS used the year of 2000 as the baseline year for the analysis. The year 2000 was used for several reasons. First, when the EIS analysis began, the year 2000 was the most recent complete calendar year for which air traffic statistics were available. Additionally, at the time the EIS analysis began, 2000 was the last full robust year of air traffic activity prior to the aviation slowdown resulting from terrorist activities and economic downturns. Finally, a study of the scope and magnitude of the EIS takes a number of years to develop fully. The analysis, specifically the noise modeling for the Draft EIS, took approximately three and a half years to complete. Because of the time involved in performing the noise analysis, any baseline year would be several years in the past.

The years 2006 and 2011 were used as implementation years in the EIS. At the time the EIS analysis began, the FAA expected that if an action alternative were selected, implementation of the selected alternative would occur in stages. Some of the elements of an action alternative, for example using dispersal headings and transferring airspace from other air traffic facilities, could be implemented almost immediately, after training air traffic controllers. Because some elements of an action alternative could be implemented almost immediately and the Draft EIS was expected to be published in 2005, it was reasonable to assume 2006 as the first implementation year. Appendix B contains an analysis of forecast and actual traffic for 2006; the forecast was found to be reasonably close to the actual operations. The EIS is replete with references to 2006 as the first year in which this project would begin to be implemented. However, as a result of the extended comment period and the volume of public comments received, this proposed implementation date has been delayed by one year. In order to avoid confusion and the perception that this ROD addresses a proposal other than the one presented in the EIS, we have continued to refer to 2006 as the year of initial implementation.

B. Forecasts

The FAA developed forecasts of future aviation activity for the purpose of designing the detailed alternatives and analyzing the impacts of those alternatives. The FAA's Office of Aviation Policy and Plans (APO) develops and regularly updates Terminal Area Forecasts (TAF) for selected airports throughout the country. The TAF however does not provide sufficient detail required for environmental modeling. For example, the TAF does not provide aircraft type, destination, and time of day of operations. As a result a forecast of future IFR aviation activity in the Study Area was prepared for this project. The forecast developed for this project centers around IFR flights at the 21 airports on which this study focused. Specific forecasts were not developed for the remaining airports in the Study Area. Because there would be no change in procedures at those airports as a result of the project, specific forecasts were not needed for the operational modeling. FAA recognized that in order to accurately portray the noise exposure, IFR operations from the other airports in the Study Area must be included in the forecasts for the noise analysis. IFR flights through the study area at an altitude below 14,000 feet MSL were included in the noise analysis as overflights. Overflights, for the noise

forecast, included flights that may have originated at or been destined for an airport within the study area that was not one of the 21 focus airports, as well as flights that did not originate from and/or were destined for an airport outside the study area.

In developing the forecast, the project team paid particular attention to the forecast for the general aviation (GA)⁸ sector. The corporate aviation market, which is generally identified as business executive transportation using small jets and turboprop aircraft, is expected to grow much faster than scheduled airline service. This is primarily because of growth in fractional ownership programs in which businesses or individuals purchase a portion of an aircraft and share its use with other owners. Appendix B to the Final EIS contains details on forecasts including the assumptions upon which the forecasts were made.

Aircraft, including helicopters, operating under visual flight rules (VFR) are not part of this study and were not included in the forecasts because they are unaffected by proposed alternatives. VFR aircraft are not required to be in contact with ATC. Because VFR aircraft operate on a “see and be seen” principal and are not required to file flight plans, FAA has very limited information for these operations. There is no known source of comprehensive route, altitude, aircraft type, and frequency information for VFR operations in the study area. VFR aircraft generally fly in two ways—either in a pattern around an airport or to some destination of the pilot’s choosing. VFR aircraft do not fly set routes to the same destination on each flight. A pilot operating an aircraft under VFR has the discretion to select his destination, route of flight, altitude, and the frequency with which he flies.

The Airspace Redesign project covers over 31,000 square miles and involves five major airports, sixteen satellite airports, and numerous other airports. As a practical matter, VFR aircraft can depart from or arrive at virtually any airport in the study area or simply pass through the study area on their way to their destination. They can take any route while in the study area. There is no effective method of obtaining a representative sample of the frequency of VFR flights, their routes, altitudes, destinations, and the type of aircraft used over the study area for this type of project. To address potential cumulative noise impacts from VFR traffic the FAA conducted noise monitoring at 18 locations during two distinct periods, resulting in over 36 individual data sets.

In contrast, there are ways for the FAA to obtain the sample data necessary to analyze VFR operations in NEPA documents for discrete proposed airport development projects. The study area for such projects is centered on the specific area surrounding that airport. Most impacts take place in the general area surrounding the airport. Landing and takeoff routes for airport-specific projects are limited by the runway configuration at the airport, and surveys can be conducted to determine representative destinations for VFR aircraft.

⁸ General aviation refers to aircraft operations other than those by scheduled passenger and cargo aircraft not characterized as air carriers or air taxis.

C. Impacts and Mitigation

Chapter 4 of the Final EIS contains a detailed analysis of the environmental impacts of all of the alternatives for each of the study years. A detailed discussion of the mitigated preferred alternative, the selected project, appears in Chapter 5 of the Final EIS. This section of the ROD will discuss the impacts of the preferred alternative and the selected project as compared with the no action alternative.

1. Noise and Compatible Land Use

A. Noise

As required by FAA Order 1050.1E, the Noise Integrated Routing System, NIRS, was used to model the noise impacts of the Airspace Redesign project because the project involved a study area larger than the immediate vicinity of an airport, incorporates more than one airport and includes actions above 3,000 AGL. FAA also applied its criteria of significance, an increase of 1.5 dB DNL or more on any noise sensitive area within the 65 dB DNL area, to determine whether the project would result in a significant noise impact. Additionally, FAA reported areas of slight to moderate impacts, that is areas already experiencing noise between 60 to 65 dB DNL that experience a 3 dB DNL or more increase, and areas between 45 and 60 dB DNL that experience a 5 dB DNL or more increase. Section 4.1.2 of the Final EIS contains the detailed environmental analysis of each of the alternatives with respect to noise and compatible land uses.

Under the Future No Action Alternative, there will be a slight growth in noise exposure because of an increase in aircraft operations expected in 2006 and 2011. Approximately 72,141 people in the Study Area, principally in the areas surrounding Kennedy, Newark Liberty, LaGuardia, and Philadelphia Airports, are projected to be exposed to aircraft noise levels greater than 65 dB DNL in 2006. In 2011, this number is 75,459. In 2006 213,692 people in the Study Area are projected to be exposed to noise levels in the 60 to 65 dB DNL range. This number declines to 209,793 in 2011. The Study Area population projected to be exposed to noise levels in the 45 to 60 dB DNL range is 11,774,446 in 2006 and 11,688,798 in 2011.

The selected project would cause approximately 21,399 people to be significantly impacted, which means they would experience a change in noise levels of +1.5 dB or more at a level of 65 DNL dB or greater in 2006. These impacts would occur principally in areas surrounding Kennedy, LaGuardia, Newark Liberty and Philadelphia Airports, specifically in the area of Rikers Island and Hunts Point in New York, Elizabeth, New Jersey, and Essington, Crum Lynne, Woodlyn, Wallingford, Rose Valley, Parkside, Brookhaven, and southeastern Chester Heights in Pennsylvania. The noise increases over Rikers Island and Hunts Point result from the new departure headings off LGA Runway 31 to the north and west gates. The noise increases over Elizabeth, New Jersey are caused by new departure heading off EWR Runways 22L/R. In the Philadelphia area, the noise increases are caused by new departure headings from PHL Runways 27L/R.

Slight to moderate impacts would also result from the preferred alternative in 2006. Approximately 37,558 people in the Study Area would experience an increase of 3 dB DNL who would be in areas experiencing noise exposure of 60 to 65 dB DNL. In areas that would experience 45-60 dB DNL, the number of persons experiencing a slight to moderate impact, 5 dB DNL, would be 142,517.

The preferred alternative would also result in noise decreases in 2006. Within areas that would experience noise exposure of 65 dB DNL and above, 5,970 persons would experience a noise reduction of 1.5 dB DNL or more. One person within the 60-65 dB DNL would experience a noise reduction of 3 dB DNL, and 39,400 people in areas that would experience 45-60 dB DNL would experience a noise reduction of at least 5 dB DNL.

The year 2011 represents the full airspace consolidation and full implementation of the preferred alternative. Significant impacts will occur in 2011 with the preferred alternative, again principally in the areas surrounding Philadelphia, Newark Liberty, Kennedy and LaGuardia Airports. A total of 15,826 people in the study area will experience significant noise impacts principally in the areas of Rikers Island and Hunts Point, New York, Elizabeth, New Jersey, and Essington, Crum Lynne, Woodlyn, Wallingford, Swarthmore, Media, Rose Valley, and Parkside, Pennsylvania. The 2011 noise increases result from the same design elements that cause significant impacts in 2006. While 2011 will result in significant noise impacts, those impacts will affect a smaller number of people in the study area in 2011 than in 2006.

Slight to moderate impacts would also result from the preferred alternative in 2011. Approximately 34,824 people in the Study Area who would be in areas experiencing noise exposure of 60 to 65 dB DNL would experience an increase of 3 dB DNL. In areas that would experience 45-60 dB DNL, the number persons experiencing a slight to moderate impact, 5 dB DNL, would be 290,758.

The preferred alternative would also result in noise decreases in 2011. Within areas that would experience noise exposure of 65 dB DNL and above, 6984 persons would experience a noise reduction of 1.5 dB DNL or more. Within the 60-65 dB DNL 22 people would experience a noise reduction of 3 dB DNL, and 62,537 people in areas that would experience 45-60 dB DNL would experience a noise reduction of at least 5 dB DNL.

With respect to noise, the selected project (the mitigated preferred alternative) would result in a decrease in the number of significantly impacted persons in 2006 to 545, in an area west of Philadelphia International Airport, and the elimination of significant noise impacts in the year 2011. Because the mitigation measures applied to the Integrated Airspace alternative with ICC, the analysis focused on the year 2011. As a result of the mitigation measures, the number of persons who would experience a significant noise impact would be reduced to 0 from the 15,826 people who would experience a significant noise impact without the mitigation measures. With respect to slight to moderate impacts, 16,803 people who would be in areas experiencing noise exposure of 60-65 dB

DNL would experience a 3 dB DNL increase in noise, down from 34,824 without mitigation. In areas that would experience noise exposure between 45 and 60 dB DNL, 50,392 would experience a 5 dB DNL increase, as compared to the 290,758 persons who would experience a similar increase without mitigation. See Chapter 5 of the Final EIS for additional details.

As compared to the Future No Action in 2011, the selected project would reduce the number of people experiencing noise exposure of 65 dB DNL and above by 778 people. It would result in increases in the number of people experiencing noise exposure levels between 60 and 65 dB DNL and 55-60 dB DNL by 30,594 and 79,813 respectively. In 2011, the number of people projected to be exposed to noise at the 50-55 dB DNL level would be reduced by 180,411 people over the Future No Action alternative. Finally, 548,241 fewer people will experience a 45-50 dB DNL noise exposure as a result of the selected project.

The selected project will not have a significant impact with respect to noise in 2011.

B. Compatible Land Use

For airspace redesign projects, incompatible land uses result chiefly from noise impacts. Excessive noise exposure may be incompatible with noise sensitive land uses, such as residences, schools, hospitals, places of worship, parks, and historic sites. Residences in the areas that would experience significant noise impacts as a result of the selected project would constitute incompatible land uses. Additionally, several noise sensitive properties would experience significant noise impacts. They are: Inwood Country Club near JFK; residences at 34 E. 4th Street and 406 Marshall Street and the John Marshall School, and the Bronx Powder Company and the Jenkins Rubber Company buildings near EWR; and the Westinghouse Industrial Complex near PHL. Based on the level of noise modeled for these noise sensitive sites and their use, only the residences at 34 E. 4th Street and 406 Marshall Street and the John Marshall School would represent an incompatible land use.

When the mitigation measures are considered, the selected project would not result in incompatible land uses. As stated in the discussion of noise impacts, the mitigation decreases the number of significantly impacted people to 545 in 2006 and eliminates all significant noise impacts to people in 2011, therefore the selected project would not result in incompatible residential land uses in the long term. With respect to other noise sensitive properties, only the Inwood Country Club and the Westinghouse Industrial Complex would continue to be subject to significant noise impacts by the selected project. Based on their use, the level of noise exposure at the Inwood Country Club and Westinghouse Industrial Complex would not represent incompatible land uses.

2. Socioeconomic Impacts and Environmental Justice

A. Environmental Justice

FAA afforded meaningful opportunities for minority and low income populations to participate in the environmental review process by conducting extensive public outreach activities. The FAA held 31 pre-scoping workshops, 28 formal scoping meetings, 30 public meetings on the Draft EIS and 7 public information meetings on the Noise Mitigation Report. These meetings were held in locations accessible by public transit, translators were provided, and meetings were advertised by contacting community leaders and using specialized foreign language media. The public information meeting in Newark, New Jersey was held near the potentially affected community.

Environmental Justice impacts were evaluated using the definitions of minority and low income populations in DOT Order 5610.2 and the Council on Environmental Quality Guidance Under the National Environmental Policy Act. For purposes of the analysis, a high and adverse effect was considered to be a significant impact. As all of the proposed airspace redesign alternatives have potentially significant noise impacts, census data was used to determine the income and minority composition of the significantly impacted areas. This data was used to determine whether these alternatives would result in disproportionately high and adverse effects on minority or low income populations.

The data indicated that all of the airspace redesign alternatives, with the exception of the Ocean Routing Airspace Alternative, would result in environmental justice impacts on minority populations, but not low-income populations. See FEIS Section 4.2 for more details. The preferred alternative would have disproportionately high and adverse impacts on minority populations principally at Rikers Island near LaGuardia and in areas surrounding Newark Liberty and Philadelphia International. As the median income in the effected residential areas exceeds the poverty level there would be no disproportionately high and adverse impacts on low income populations.

Mitigation measures were considered to avoid or minimize the significant impacts for the preferred alternative, in the Final EIS. With mitigation, the preferred alternative would cause significant noise impacts in a residential area located west of PHL upon initial implementation (2006) but all such impacts would be eliminated by 2011.

Closer examination of impacts by census block showed that the overall population significantly impacted by noise in 2006 is less than 50% minority. When the minority population significantly impacted by noise (highest percentage is 17%) is compared to the minority population for Delaware County, 18.7%, the minority population significantly impacted is not meaningfully greater than that of the surrounding area. The percent minority population and median income of each of the significantly impacted census blocks in 2006 is shown in FEIS Table 5.10. The data in the table indicates that median income levels in the significantly impacted areas are above the poverty level.

Based on the above, the project selected for approval and implementation in this ROD, the Preferred Alternative with mitigation, would not cause a disproportionately high and adverse health or environmental impact upon minority or low income populations in 2006 or 2011.

B. Socioeconomic Impacts

FAA Order 1050.1E requires that socioeconomic impacts be considered in environmental analyses of major federal actions. Both direct and indirect impacts were considered in evaluating the selected project. Factors to be considered in determining whether a project would result in significant socioeconomic impacts include whether the project would cause extensive relocation of residents and sufficient replacement housing would not be available; whether there would be extensive relocation of community businesses that would create a severe hardship for the community; whether there would be disruptions of local traffic patterns that substantially reduce the level of service on the roads in the surrounding community; and whether there would be a substantial loss in a community tax base.

The selected project would not result in the construction of facilities. As a result relocation of residences or community businesses would not be required, local traffic patterns would not be disrupted, and there would be no loss of tax base. There would be no direct socioeconomic impacts as a result of the selected project.

Because the preferred alternative would result in significant noise impacts, FAA considered whether it would create indirect socioeconomic impacts. All of the significantly impacted census blocks are located in the immediate vicinity of LaGuardia, Newark Liberty, and Philadelphia. These areas are currently exposed to extensive aviation noise, and would continue to be exposed to noise at similar levels with the Future No Action alternative. Additionally, because of their urban settings, ambient noise is also high in these areas. It would be unlikely that residences or businesses would relocate, surface transportation patterns would be altered, established communities would be divided, planned development would be disrupted, or employment levels would be changed as a result of the selected project. When mitigation is considered, the selected project eliminates significant noise impacts in the long term, thus eliminating the potential for indirect socioeconomic impacts.

3. Secondary or Induced Impacts

Major federal actions have the potential to create induced or secondary impacts on the surrounding communities. Significant induced impacts would normally result from shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity as a result of the project. Significant secondary impacts would normally only result when there are significant impacts in other impact categories, specifically noise, land use, and social impacts.

Secondary or induced impacts were considered in the areas in which the preferred alternative would create significant noise impacts. All of the significantly impacted areas are located in the immediate vicinity of LaGuardia, Newark Liberty, and Philadelphia Airports. These areas currently are exposed to extensive aircraft noise and would continue to be exposed to similar noise levels with the Future No Action alternative. The

areas are also located in an urban setting in which ambient noise is also high. For these reasons, there would be no significant secondary or induced impacts as a result of the preferred alternative. When mitigation is considered, significant noise impacts are eliminated long term eliminating the potential for secondary or induced impacts as a result of the selected project.

4. Department of Transportation Act Section 4(f) and Land and Water Conservation Act Section 6(f).

A. Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act of 1966 (16 U.S.C. §470), as amended requires Federal agencies to consider the effects of their undertakings on properties listed or eligible for listing on the National Register of Historic Places. In assessing whether an undertaking, such as the preferred alternative, effects a property listed or eligible for listing on the National Register of Historic Places, both primary and indirect effects must be considered. Primary effects include the physical removal or alteration of an historic resource. Indirect impacts include changes in the environment of the historic resource that could substantially interfere with the use or character of the property. Such changes include changes in noise, vehicular traffic, and visual impacts.

Neither the preferred alternative nor the selected project includes any ground disturbance, and as a result neither would have direct affects on historic resources in the Study Area.

In order to assess the indirect impacts of the preferred alternative on historic resources, the FAA identified the area of potential effect (APE). The APE consisted of all census blocks with significant noise impacts. The State Historic Preservation Officers (SHPO) in each of the states in the Study Area, except Delaware, agreed to this methodology. The Delaware SHPO requested that all of New Castle County, within the Study Area, be examined for impacts to cultural resources. Potential noise changes in this area of interest were considered while developing the APE. Ultimately, the APE did not include any areas in the states of Connecticut or Delaware because not only were there no significantly impacted census blocks within these states, there were also no moderately or slightly impacted census blocks in either state.

Seventeen historic resources were identified as being in the APE: the Inwood Country Club near JFK, the Unification Chapel, the residences at 34 E. 4th Street and 406 Marshall Street, the John Marshall school, the Bronx Powder Company and the Jenkins Rubber Company buildings, and the Singer Factory District, the Italianate Rowhouse at 168-173 Reid Street, the Sacred Heart Church and School and a portion of the Central Railroad of New Jersey, near EWR; and the Lazaretto, the Printzhof, the Corinthian Yacht Club and Springhouse, the Art Moderne House, the Linde Air Products Corporation, the Westinghouse Village row houses and the Westinghouse Industrial Complex located near PHL. Since publishing the Final EIS, it was discovered that several sites eligible or potentially eligible for listing on the National Register of Historic

Places were inadvertently omitted from the discussion in the FEIS. This information is contained in Appendix B.

None of these historic properties is listed or eligible for listing on the National Register of Historic Places because of a quiet setting, therefore an increase in noise, even a significant increase in noise, would not constitute an adverse effect. The FAA has coordinated its determination of no adverse effect with the respective SHPOs. The Pennsylvania SHPO initially sought additional information with respect to the project, however each of the SHPOs has concurred with the FAA's determination of no adverse effect.

B. Parks, Wildlife Refuges

The Draft EIS and Final EIS addressed the FAA's requirement under Section 4(f) of the Department of Transportation Act of 1966 [codified as 49 U.S.C. §303(c)] to determine whether the selected project would result in the use of protected lands or historic properties. Section 4(f) provides that the "Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if there is no prudent and feasible alternative to using that land; and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use." The term "use" encompasses not only physical use but may also include adverse impacts such as noise ("constructive use"). A constructive use of a Section 4(f) resource occurs only when the adverse impacts of a project substantially diminish the activities, features, or attributes of the resource that contribute prominently to its significance or enjoyment."⁹

As explained in the Draft EIS and Final EIS, there would be no actual, physical taking of any Section 4(f) property for the selected project. The selected project does not require land acquisition or facility construction. While the selected project has been described as the Integrated Airspace Alternative with Integrated Control Complex, the EIS has made it clear that an ICC can be accomplished within existing buildings with a shared automation platform.

The key issue in terms of constructive use for airspace redesign is project-related aircraft noise. A secondary issue in terms of constructive use for airspace redesign is visual impacts. Chapter Four of the Draft EIS indicated that the Airspace Redesign would not cause use of any Section 4(f) lands and historic sites. Chapter Four relied primarily upon application of the land use compatibility guidelines in 14 CFR Part 150. In response to comments on the Draft EIS, the FAA re-evaluated the applicability of Part 150 guidelines to Section 4(f) resources in the Study Area. Based upon consultation with the National Park Service and comments from interested parties, the Final EIS included information

⁹ 23 CFR §771.135(p)(4)(ii)

about: (1) Section 4(f) resources potentially having quiet settings as a generally recognized feature or attribute of their significance, (2) a determination of no constructive use when such resources would be predicted to experience less than a 3 DNL change in noise as a result of the selected project in 2011, and (3) the nature of airspace changes affecting such resources predicted to experience 3 DNL or greater increases in noise in 2011. The following paragraphs summarize the information included in Chapter Five of the Final EIS.

Based upon consultation with NPS and interested parties and the data and analyses described in Chapter 5 of the Final EIS and this ROD, FAA has gained additional knowledge about the relative nature and magnitude of project-related impacts in the overall context and the values of the resources protected by Section 4(f) in the study area. The data and analyses indicate that the mitigated Preferred Alternative will not result in a use of a park, recreation area or wildlife and waterfowl refuge, or historic site of national, State, or local significance.

Constructive Use- Noise

Since the selected project has the potential to result in changes in noise over Section 4(f) sites, the FAA conducted an analysis of whether there is a constructive use of any Section 4(f) properties. For a project to result in a constructive use of a 4(f) property, a substantial impairment must occur. “Substantial impairment occurs only when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. ... With respect to aircraft noise, for example, the noise must be at levels high enough to have negative consequences of a substantial nature that amount to a taking of a park or portion of a park for transportation purposes.”¹⁰

The FAA relies on Part 150 [14 C.F.R. Part 150] guidelines to evaluate whether there is a constructive use of Section 4(f) lands where they are relevant to the value, significance, and enjoyment of Section 4(f) lands. Part 150 guidelines are appropriate in evaluating whether there is a constructive use of lands devoted to traditional recreational activities. Additionally, the FAA also relies upon Part 150 guidelines, as applicable, for evaluating whether there is a constructive use of historic properties such as for properties in use as residences.

The FAA recognizes that Part 150 guidelines may not be appropriate to address 4(f) resources of value for their quiet settings, that is, lands where noise levels are very low and visitors have an expectation of quiet. “Special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks, national wildlife refuges and historic sites, including traditional cultural properties. For example, the 65 dB DNL threshold does not adequately address the effects of noise on visitors to areas within a national park or national wildlife refuge where other noise is very low and a quiet setting is a generally recognized purpose and attribute.” In its comments on the Draft EIS dated June 12, 2006, the US Department of Interior

¹⁰ FAA Order 1050.1E, Appendix B, Section 6.2f

recommended that FAA “perform more thorough analysis of impacts to National Park System units and other listed Section 4(f) resources ... and then re-evaluate the issue of 4(f) use.”¹¹

The FAA consulted with the National Parks Service (NPS) and considered comments from other interested parties to identify Section 4(f) lands valued for their quiet settings located in the Study Area. The National Parks within the Study Area, the Wilderness Areas of the Catskill State Park, Minnewaska State Park, and Shawangunk Ridge State Forest were identified as potentially having value for their quiet settings. These Section 4(f) lands were subject to additional analysis to determine whether the impacts of the selected project constitute a constructive use.

In evaluating the 4(f) lands identified as potentially having value for their quiet setting, the FAA described the property, highlighting any information relating to the level of use and visitor experience. Management plans, when provided by the NPS/FWS, were reviewed and pertinent information was included in the description. Noise levels were calculated at points within each of the properties. Graphics and tables showing the locations and values of the calculated noise levels in each of the subject lands are included in Appendix J.3 of the Final EIS. The difference in noise exposure levels with and without the selected were compared and evaluated.

Lands with a 3.0 DNL or Less Change

The noise values (DNL) for the selected project for 2011 were compared to the 2011 Future No Action Alternative noise values. Where the difference in the noise level experienced as a result of the selected project, as compared to the 2011 Future No Action, was less than 3.0 DNL at all points analyzed within the property, FAA concluded the change in noise would not result in a constructive use of the Section 4(f) land. The use of 3.0 DNL for screening for constructive use is a conservative application of the screening criteria used by the FAA to analyze noise levels below 65 DNL dB in NEPA documents and consistent with Federal Highway Administration and Federal Transit Administration (formerly the Urban Mass Transit Administration) regulations defining constructive use

¹¹ FEIS, Appendix N, (Section N.1 under Federal Agencies)

under 23 C.F.R. §771.135.¹² At a great majority of the Section 4(f) properties identified for additional analysis, the difference in noise exposure level would be less than 3.0 DNL. Therefore, the FAA concluded in the Final EIS that for these properties the selected project would not result in a constructive use.

Lands with Some Change greater than 3.0 DNL

Some of the Section 4(f) land would experience a change in noise exposure level of 3.0 DNL or greater as a result of the selected project. The FAA did not make a conclusion regarding constructive use of these properties in the Final EIS. Rather, in Section 5.3.5.1 of the FEIS the FAA committed to conduct further evaluation, in consultation with appropriate federal and state officials, to determine whether predicted noise increases over affected areas of these 4(f) resources would result in a constructive use. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is summarized below and detailed in Appendix B of the ROD.

The Section 4(f) properties for which additional noise evaluation was conducted are:

- Appalachian National Scenic Trail
- Delaware and Lehigh National Heritage Corridor
- Delaware Water Gap National Recreation Area

¹² The FAA adopted the recommendations of the Federal Interagency Committee on Noise (FICON) to broaden the scope of airport noise analysis to address 3 dB or more between DNL 60 and 65 dB in its NEPA documents. The Technical subgroup of FICON developed this criteria based on its assessment that a 3 dB increase in DNL, which represents a doubling of sound energy, is clearly perceptible at sound levels between DNL 60 and 65dB and suggests the need for additional analysis. FAA Order 1050.1E, Appendix A, paragraph 14.4c. For air traffic airspace actions such as the present one FAA normally uses the Noise Integrated Routing System (NIRs) to produce change-of-exposure tables and maps at population centroids based upon changes of 5 DB in the DNL 45-60 DNL dB contour area and changes of 3 dB or greater between DNL 60 and 65 DNL dB. FAA Order 1050.1E, paragraph 14.5e. DNL changes of 5dB are used because it requires a greater change in noise at lower noise levels to have the potential for people to perceive a change in the noise environment. Increases of 3 dB or greater were used as a screening tool here at all levels below DNL 65 dB, including areas far below FAA's normal DNL 45dB lower limit for screening populated areas, to err on the side of more conservative screening. This resulted in additional analysis at much lower noise levels using much lower screening criteria than normal to provide special consideration to resources protected under DOT Section 4(f) identified as having a quiet setting as a generally recognized purpose and attribute and also to address DOI concerns that parks should not be equated to residential areas. The FICON guidance concerning 3 DNL db is more directly relevant here than the FHWA constructive use regulations, which relate to traffic noise exposure measured in hourly or 12 hour equivalent sound levels.

- Hopewell Furnace National Historic Site
- Upper Delaware Scenic & Recreational River
- Weir Farm National Historic Site
- Wallkill River National Wildlife Refuge
- Catskill Park (Big Indian—Beaverkill Range Wilderness Area, Slide Mountain Wilderness Area, Westkill Mountain Wilderness Area)

Additional 4(f) Resources to which Part 150 Guidelines Apply

Upon additional review, the FAA has determined that a quiet setting does not appear to be a generally recognized feature or attribute of the significance for several of the sites that were identified for further study in the Final EIS. The additional analysis and review is summarized below and detailed in Appendix B of the ROD.

The Hopewell Furnace National Historic Site, Upper Delaware Scenic and Recreational River, and the Delaware and Lehigh Canal National Heritage Corridor are lands for which a quiet setting is not an attribute of the land. Therefore, pursuant to Order 1050.1E, the Part 150 guidelines should be used to evaluate whether there is a constructive use. The range of noise exposure levels resulting from the selected project for all three 4(f) properties were below the Part 150 compatibility guidelines. Additionally, the Hopewell Furnace National Historic Site, and the Delaware and Lehigh Canal National Heritage Corridor are historic properties and the finding under Section 106 may be used to determine whether there would be a constructive use. Both sites are outside the APE determined in consultation with the appropriate State Historic Preservation Officers and therefore were not affected by the selected project.

Lands for which a quiet setting is an attribute of the land

With respect to the remaining Section 4(f) sites for which a quiet setting is an attribute of the land, a review of the data showed that with the selected project, the aircraft noise exposure levels at the points evaluated in all of these sites would remain within a range of 44.0 DNL at the highest to 15.5 DNL at the lowest. This range in noise level is low to extremely low. For example, FHWA has determined that a constructive use would not occur for “[l]ands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose” when the project noise does not exceed 57 Leq(h).¹³ This can be conservatively equated to 43.2 DNL.¹⁴ Specifically any location that

has an aircraft DNL value of 43.2 DNL or less could not possibly have a peak hour Leq(h) level of greater than 57 dB.

The FAA evaluated the noise exposure levels at the remaining Section 4(f) properties, the Appalachian Trail, the Catskill Park Wilderness Areas, the Delaware Water Gap, the Wallkill National Wildlife Refuge and the Weir Farm National Historic Site, by considering the noise exposure level ranges and medians at each site. Based on this data, the FAA determined that the noise environment would not be substantially changed by the selected project and/or the comparable ambient noise levels are expected to be higher than future aircraft noise levels, and/or the site was not affected as it pertains to Section 106. Therefore, the FAA concluded that the selected project would not result in a constructive use of a 4(f) property as it relates to noise.

FAA also considered effects upon the Wallkill National Wildlife Refuge considering the fact that one of its purposes is to preserve threatened and endangered species. Listed species known to inhabit the refuge currently or in the past are: the Indiana bat, bog turtle, dwarf wedge mussels, Mitchell's satyr (extirpated), and American burying beetle (extirpated). As noted in the section of this ROD relating to threatened and endangered species, by letter dated August 27, 2007, the FAA determined that the selected project would have no affect on these listed species and requested concurrence from FWS. On September 5, 2007, the FWS concurred with the FAA's determination of no effect to these federally listed species. See that section of the ROD for more details.

Constructive Use- Visual

Visual impacts would result in a constructive use of a 4(f) site only if the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. Normally, visual impacts are a result of construction, development, or demolition. The selected project does not include any of these actions. FHWA regulations defining constructive use include examples of when the proximity of a proposed project to a 4(f) site would substantially diminish aesthetic features or attributes that contribute to the value of a Section 4(f) property. "Examples...would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part due to its setting."

The North Eastern Corridor of the U.S. is heavily populated and is a hub for domestic and international air traffic. The Study Area is already heavily traversed by commercial

¹³ 23 CFR §771.135 and Table 1 of 23 C.F.R. §772.

¹⁴ The criteria are based on the 1-hour Leq (Leq(h)) metric for peak hour traffic. The DNL metric is a 24-hour cumulative noise metric with an added 10 dB penalty for events that occur during nighttime hours. Translating the 1-hr Leq threshold to a 24-hour Leq can be done conservatively (finding the lowest 24-hr threshold level) by assuming that the threshold value (Leq(h) 57 dB) would occur only one hour during the day and then no noise for the remaining 23 hours of the day. This would result in a 24 hour Leq of 43.2dB. The comparison of DNL values to 24-hour Leq values generally represents a conservative comparison since DNL levels are typically higher than Leq values would be for the same amount of noise.

aircraft. The selected project is limited to changing the aircraft routes. At higher aircraft altitudes and with greater distances from viewers, it is unlikely that changes in the location of such tracks would substantially obstruct the primary vista or detract from the setting of 4(f) resources that derive their value in substantial part due to their settings and vistas. However, based on consultation with the NPS, the FAA provided additional information regarding potential airspace changes in the vicinity of outstanding vistas located within the National Parks, National Wildlife Refuges and the Catskill Park Wilderness Areas.

As requested by the NPS, the FAA reviewed the management plans and other documentation for the parks to determine the locations of important and / or outstanding vistas. It is noted that many management plans referred to scenic qualities in a generalized manner but did not include the locations of specific outstanding vistas. Visual impacts were primarily considered only for the specifically identified vistas. Thus visual impacts were considered for scenic vistas identified in the following parks: the Appalachian Trail, the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Home of Franklin D. Roosevelt National Historic Site, the Morristown National Historical Park, the Statue of Liberty National Monument, the Vanderbilt Mansion National Historic Site, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, Indian Head, Westkill Mountain Wilderness Areas in the Catskills Park. For these locations, a summary of the potential airspace changes in the vicinity of the scenic vistas was provided. This information includes number of operations, and the minimum, average and maximum altitudes resulting from the Future No Action Airspace Alternative, Preferred Alternative, and the mitigated Preferred Alternative. Based on this information it was determined in the Final EIS that the selected project would not result in a constructive use relative to visual impacts for scenic vistas in the following parks: the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Morristown National Historical Park, the Statue of Liberty National Monument, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, and Westkill Mountain Wilderness Areas in the Catskills Park.

Additional Analysis

In Section 5.3.5.1 of the Final EIS the FAA committed to conduct further evaluation to determine whether visual changes over the Appalachian Trail, the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site would result in a constructive use and to consult with appropriate federal officials. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is summarized below and detailed in Appendix B of the ROD.

For the Appalachian Trail, the data shows that minimum altitudes for overflights would be the same with both the No Action Airspace Alternative and the selected project for all viewpoints except V19-20, V23-30 and V48-51. At viewpoints V19 -20 and V23 -30 the minimum altitudes would be appreciably/approximately the same. At viewpoints V48 –

51 only very small number of propeller aircraft would fly at an altitude lower than the No Action Airspace minimum altitude. Operations would decrease at 29 viewpoints (V1-V-5; V12-18; V19-20; V59-66, and V72-78) and increase at 48 viewpoints (V6-11, V23-30, V31-37, V38-V58, V67-71, V79). Currently, given their altitude and transitory nature, commercial aircraft do not obstruct the noted views along the Appalachian Trail. Therefore, since the selected project does not substantially change the minimum altitudes of commercial aircraft, it is concluded that the selected project would not result in an obstruction to the noted views nor would it substantially detract from the setting of the Trail. The visual effects of the airspace changes associated with the selected project are minor and would not substantially diminish the activities, features, or attributes of the Appalachian Trail. The FAA thus concludes that the selected project would not result in a constructive use as it relates to visual impacts for the Appalachian Trail.

Specific superb views overlooking the Hudson River, the bluffs and mansions across the river, and the Shawangunk Mountains to the west were noted in the both the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site Master Plans. According to Table 5.14 of the Final EIS, the total daily operations over these sites would increase from 109 with the No Action Airspace Alternative to 136 with the selected project. If those operations were spread out over a 24 hour period this would equate to 4.5 operations per hour with the No Action Airspace Alternative and to 5.7 operations per hour with the selected project. The table also shows that the minimum altitude of these operations does not change as a result of selected project. Therefore, because the change in the number of operations would be low and the minimum altitude would remain the same, the visual environment would not substantially change as a result of the selected project. It is thus concluded that the selected project would not result in a constructive use of these resources as it relates to visual impacts because the changes associated with the selected project would not substantially diminish the activities, features, or attributes of either historic site.

Based on analysis found in the Final EIS and Appendix B of the ROD, the FAA concludes that the selected project would not result in either a physical or constructive use of a 4(f) property. The FAA is committing as part of this ROD to monitor the implementation of the selected project as it relates to DOT Section 4(f) resources for which quiet and serenity are recognized attributes and purposes, utilizing adaptive management techniques.

5. Wild and Scenic Rivers

The Wild and Scenic Rivers Act provides for the protection and preservation of rivers that possess outstandingly remarkable recreational, geologic, fish and wildlife, historic, cultural, and other similar values. The designated wild and scenic rivers within the Study Area are: the Farmington Wild and Scenic River in Connecticut; the White Clay Creek in Delaware and Pennsylvania; the Great Egg Harbor River and the Maurice River in New Jersey; the Upper Delaware Scenic and Recreational River in Pennsylvania and New York; and the Middle and Lower Delaware Scenic and Recreational River in Pennsylvania and New Jersey.

The FAA has determined that there would be no indirect or direct impacts on a wild or scenic river as a result of the selected project. None of these rivers lie in areas that will experience any reportable noise impact that is a significant or slight to moderate noise impact.

6. Fish, Wildlife, and Plants

A. Fish, Plants and Wildlife Other Than Avian Species

The selected project involves no ground disturbance, and therefore will not destroy or modify critical habitat for any species. Because the number of flights as well as the origin and destination of the flights will remain the same as with the No Action alternative, the selected project would not increase the opportunity for introduction of invasive species. Additionally, the selected project would not increase the probability of aircraft strikes involving non-avian species. Such strikes are either on or very close to the ground. Aircraft movement in areas where terrestrial species are likely to be involved in a strike is dictated by the location of runways and taxiways. The selected project will not alter runway or taxiways at any of the airports in the Study Area. The FAA has concluded that the selected project will have no significant impacts on fish, plants, or wildlife species other than avian species.

B. Birds

The potential impact to avian species resulting from changes to aircraft routes are measured by the potential for the selected project to result in increases in the number of bird strikes. Absent any wildlife attractant, birds tend to be randomly distributed, and changing aircraft departure routes will not increase the potential for bird strikes. Wildlife attractants, such as wildlife refuges and breeding colonies exist in the Study Area beneath initial departure routes.

Aircraft fly over and near wildlife attractants presently and would continue to fly over and near wildlife attractants in the Future No Action alternative. After considering the changes to aircraft routes as a result of the selected project, while there are noticeable differences in the flight patterns as a result of the selected project, there are no discernable changes to the relationships of flight patterns to birds within the bird study area. Thus, the selected project will not have any significant impacts.

C. Threatened and Endangered Species

The FAA coordinated the Draft EIS with the U.S. Department of Interior, which provided comments from both the FWS and NPS by letter dated June 12, 2006. The Department expressed concerns that the information in the Draft EIS about noise and visual effects, federally listed species, and aircraft-bird collisions was insufficient, but that these could be corrected by incorporating the Department's recommendations for revisions into the FEIS in coordination with NPS and FWS. This section of the ROD summarizes coordination with FWS in response to the request to include conservation measures such

as flight restrictions at airports during nesting periods to protect federally listed species from noise and visual changes. FWS recommended maintaining a minimum vertical distance of 2,000 feet above ground level or at least a 1-mile lateral distance from active nesting sites seasonally for each species.

The FAA obtained information from FWS regarding the location of nesting sites so that more detailed information could be provided concerning how the preferred alternative would affect the piping plover, roseate tern, and bald eagle in comparison to the No Action Alternative in the future. Since the bald eagle has been removed from the endangered species list and is no longer subject to protection under Section 7 of the Endangered Species Act, as requested we assessed compliance with the National Bald Eagle Guidelines. These guidelines indicate that aircraft should not be operated within 1,000 feet vertical of nests during the breeding season, except where eagles have demonstrated tolerance for such activity.

By letter dated August 27, 2007, FAA provided additional information to FWS in support of its no effect determination on these three listed species. FAA also assessed the operational feasibility of restricting landings and takeoffs to protect existing nesting sites off the ends of airport runways. As to the recommended flight restrictions to protect piping plover nesting sites and the separation criteria under the National Bald Eagle Guidelines, FAA confirmed that the distance between the closest flight tracks and nesting sites near airports would be the same under the Preferred Alternative with or without mitigation as it is under the Future No Action Alternative/Existing Condition, citing circumstances at two airports. FAA also noted that because nesting at these distances currently occurs, piping plovers and eagles have demonstrated a tolerance for such activity. Although nesting sites of the roseate tern have not been confirmed for many years, there is no indication that circumstances would be different for roseate terns.

FWS staff requested more data comparing the distances between flight tracks under existing conditions and the preferred alternative for all identified nesting sites of the piping plover. Although the preferred alternative does not increase traffic generally, FAA was also asked to address and document the potential for increased flights over these sites at altitudes below 2,000 feet. The FAA responded on September 5, 2007 and requested concurrence in its determination of no effect for the roseate tern and the piping plover. On September 5, 2007 the FAA obtained FWS concurrence that the selected project is not likely to adversely affect the piping plover and roseate tern.

While the U.S. Department of Interior expressed no concerns about species in the Wallkill River National Wildlife Refuge, FAA recognized as part of its further review of Section 4(f) resources that the purpose of this refuge is to preserve threatened and endangered species. Species known to inhabit the refuge presently or in the past are the Indiana bat, bog turtle, dwarf wedge mussels, Mitchell's satyr (extirpated), and American burying beetle (extirpated). Based on a review of the literature regarding effects of noise on animals, and the noise analysis indicating that the preferred alternative would not substantially change the noise environment, the FAA expressly determined in its August

27, 2007 letter that the preferred alternative has no affect on these species. FAA sought concurrence as well regarding this determination.

On September 5, 2007 the FAA responded to the FWS and obtained FWS concurrence regarding these determinations of no effect.

7. Light Emissions and Visual Impacts

A. Light Emissions

To determine whether light emissions will create a significant impact, FAA considers the extent to which lighting associated with the project will create an annoyance among people in the vicinity or interfere with their normal activities.

Light emission impacts are most likely to occur at low altitudes and near the primary airports in the study area. Under current conditions, these areas are exposed to aircraft lights, and would continue to be exposed to aircraft lights under the Future No Action alternative. These same areas are most likely to be exposed to light emissions as a result of the selected project. Because the areas most likely to be exposed to light emissions will be exposed to a similar level of light emissions both with and without the selected project, no significant light emission impacts will result.¹⁵

B. Visual Impacts

Generally, visual impacts result from the disturbance of the aesthetic integrity of an area. Because the selected project would not involve construction, alteration, or demolition of a facility, there would be no visual impacts from physical disturbance to the area. The selected project would cause more aircraft to be in areas in which they would not be under the Future No Action alternative. Changes to aircraft flight patterns at higher altitudes are not normally visually intrusive because of their distance from the ground. Changes at lower altitudes as a result of the selected project would occur predominantly near the primary airports in the study area where communities are currently exposed to the sight of aircraft and would continue to be exposed to the sight of aircraft with the Future No Action alternative. Thus, there are no significant visual impacts as a result of the selected project.

Visual impacts were also assessed in relation to Section 4(f) properties. See Section VI.4.B. and Appendix B of this ROD for a discussion of the visual impacts on Section 4(f) properties.

8. Air Quality

Air quality impacts are assessed by evaluating the impact of the proposed project on the National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants. The

¹⁵ See FAA Orders 5050.4A and 5050.4B for guidance on the threshold of significance.

impact of a project is the difference in emissions between an action alternative and the no action alternative in the future and how that projected difference would impact pollutant concentrations. Additionally, FAA must ensure that its project is in conformity with the state implementation plan (SIP) for attaining the NAAQS. Under Section 176(c) of the Clean Air Act, FAA may not engage in, support in any way, provide funding for, license, or approve any activity that does not conform to the purpose of the approved SIP. The U.S. Environmental Protection Agency's (EPA) adopted the General Conformity Rule (40 C.F.R. Part 93 subpart B) to provide guidance to Federal agencies in demonstrating conformity.

Under the General Conformity Rule, a project does not require a conformity determination if the project is exempt, presumed to conform, or if the net increase in annual emissions is less than the de minimis thresholds outlined in the Rule. A NAAQS assessment for NEPA purposes is typically not required for projects that are exempt or presumed to conform under the General Conformity Rule.

During the scoping process FAA consulted US EPA officials having jurisdiction within the study area, Regions 1, 2, and 3 to discuss the nature of the project and analysis of air quality impacts. During the meetings FAA explained to EPA officials that an air quality assessment was not required because the proposed airspace redesign actions were exempt from analysis under the General Conformity Rule as de minimis; the proposed action is not a capacity enhancement project and would not increase the total number of operations at airports in the study area; and the purpose and need for the project includes increasing efficiency and reducing delay which would serve to reduce fuel burn and air pollutant emissions.

EPA officials working with the FAA Office of Airports officials to develop a list of air traffic and airport actions presumed to conform¹⁶ subsequently raised questions about the legal status of the exemption for “air traffic control activities and adopting approach, departure, and en route procedures for aircraft operations.” Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, 58 Fed. Reg. 63214, 63229, November 30, 1993. EPA staff raised these questions because the

¹⁶ 40 CFR §93.153(f).

exemption for these activities was referenced in the Preamble, but not the final rule.¹⁷ As a result of discussions with EPA staff, after determining that there was adequate supporting data, FAA deemed it prudent to include the activities described in the preamble to the General Conformity Rule as a presumed to conform action in the Final Notice that FAA published in the Federal Register, Vol. 72, No. 145, pp. 41565-41580 on July 30, 2007.

To determine whether reduced delays and more efficient flight routes would reduce fuel burn and respond to comments on the DEIS, FAA tasked a consultant to conduct a fuel burn analysis. The study projected fuel consumption on an average day in 2011 under the Future No Action Alternative, the Preferred Alternative, and the selected project. See Final EIS, Appendix R. The analysis of fuel consumption demonstrated that the selected project would result in a reduction in fuel consumption of 194.4 metric tons per day, compared to the No Action Alternative. This was slightly less than the Preferred Alternative, which would reduce fuel consumption by 205 metric tons per day compared to the No Action Alternative. As reduced fuel consumption is directly related to reducing air pollutant emissions, the fuel burn analysis further shows that the selected project is exempt because it would clearly reduce rather than increase emissions.

As discussed in the FEIS, based upon FAA's experience the proposed air traffic procedural changes will not induce growth in air or vehicular traffic or alter the distribution of air or vehicular traffic among airports. Such changes are not likely to change passenger airport preferences based upon ticket cost, airport location, and service to the desired destination.

Based upon the EIS and the clarification in the footnote below regarding regional significance, the proposed airspace redesign alternatives and the selected project are

¹⁷ "Further, EPA believes that Federal actions which are de minimis should not be required by this rule to make an applicability analysis. A different interpretation could result in an extremely wasteful process which generates vast numbers of useless conformity determinations....Therefore, it is not necessary for a Federal agency to document emissions levels for a de minimis action. Actions that a Federal agency recognizes as clearly de minimis, such as actions that do not cause an increase in emissions, do not require positive conformity determination. ...to illustrate and clarify several de minimis exemptions are listed in 51.853(c)(2). There are too many Federal actions that are de minimis to completely list in either the rule or this preamble. In addition to the list in the rule, the EPA believes that the following actions are illustrative of de minimis actions: ... (2) Air traffic control activities and adopting approach, departure, and enroute procedures for air operations." Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, 58 Fed. Reg. 63214, 63229, November 30, 1993.

either exempt or presumed to conform under the General Conformity Rule.¹⁸ As such, a detailed assessment under NEPA and a positive conformity determination under the Clean Air Act are not required. The selected project will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the carbon monoxide, ozone, sulfur dioxide, and particulate matter NAAQS in the five states within the Study Area.¹⁹ Moreover, because the selected project would reduce fuel burn compared to the Future No Action Alternative it would also reduce emissions of carbon dioxide and other greenhouse gases.

9. Natural Resources and Energy Supply

Order 1050.1E calls for major federal actions to be examined to identify whether the action would have a measurable effect on local supplies of energy or natural resources.

Neither the Future No Action alternative nor the selected project would involve construction or modification of a facility, thus the selected project would not involve an irretrievable commitment of natural resources. Additionally, as demonstrated in the fuel burn analysis, FEIS Appendix R, the selected project is expected to result in a decrease in the use of aviation fuel of approximately 66,840 gallons per day.

10. Construction Impacts

The selected project will not involve any construction activity and thus will have no construction impacts.

¹⁸ The Final FAA Notice Federal Presumed to Conform Actions deferred action on the aspect of its Draft Notice relating to regional significance of presumed to conform actions based upon consultation with US EPA. However, the reasoning in the FAA's Air Quality Handbook cited in the Draft Notice indicates that these emissions would not be regionally significant under 40 CFR §93.153(i). Even assuming, without conceding, that the proposed airspace redesign alternatives and the selected project cause a de minimis increase in emissions, they would not represent 10 percent or more of the total emissions of these pollutants in any area. The highest de minimis threshold level for the four pollutants of concern in the study area (CO, ozone, SO₂, and PM_{2.5} and PM₁₀) is 100 tons per year. The total emissions inventories for the relevant areas all exceed 1,000 tons per year for these four pollutants.

¹⁹ The study area includes the entire state of New Jersey and portions of Connecticut, Delaware, New York, and Pennsylvania. The geographic areas within the Study area that do not meet the National Ambient Air Quality Standards (i.e. non-attainment areas) or that were non-attainment and re-designated as attainment (i.e. maintenance areas) are discussed in Chapter 3 of the EIS. See, FEIS Tables 3.20-3.22 and Figures 3.20-3.22. The study area includes areas designated as maintenance for carbon monoxide (CO) and non-attainment for three other pollutants: ozone (8 hour standard), sulfur dioxide (SO₂), and particulate matter (PM₁₀ and PM_{2.5}). No portion of the Study area is non-attainment or maintenance for nitrogen dioxide (NO₂) or lead (Pb).

11. Farmlands

The selected project will not involve any physical ground disturbance and will have no impacts on prime or unique farmland.

12. Coastal Resources

A. Coastal Zone Management

The states of Connecticut, Delaware, New Jersey, New York, and Pennsylvania have initiated coastal zone management programs (CMZP). Because there will be no impact to surface resources, the selected project will not have an impact on the CMZP for Connecticut, Delaware, New Jersey, New York, and Pennsylvania.

At the request of the state of Delaware, federal consistency determinations were prepared in accordance with each state's CMZP. Delaware concurred in the consistency determination. Connecticut, New Jersey, New York, and Pennsylvania did not respond to the consistency determination for its state. The FAA's consistency determinations can be found in Appendix K of the Final EIS.

B. Coastal Barriers

The selected project will not result in the development or physical alteration of facilities that would adversely affect resources protected in the Coastal Barrier Resource System.

13. Water Quality

The selected project will have no impacts to water quality because it does not involve the construction or physical alteration of facilities.

14. Wetlands

There will be no impacts to wetlands as a result of the selected project because it does not involve the construction or physical alteration of facilities.

15. Floodplains and Floodways

The selected project will not involve in the construction or physical alteration of facilities and would have no impact on Floodplains and Floodways.

16. Hazardous Materials, Pollution Prevention and Solid Waste

A. Hazardous Materials

There will be no ground disturbances as a result of the selected project therefore it will not result in the disturbance of materials identified as a substance capable of posing an unreasonable risk to health, safety, and property. Moreover, the selected project is not forecast to increase the level of aircraft operations in the study area over the Future No Action alternative. As a result, the selected project will not result in an increase in the generation of materials identified as a substance capable of posing an unreasonable risk to health, safety, and property.

B. Pollution Prevention

The selected project will increase the efficiency of the airspace, result in more direct routing, and decrease the use of fuel by 194 metric tons per average day. As a result the selected project will tend to decrease pollution in the study area.

C. Solid Waste

The selected project will not result in the long-term generation of municipal solid waste because it will not involve construction or the physical alteration of facilities.

17. Cumulative Impacts

A. Projects

CEQ defines cumulative impacts are the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of the agency undertaking the actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. §1508.7.

In analyzing the possible cumulative impacts of the Airspace Redesign project, FAA considered potential projects proposed in or near the study area. Project data was gathered from FAA, state DOT websites, Comprehensive Land Use Plans and other area and local plans. Because the impacts from the selected project were either noise or noise related, only those proposed projects that had the potential for cumulative noise impacts were considered. Four projects were determined to have the potential for cumulative noise impacts: Runway 17/35 Extension at PHL, Capacity Enhancement Program (CEP) at PHL, Part 150 Study at Bradley International Airport (BDL); and Board authorization for the Port Authority of New York and New Jersey (PANYNJ) to acquire the lease for Stewart International Airport (SFV).

The Runway 17/35 Extension at PHL is underway and is expected to be operational by early 2009. The Final EIS for the runway extension project indicates that the runway extension is expected to result in only a very minimal change in the noise pattern around PHL. Additionally, the runway extension project will not increase capacity at Philadelphia International. Therefore significant cumulative impacts are not expected.

The purpose of the CEP at PHL is to increase the airfield capacity of Philadelphia International. The need for increased airfield capacity at Philadelphia International is independent of the selected project. While the CEP has the potential for cumulative impacts with the selected project, there has been no determination of the reasonable alternatives for the project and there is insufficient information to evaluate cumulative impacts at this time, especially as they relate to noise. The FAA is preparing an EIS for the CEP project, which will include a consideration of the selected project.

A Part 150 Study was developed for Bradley International which included a noise compatibility program involving airport-specific noise abatement measures. The selected project will not disturb the noise abatement measures resulting from the Bradley International Part 150 study. The noise compatibility program will have the effect of decreasing noise in the vicinity of Bradley International, and thus is not likely to have significant negative cumulative impacts.

In January 2007, the PANYNJ's Board of Commissioners authorized it to purchase the operating lease to SFW. The intention in the PANYNJ acquiring Stewart was to use it as a fourth airport for the New York/New Jersey Metropolitan Area, providing relief for the three major area airports in the form of delay reductions, and to prepare for inevitable population and passenger growth. As of July 2007, the PANYNJ was still in negotiations to acquire the lease. Even if the PANYNJ is successful in acquiring Stewart, it is unclear whether airlines would be willing to operate at Stewart, especially in light of a recent announcement by American Airlines, the last scheduled passenger air carrier with service at Stewart, that it was ceasing service to the airport. This proposal is speculative and not reasonably foreseeable, thus was not considered in the evaluation of cumulative impacts.

The FAA also considered other airspace redesign projects in evaluating the potential for cumulative impacts. The FAA has issued RODs for airspace redesign projects for the Chicago Terminal Area (CTAP), and the Potomac Consolidated TRACON Airspace Redesign after completion of an EIS for each project. There was no overlap in the study areas for each of the projects with the study area of the selected project, and the CTAP and Potomac projects will not induce growth or increase capacity. The selected project will not result in significant cumulative impacts in combination with these projects.

The FAA issued a FONSI/ROD based on an Environmental Assessment (EA) for the Midwest Airspace Enhancement Airspace Redesign in the Cleveland/Detroit Metropolitan Areas. The study area for this project does not overlap the study area for the selected project and will not induce growth or increase capacity. No significant cumulative impacts will result from the selected project in combination with this project.

B. Ambient Comparison

FAA also looked at the potential for cumulative noise impacts by considering total noise, ambient noise, and aircraft noise. Noise measurement data, presented in Final EIS Appendix D, was analyzed in conjunction with the noise modeling computations for each noise measurement site in the study area. Such an analysis permitted FAA to consider

the contribution of aircraft noise, including traffic operating under Visual Flight Rules, to the total noise at each site. This type of analysis can only be conducted specific to each noise measurement location, however it does provide insights into how the selected project contributes to the noise in the area.

Measured noise levels at each of the 18 noise measurement sites contains contributions from all noise sources, including both aircraft and non-aircraft sources. After completing the analysis, the details of which can be found in Section 4.18.2 of the Final EIS, it was clear that the changes in the total noise environment as a result of the selected project would be very small in the context of the total noise environment for locations that are not situated very near a major airport. This analysis supports the FAA's determination that there are no significant cumulative impacts as a result of the selected project in combination with other past, present, or reasonably foreseeable future actions.

VII. Public and Agency Involvement

The FAA followed NEPA guidelines and involved the public and other agencies in the impact assessment process. The public and agencies were given the opportunity to assist in determining the scope of issues to be addressed in this EIS during the informal pre-scoping and formal scoping period. After the scoping meetings, the FAA held a number of agency meetings, distributed newsletters, and created a website to educate, inform, and receive feedback from concerned citizens and organizations.

The pre-scoping process included a series of airspace redesign workshops. Thirty-one workshops were held throughout the Study Area between September 22, 1999, and February 3, 2000. A total of 1,174 people attended the workshops and 712 comments were received.

The formal scoping period was January 22, 2001 through June 29, 2001. The scoping process consisted of 28 public meetings and three agency meetings held in various locations throughout the Study Area. A total of 1,031 people attended the scoping meetings and 901 comments were received.

In addition to formal scoping meetings, the FAA met with agencies with jurisdiction or special knowledge relative to the Airspace Redesign project on an as needed basis. Typically, each meeting consisted of introductions, a slide show presentation, and a video on the NY/NJ/PHL Metropolitan Airspace Redesign project. The agencies were encouraged to share their concerns or comments regarding the Airspace Redesign. The agency comments and concerns were used by the FAA in assembling the materials needed for the Draft EIS.

Throughout the development of the EIS, the FAA consulted with interested agencies and organizations. Table ES.7 of the Final EIS provides a sampling of the agencies and organizations consulted. (See Appendices L and M for additional information regarding agency consultation.) Periodic briefings were also given to members of Congress, the New Jersey and Delaware Congressional delegations, and various Governors' offices.

The Draft EIS was distributed to interested federal, state, and local agencies, and citizens for review and comment. (See Chapter Nine for a comprehensive list.) Public information meetings were held for the Draft EIS from February 2006 through May 2006. On February 16, 2006 emails were sent to over 580 residents listing the specific meeting locations and on February 24, 2006 postcards were sent to over 3,200 residents with specific meeting locations. Each meeting was publicized through multiple local newspapers and radio stations. The public meeting process consisted of 30 meetings held in various locations throughout the Study Area. A total of 1,166 people attended the public meetings, and a total of 321 written and oral comments were received. The FAA reviewed and responded to all comments received during the comment period.

On April 6, 2007, the FAA published its Noise Mitigation Report, providing detailed information on mitigation measures for its Preferred Alternative. FAA informed the public of its availability through the FAA website and provided copies of the report to 71 libraries within the Study Area. FAA conducted seven public information meetings to discuss the Preferred Alternative and the proposed mitigation measures. The FAA accepted comments on the Noise Mitigation Report through May 11, 2007. Comments were also accepted at the Mitigation public information meetings held in June. Over 2,200 people attended the meetings, and approximately 1,700 written and oral comments were received.

The FAA engaged in several other initiatives to educate and involve the public in the Airspace Redesign Project. One of the primary initiatives was the project website. The project website was established in 2002 and provided both important project related information and the opportunity to submit comments to the FAA. Another initiative was the video format that was used to explain various stages throughout the study. Volume 4 of the video series specifically outlines noise abatement strategies and identifies the Preferred Alternative.

Although the public comment period had closed, at the request of Congressman Eliot Engle, FAA agreed to attend a meeting held in Rockland County, New York on July 30, 2007 to respond to questions and hear the concerns raised by citizens. Approximately one thousand people attended the meeting. A transcript of the meeting was taken by Rockland County and is posted on the project web site at: www.faa.gov/nynjphl_airspace_redesign. A large majority of the people expressed a desire for FAA to adopt the No Action Alternative. Others expressed an interest in moving the arrival flight track which passes over Rockland County further to the west between 3 to 5 miles. Questions raised included whether FAA could increase the altitude of the flight tracks over Rockland County. One inquiry that was raised was whether the FAA could include a stipulation in the FAA's Record of Decision requiring commercial aircraft using the approach track to EWR be Stage 4 compliant by a specified year. In addition, there were a number of quality of life concerns. The comments at the Rockland County meetings were consistent with the comments received at the other meetings. These comments did not change the outcome of our decision.

VIII. Comments on the FEIS

The FAA received six comment letters on the FEIS. Although not required, the FAA reviewed the comments and to the extent the commenter raised a new issue, the FAA herein provides a response.

Mr. Tim Stull, Manager of Air Traffic Systems at United Parcel Post (UPS)

EWR Night-time Ocean Routing would cause a significant operational burden to UPS, likely cause an increase in emissions over parts of Staten Island area and add significant complexity to the New York Metro Air Traffic Area, increase flight time for departures which increase costs and potential for significant down-line disruption to our network.

The commenter is correct that nighttime ocean routing will likely increase flight time for departures, fuel burn, and emissions and will require greater sophistication in traffic management. . The increase in demand at JFK since the operational analysis of this mitigation measure was completed has changed in the operating environment. Appendix O of the Final EIS states, “Since there are so few JFK flights affected during the nighttime hours between 0230 and 1000 GMT (Greenwich Mean Time), [night-time ocean routing] would not have an impact on the operations.” This is no longer a completely accurate description of the night-time operations at JFK. Bad weather and volume during the day push JFK arrivals late into the night. On 32 days in June and July, JFK was accepting arriving aircraft at a rate of 30 per hour until midnight (0400 GMT). On 15 days, that rate continued until 1 AM (0500 GMT). These arrival rates are not compatible with ocean routing from EWR, since when the over-water airspace is already occupied by JFK arrivals, it is very inefficient to use it for crossing flows of EWR departures. In this operating environment, predictability also suffers. It will frequently not be known until the evening whether the ocean route is safe or not on any given night, so the dispatchers will not know in advance whether to plan for the extra flying time or not. As to increased fuel consumption, FEIS Appendix R shows that night-time ocean routing causes the fleet to burn (on average) seven metric tons per day of extra fuel. This reduces the fuel-consumption benefit of the preferred alternative by some 3.5%. The FAA will carefully monitor traffic levels at JFK after we implement this mitigation measure to determine whether there are new circumstances that make it operationally infeasible. If it is necessary to revise or eliminate this measure then we will reevaluate the FEIS, undertake appropriate environmental review, and amend this ROD.

Kroposki

Mr. Michael Kroposki, Esq. makes five points:

- 1) The acquisition of Stewart International Airport by the Port Authority means that future demand will be directed there. Traffic at EWR will not grow high enough to make redesigned airspace beneficial.*

Stewart International Airport is far from New York City. History shows that when a new airport farther from the population center is opened, it takes decades for traffic to build to

levels that rival the old, close-in airport, even when laws are passed restricting use of the old airport. Examples are Dulles International and National Airport in Washington, and JFK and LaGuardia in New York. In Dallas, when Dallas-Ft. Worth International Airport opened, Love Field was scheduled to be closed. Despite this, demand for close-in air service remained high enough that, thirty years later, Love Field is still an important airport, handling two-thirds as much traffic as LGA. It can not be assumed that the availability of Stewart will reduce demand at EWR in the foreseeable future.

- 2) *The forecast levels of traffic at EWR are too high. Realistic future traffic levels will be low enough that the delay savings in the Preferred Alternative will not be worth the extra mileage that aircraft must fly.*

The forecast levels of traffic for EWR used in the operational analysis were 1575 arrivals and departures on the 90th percentile day in 2006 and 1634 on the 90th percentile day in 2011. It is important to compare these numbers to high-traffic days, not to monthly or yearly totals. According to the FAA's official traffic reporting system, the Operations Network (or "OPSNET"), on the 90th percentile day of July 2006 EWR worked 1572 operations. The forecast was right on. The comparable number for July 2007 was 1554, less than 2% below the forecast. It is correct that traffic at EWR has effectively leveled off, but it has leveled off at the forecast level. The forecast growth in demand between 2006 and 2011 can not be refuted by pointing to counts of traffic actually handled, since the traffic actually handled is limited by the inefficiency of the current system. EWR was not forecast to be able to run dual arrivals in 2006, so actual counts match the forecast fairly well. Without dual arrivals, actual traffic at EWR may remain at the current plateau (with small increases for improved technology), but unmet demand will continue to accumulate, dragging down the local economy. The 3-4% increase anticipated in the 90th percentile day in this study is a reasonable and prudent assumption.

- 3) *The 2011 forecast is not far enough in the future to satisfy the requirements of a five-year horizon for future traffic.*

This assertion seems to contradict the second point. If the traffic forecasts are too high for 2011, then they are certainly on target for some year after 2011. The increase in traffic between 2011 and 2012 will not be great enough to change the qualitative conclusions of this study, so the study remains valid.

- 4) *The forecasts are too high because future-year forecasts are based on an assumption of good weather on all days. A substantial portion of the delay savings can not be realized, because the airport is sometimes closed due to severe weather.*

It is not the purpose of an airspace redesign to increase efficiency at an airport that is closed by thunderstorms. The efficiency of the airspace design is most important on high-traffic days. When annualized benefit numbers are quoted, they include the effect of days when severe weather limits the traffic the modeled airports can handle.

- 5) *Given that the dual arrivals at EWR are what necessitates the realignment of LGA traffic that is his particular concern, the LGA realignment should not be implemented until such time as EWR traffic has grown to require it.*

This is a valid point, and is well taken. As indicated above, EWR traffic has already grown to a point where dual arrivals would be a benefit to users of the airspace and to the local economy.

New Jersey Coalition Against Aircraft Noise (NJCAAN)

The letter from NJCAAN makes three points, since most of their cited sources discuss various techniques of demand management. First, the study did not include demand management, which can reduce delays more effectively than an airspace redesign. Second, that the Integrated Noise Model has been shown to underestimate noise from several types of aircraft, so the noise estimates in the study are incorrect. Third, that the increased flying distances in the Preferred Alternative will increase fuel consumption to a point that the fuel savings from decreased delay will be more than offset, and the result will be increased emissions from aircraft engines.

- 1) *Demand Management obviates the need for airspace redesign.*

In Appendix Q, comments on demand management received the response that the FAA did not include demand management as an alternative because “Changing access to the airport is the responsibility of the airport proprietor. The airport proprietor is unlikely to force its customers to operate in a manner that seems to them less profitable.” The Port Authority of New York and New Jersey appears much closer to a demand management program in August 2007 than when Appendix Q was written, but the fundamental fact remains true: An airport operator is unlikely to let airport capacity go to waste. A change to larger aircraft will absorb the increase in passenger demand, but will not reduce the number of operations. For reasons stated above in the responses to Mr. Kroposki, the opening of Stewart International Airport is unlikely to affect EWR operations in the forecast time frame.

- The INM underestimates aircraft noise.*

Noise modeling with the INM and NIRS necessarily makes simplifying assumptions. The cited research shows that, under atmospheric conditions that cause the least attenuation of noise from aircraft, the INM underestimates single-event noise levels from Boeing 767-300 and 737-400 aircraft. The INM is almost exact for B747-400, and has some overestimates and some underestimates for the A320-111. This study was conducted in accordance with the techniques set out in FAA Order 1050.1E, which mandates the use of DNL estimates calculated by INM and NIRS for noise studies, and sets thresholds for reportable noise changes. The thresholds are defined in terms of INM and NIRS results, not in terms of measured sound levels. Therefore, a systematic bias in the INM will not affect the validity of the study, since the same bias is present in the measurements and in the thresholds against which they are compared. The differences between the estimated noise levels and the thresholds will be correct.

The Preferred Alternative will increase fuel consumption.

The Preferred Alternative requires some extra flying distance in order to avoid congestion, much the same way a freeway bypasses the traffic lights in town. When traffic levels are low, it is not worth it to take the freeway. However, as mentioned above, traffic levels in the summer of 2007 are already high enough that the extra mileage would be worth flying to reduce delays, and total fuel consumption will decrease.

Rockland County

The letter from the Chair of the Rockland County Legislature makes five points.

- 1) *The Noise Mitigation Analysis in Appendix P does not compare the mitigation of the Preferred Alternative with Future No Action, but only with the Preferred Alternative without mitigation.*

This is incorrect. Tables 4, 5, 8, 9, 11, 12, 13, and 14, and Figures 4, 5, 12, 13, 18, 19, 23, 24, 26, 27, 29, and 32 of Appendix P contain this information.

- 2) *The Modifications Alternative should be investigated, since “This would eliminate the “controversial Newark Runway 22 flight path over Rockland”.*

The Modifications Alternative was thoroughly investigated in Appendices C and E of the EIS. Its benefits to the aviation system were found to be insufficient to make it the Preferred Alternative.

- 3) *Does the FAA have hard evidence on how 600 flights per day over Rockland County will affect air quality?*

Aircraft emissions affect air quality in two different ways. First, aircraft on the ground and at altitudes below the so-called “mixing layer” (usually about 1500-2000 feet above ground level) emit exhaust that behaves like car exhaust. It stays in the vicinity where it is generated, and can pollute the air near the airport. These low-altitude fuel emissions are reduced by the Preferred Alternative, but this is irrelevant to Rockland County, since the aircraft never come low enough. Above the mixing layer, winds blow aircraft emissions around freely, so the effect is not localized. These emissions could affect Rockland County, as well as all other counties in the area. The fuel burn analysis in Appendix R shows that these emissions will decrease under the Preferred Alternative.

- 4) *How will flights over Rockland County, and the attendant risk of an aircraft disaster, affect the quality of the water in their aquifer?*

Flights over Rockland County are high enough that normal operations will not affect aquifers, which are underground. An aircraft crash could, as a tertiary effect, cause a small amount of toxins to get into the ground, which may affect an aquifer. The FAA is dedicated to reducing aircraft disasters as far as is humanly possible.

- 5) *“Increased airplane noise will have a negative effect on the enjoyment of our open spaces as well as a negative effect on the fauna of our parks.”*

The noise exposures in Rockland County under the Preferred Alternative, are higher than in the Future No Action Alternative, but they are at the bottom of the thresholds set in Federal regulations. Those thresholds were set by considering outdoor enjoyment, among other factors. When mitigation measures such as Continuous-Descent Approaches are included, Rockland County noise exposures fall below the thresholds, and are not forecast to cause such negative effects.

Congressman Eliot L. Engel, dated 8/31/07

Comments noted. The points expressed in Congressman Eliot Engel’s letter have been addressed individually in the Final EIS.

A transcript of the July 30, 2007 public meeting held at the request of Congressman Eliot Engle is available for review on the project web site at www.faa.gov/nynjphl airspace redesign

On August 31, 2007, the FAA received an additional comment letter from attorneys representing Rockland County, New York. The FAA has completed a preliminary review of this letter and its attachments. The letter raises issues that have already been addressed by the FAA during the public comment process. As such, the FAA is not providing additional responses to this letter. A copy of this letter and attachments is included in Appendix D.

IX. Agency Findings

In accordance with all applicable laws, the FAA makes the following finding for this selected Project. These findings are based on a careful review of the EIS, appropriate supporting evidence and other relevant portions of the administrative record.

A. Airspace redesign will ensure the safety of aircraft and the efficient use of airspace. (49 U.S.C. 40103(b))

The Federal Aviation Act of 1958 gives the Administrator the authority and responsibility to assign by order or regulation the use of the navigable airspace in order to ensure the safety of aircraft and the efficient use of the airspace. In its effort to continually ensure safety of aircraft and improve the efficiency of transit through the navigable airspace, the FAA will modify aircraft routes and air traffic control procedures used in a 31,180 square miles area encompassing the entire state of New Jersey and portions of four other states: Connecticut, Delaware, New York, and Pennsylvania (the study area). The selected project will more efficiently deliver aircraft to and from airports in the study area, with limited affect on other airports in the study area. This will enhance the efficiency of the navigable airspace, while reducing the future environmental impact of aircraft operations in the NY/NJ/PHL metropolitan area.

In choosing the selected project, the FAA evaluated a full range of alternatives for airspace redesign. The selected alternative will best accomplish the goals of airspace redesign, enhance the safety of aircraft, protect persons and property on the ground, and improve the efficiency of the airspace. Additionally, not only is the selected alternative effective at reducing overall noise exposure as compared to the original Preferred Alternative, but it also reduces noise relative to the Future No Action Airspace Alternative for persons exposed to 65 DNL or greater noise levels in 2011.

B. This project does not involve the use of any historic sites or other properties protected under Department of Transportation Section -303(c), also known as Section 4(f) or convert recreation areas protected under Land and Water Conservation Act Section 6(f).

The selected project does not involve physical development or modification of facilities and therefore results in no actual, physical use of resources protected under DOT Section 4(f) or conversion of properties protected under Land and Water Conservation Act Section 6(f). However, it would change airspace design and flight paths at some high and low altitudes to make more efficient use of existing airspace and airport runways. It has the potential to cause constructive use because it would increase flights over some areas and decrease flights over others, eliminate some flight paths and create some new flight paths.

The determination that the selected project would not cause a use of historic properties listed on or eligible for listing on the National Register of Historic Places is based upon consultation under Section 106 of the National Historic Preservation Act with the State Historic Preservation Officers in each State within the Study area.

As to constructive use of other 4(f) resources, the analysis in the EIS and the additional analysis included in the ROD in response to DOI comments, confirm that the selected project would not cause increases in noise or other proximity impacts sufficient to impair the value of those resources. The additional analysis in the ROD focused upon parks and historic properties identified as having a quiet setting as a generally recognized purpose and attribute that were projected to experience increases in noise of 3 DNL dB or greater and those having important vistas. As a safeguard the FAA commits in this ROD to apply an adaptive management approach in implementing the selected project. Unlike putting a highway next to a sacred site, these revised flight paths are somewhat flexible and lend themselves to the use of adaptive management techniques.

C. There are no disproportionately high or adverse human or environmental effects from the project on minority or low-income populations. (Executive Order 12898)

The environmental justice analysis in the EIS examined the areas significantly impacted by noise for disproportionately high and adverse human and environmental impacts to low income and minority communities. FEIS Section 5.3.2 indicated that the addition of mitigation measures to the preferred alternative (the selected project) would cause significant noise impacts in a residential area west of PHL in 2006. However, the

selected project would eliminate all potentially significant noise impacts by 2011. The population in the area significantly impacted in 2006 is not 50% minority, nor does the significantly impacted area contain a meaningfully greater percentage of minorities than the surrounding area. The median income in the significantly impacted area is above the poverty level. Additionally, reasonable efforts were made to involve minority and low-income populations in the EIS process. Therefore, the selected project would not cause a disproportionately high and adverse human or environmental impact on minority or low income populations in 2006 or 2011.

D. Clean Air Act, Section 176 (c)(1) Conformity Determination (42 U.S.C.§7506 (c))

The DEIS, FEIS, and this ROD address general conformity requirements under the Clean Air Act. The selected project is an air traffic control activity and adoption of approach, departure, and en route procedures for air operations which is either exempt under 40 CFR 93.153(c) or presumed to conform and not regionally significant under 72 Fed Reg. 41565, July 30 2007. The fuel burn analysis in FEIS Appendix R confirms that the selected project will reduce fuel and emissions in comparison to the No Action Alternative and is therefore exempt from detailed analysis under the Clean Air Act. The analysis indicated that the Preferred Alternative with and without mitigation reduced fuel burn when compared to the Future No Action Alternative.

The NY/NJ/PHL Airspace Redesign would not result in development of physical facilities. Nor will it be likely to induce, change, or redistribute traffic in the airspace or at the airports in the study area. Air and vehicular traffic will continue to be governed by passenger preferences based upon ticket prices, airport location, and service to desired destinations, not the efficiency of air traffic procedures and airspace design. In sum, detailed analysis was not necessary to conclude that the selected project conforms with the purposes of the SIPs in the six States within the Study Area. By its very nature it will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the carbon monoxide, ozone, sulfur dioxide, and particulate matter NAAQS in the six states within the Study Area.

E. The FAA has given this proposal the independent and objective evaluation required by the Council on Environmental Quality (40 CFR §1506.5)

As described in the NY/NJ/PHL Airspace Redesign Final EIS and in Section IV of this ROD [when almost complete, double check that Alternatives are still discussed in Section 3], FAA employed a detailed process in identifying reasonable alternatives that led to identification of a preferred alternative. Throughout, numerous FAA air traffic control specialists provided expertise and guidance on technical matters that arose during the formative steps. The FAA evaluated the technical feasibility of the Proposed Action and determined the alternatives to be evaluated for potential implementation. The proposed NY/NJ/PHL Airspace Redesign represents the best judgment of the FAA in its key area of expertise: the safe, orderly and expeditious movement of air traffic.

Similarly, the FAA has conducted an independent review of the factual assumptions contained in the NY/NJ/PHL Airspace Redesign Final EIS. The process began with a

competitive selection of an independent EIS contractor, continued throughout preparation of a Draft EIS and Final EIS and culminated in this ROD. Individuals from the FAA have devoted many hours to ensure compliance with NEPA and other environmental requirements. The Agency's responses to the public comments on the environmental impacts of the Proposed Action are detailed and comprehensive. This ROD also describes the great care and attention that was paid to public environmental concerns, particularly noise. Accordingly, the independent and objective evaluation called for by the Council on Environmental Quality has been provided.

F. Endangered Species Act, 16 U.S.C. Sections 1531-1544.

Pursuant to the Endangered Species Act (ESA), the FAA contacted the Fish and Wildlife Service and local authorities to compile a list of federally and state endangered and threatened species in the Study Area. This list is set forth in Appendix G of the EIS. In the DEIS and the FEIS, the FAA concluded that the proposed action will not have a significant impact on fish or plants because the proposed action does not require ground disturbance and does not modify critical habitat.

Subsequent to that finding, the FAA agreed to consider the Department of Interior's request to impose flight restrictions over piping plover, bald eagle and roseate tern nesting sites. The piping plover and bald eagle have established nests under the current air traffic situation and have demonstrated a tolerance for such activity. There is no currently no documented nesting sites for the roseate tern.

The FAA has determined that the bald eagle, a species that is no longer listed pursuant to the Endangered Species Act, is not affected by the selected project. The FAA has also determined that the selected project as compared to the no-action alternative does not affect the piping plover or the roseate tern. On September 5, 2007, the FAA responded to the FWS and obtained FWS concurrence that the selected project is not likely to adversely affect these two species.

G. Responsibilities of Federal Agencies to Protect Migratory Birds (Executive Order 13186).

Executive Order 13186, enacted to further the purposes of the Migratory Bird Treaty Act (MBTA), recognizes the importance of migratory birds. The selected project includes changes in aircraft routes and thus the potential for bird strikes (for migratory and non-migratory) was assessed in the EIS. The Bird Strike Impact Assessment found that various bird categories are already impacted from operations at EWR, HPN, ISP, JFK, LGA and PHL. Each of these airports has a Wildlife Hazard Management Plan and are subject to a 2003 Memorandum of Agreement with the Fish and Wildlife Service and other federal agencies to address aircraft wildlife strikes. The selected project will not increase existing impacts to migratory birds. There are no significant impact to migratory birds from the selected Project.

X. Decision and Order

In the Final EIS, the FAA identified the Integrated Airspace Alternative Variation with ICC as the Preferred Alternative for the NY/NJ/PHL Metropolitan Area Airspace Redesign Project. Among the alternatives studied, the Integrated Airspace Alternative with ICC best meets the purpose and need of the project, which is to improve the efficiency and reliability of the airspace structure and air traffic control system from southern Connecticut to eastern Delaware. Only the Integrated Airspace Alternative with ICC provides for considerable operational benefit. The Integrated Airspace Alternative with ICC is a new concept in airspace design. Currently, the airspace is a layered structure, consisting of en route and terminal airspace. Each layer includes a finite piece of airspace defined by lower and upper altitude limits and defined geographic boundaries. The Integrated Airspace Alternative with ICC would alter the limits of these finite pieces of airspace such that several operational benefits would occur including:

- A reduction in the complexity of the current air traffic system operation in New York / New Jersey / Philadelphia,
- A reduction in delays and the expeditious arrival and departure of aircraft,
- Improved flexibility in routing aircraft,
- A more balanced controller workload, and
- An increase in the FAA's ability to meet system demands.

The FAA identified mitigation measures to minimize the potentially significant noise impacts of the preferred alternative, without substantially diminishing its benefits. Benefits of the selected project (the Integrated Airspace Alternative with ICC with mitigation) include:

- An estimated 20% reduction in airport delay, once implementation is complete, compared to the No Action Alternative. ROD Table 2.6
- Air traffic congestion nationwide is expected to cost \$46 billion to the nation's economy in 2010. This includes costs to airlines and passengers, loss of service to people who wish to travel, and over 200,000 lost jobs in aviation and other industries. NY/NJ/PHL airspace will handle 15-20% of all the air traffic in the nation in 2011, so the inefficiencies addressed here could yield benefits to air carriers, passengers, and local businesses of \$7 billion to \$9 billion in 2011.
- Projected reduction in fuel consumption and emissions, including carbon dioxide and other greenhouse gas emissions. Once completely implemented, it is expected to reduce annual operating costs (largely fuel consumption) by \$248 million and severe weather delay costs by another \$37 million.
- Reduced noise exposure for more than one half million compared to the No Action Alternative.

Decision

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 (a) of the National Environmental Policies Act of 1969 (NEPA) and that it will not significantly effect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

Having carefully considered the aviation safety and operational objectives of this action, as well as being properly advised as to the anticipated environmental impacts, under the authority delegated to me by the Administrator of the FAA, I find that the action is reasonably supported, and I, therefore, direct the NY/NJ/PHL metropolitan area airspace redesign be implemented. Implementation of the selected project will begin as soon as practicable after the ROD. Based on information from specialists in the agency, I estimate full implementation of the selected alternative to take five years.

Original signed on September 5, 2007.

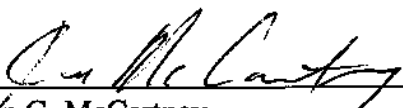
John G. McCartney
Acting Director, Terminal Operations
Eastern Service Area
Federal Aviation Administration

Date: _____

Right of Appeal: This decision is taken pursuant to 49 U.S.C. §§40101 *et seq.*, and constitutes an order of the Administrator which is subject to review by the Courts of Appeal of the United States in accordance with the provisions of 49 U.S.C. §46110.

Any party seeking to stay the implementation of this ROD must file an application with the FAA prior to seeking judicial relief, as provided in Rule 18(a), Federal Rules of Appellate Procedure.

I have reviewed the changes contained in the Errata to the Record of Decision dated September 14, 2007. The changes contained in the Errata are not substantive and have been incorporated within this corrected version of the ROD. The Corrected ROD does not alter the decision of September 5, 2007 in any way and is issued merely for ease of reference.



John G. McCartney
Acting Director, Terminal Operations
Eastern Service Area
Federal Aviation Administration

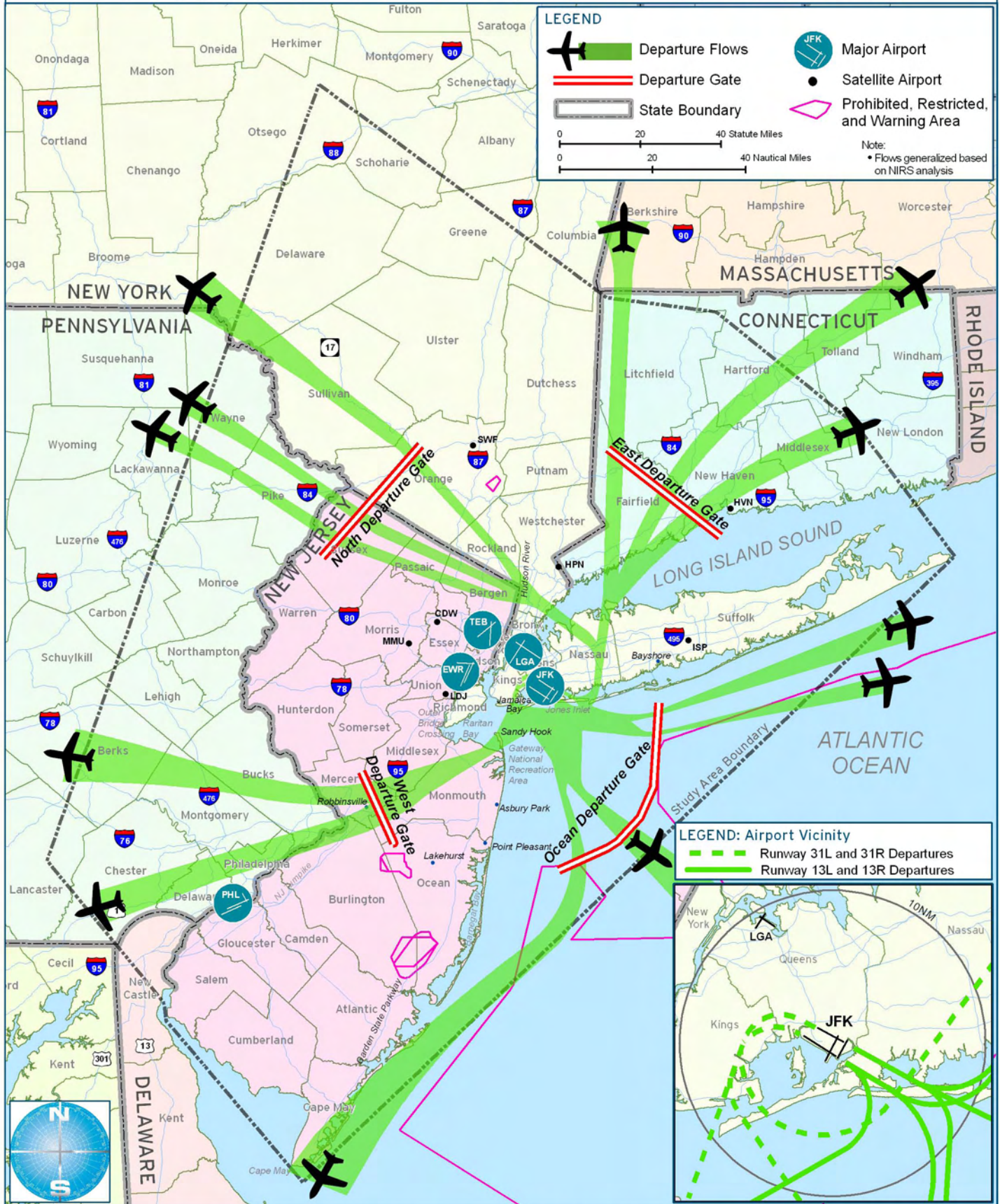
Date: 10/4/07



Future No Action Airspace Alternative JFK Major Departure Flows

Figure 2.1

ENVIRONMENTAL IMPACT STATEMENT

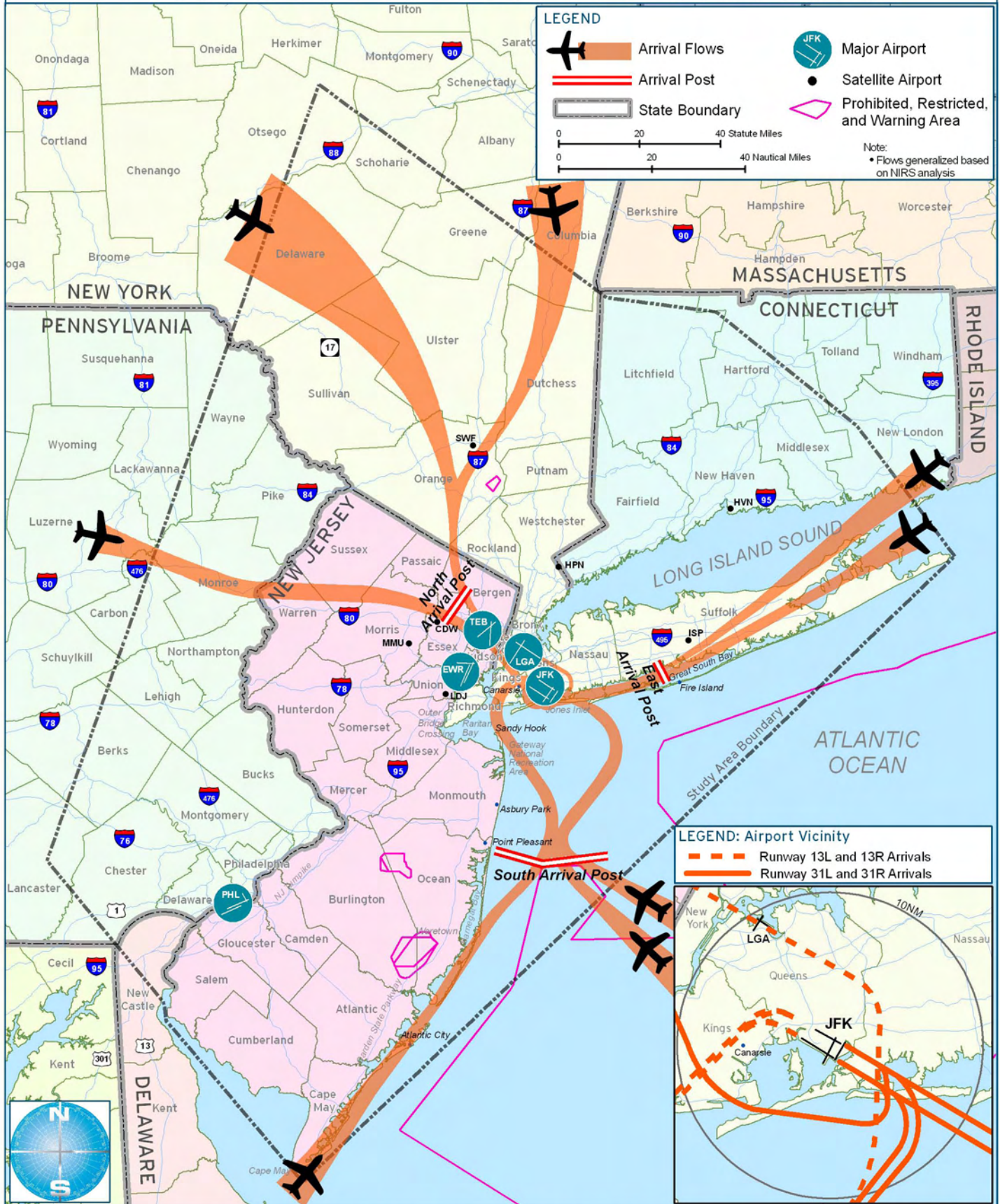




Future No Action Airspace Alternative JFK Major Arrival Flows

Figure 2.2

ENVIRONMENTAL IMPACT STATEMENT

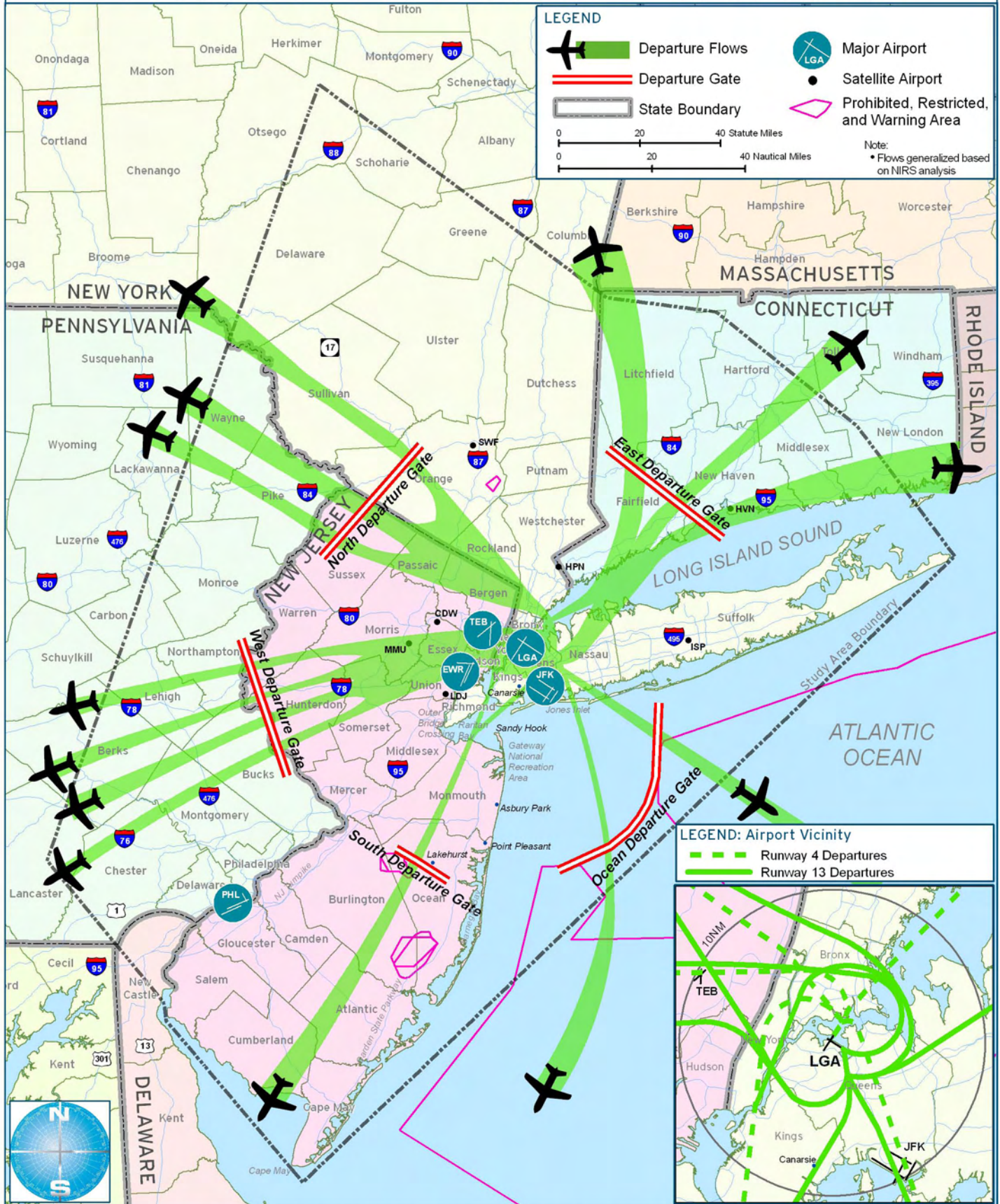




Future No Action Airspace Alternative LGA Major Departure Flows

Figure
2.3

ENVIRONMENTAL IMPACT STATEMENT

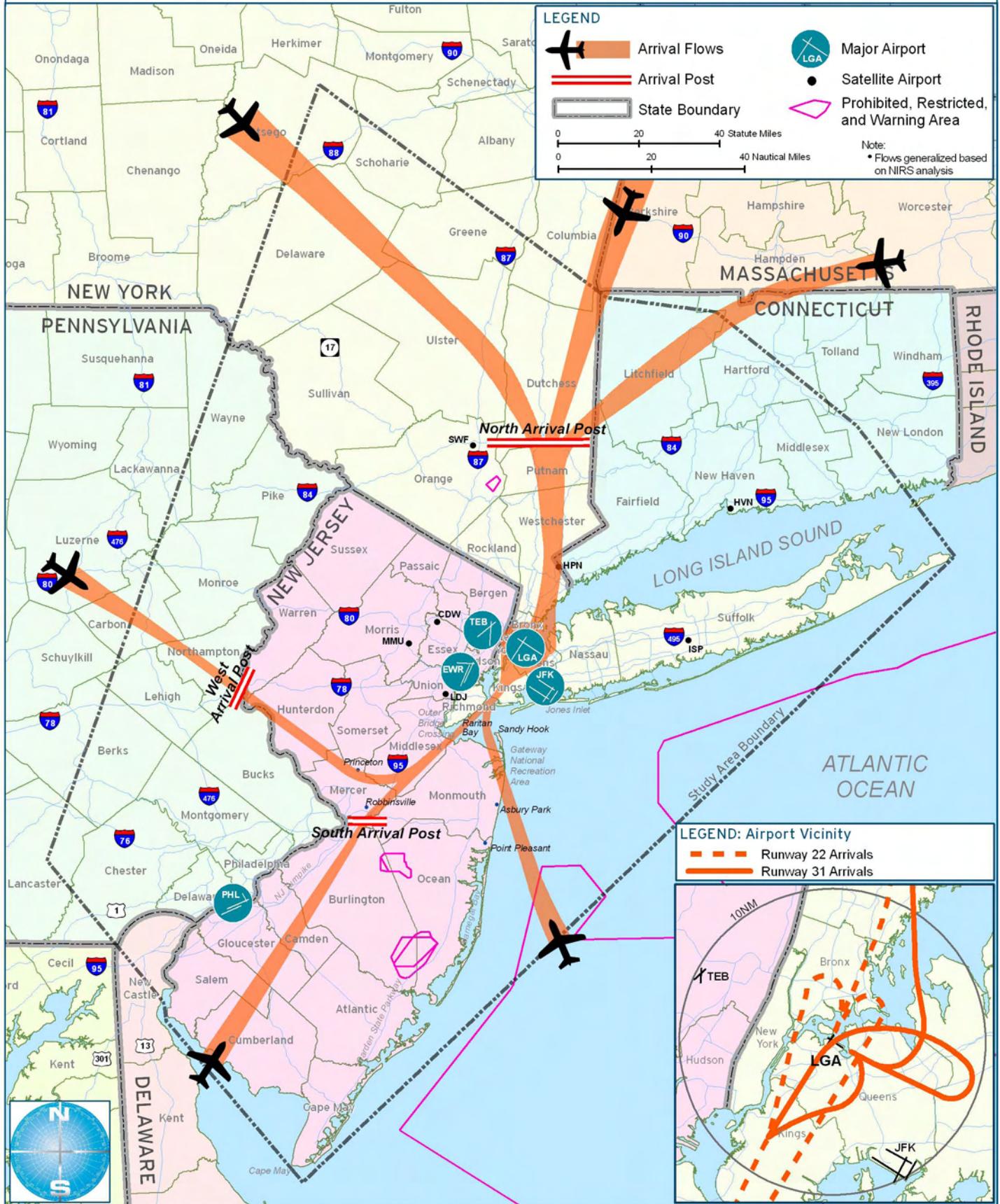




Future No Action Airspace Alternative LGA Major Arrival Flows

Figure 2.4

ENVIRONMENTAL IMPACT STATEMENT

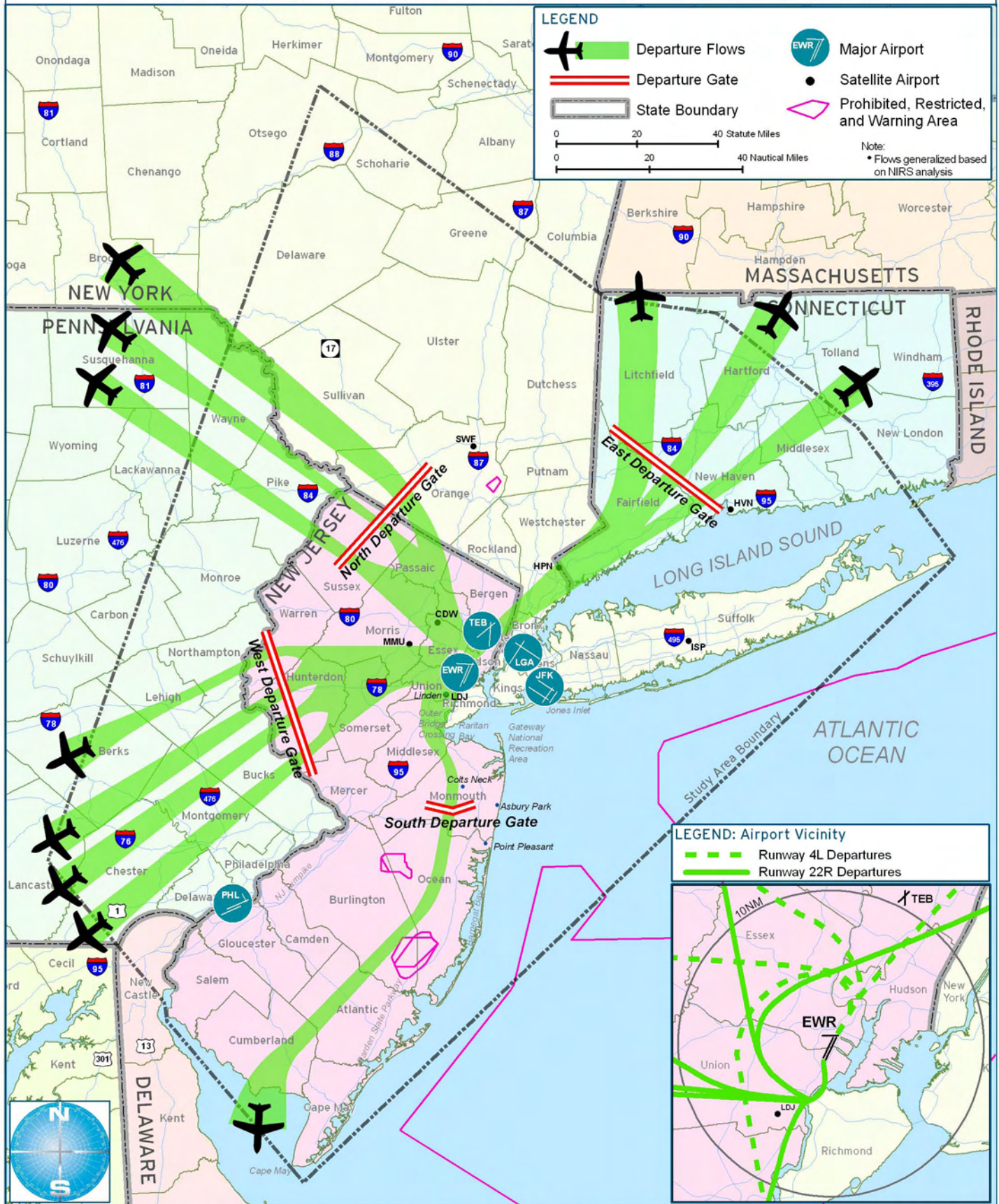




Future No Action Airspace Alternative EWR Major Departure Flows

Figure
2.5

ENVIRONMENTAL IMPACT STATEMENT

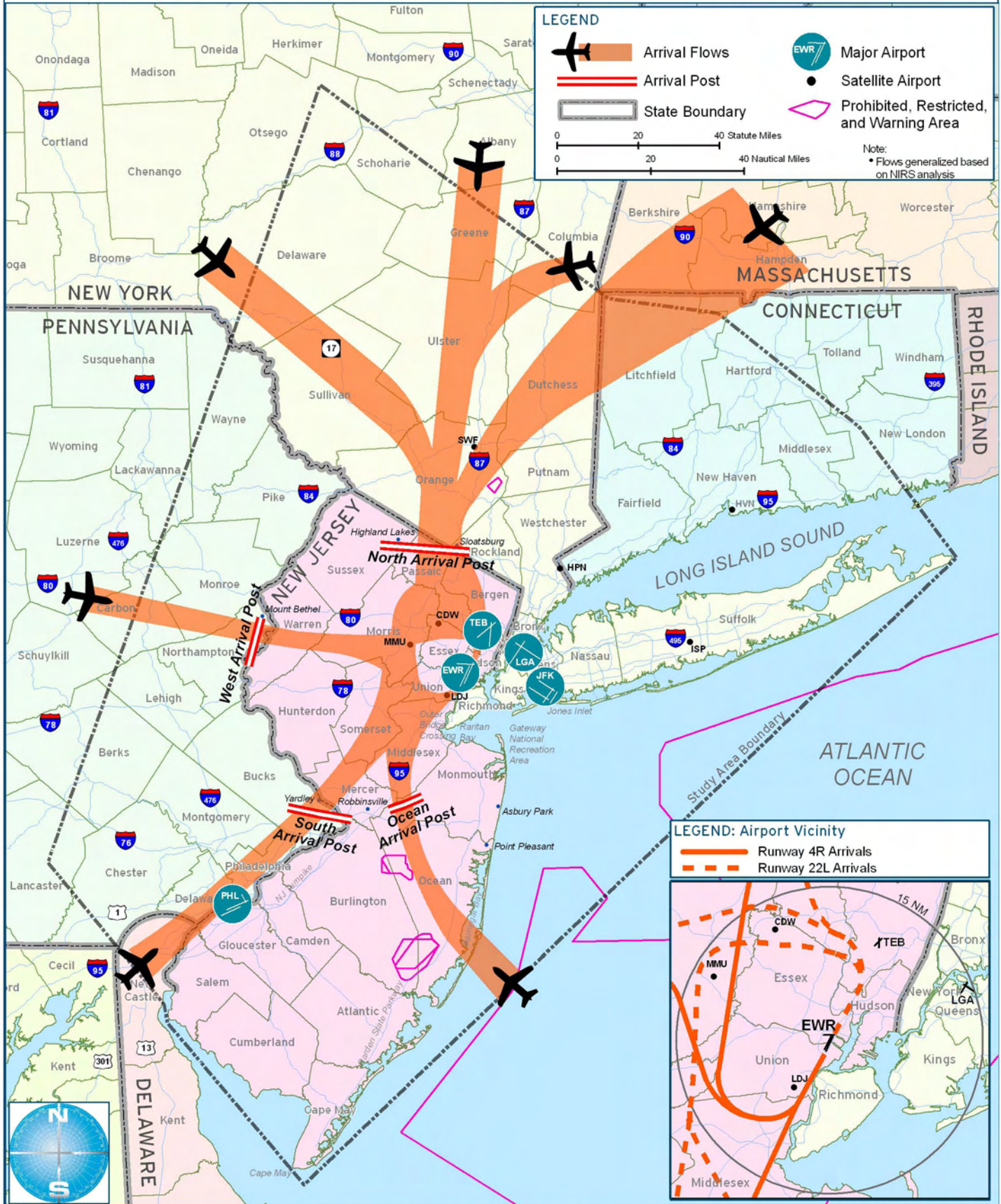




Future No Action Airspace Alternative EWR Major Arrival Flows

Figure 2.6

ENVIRONMENTAL IMPACT STATEMENT

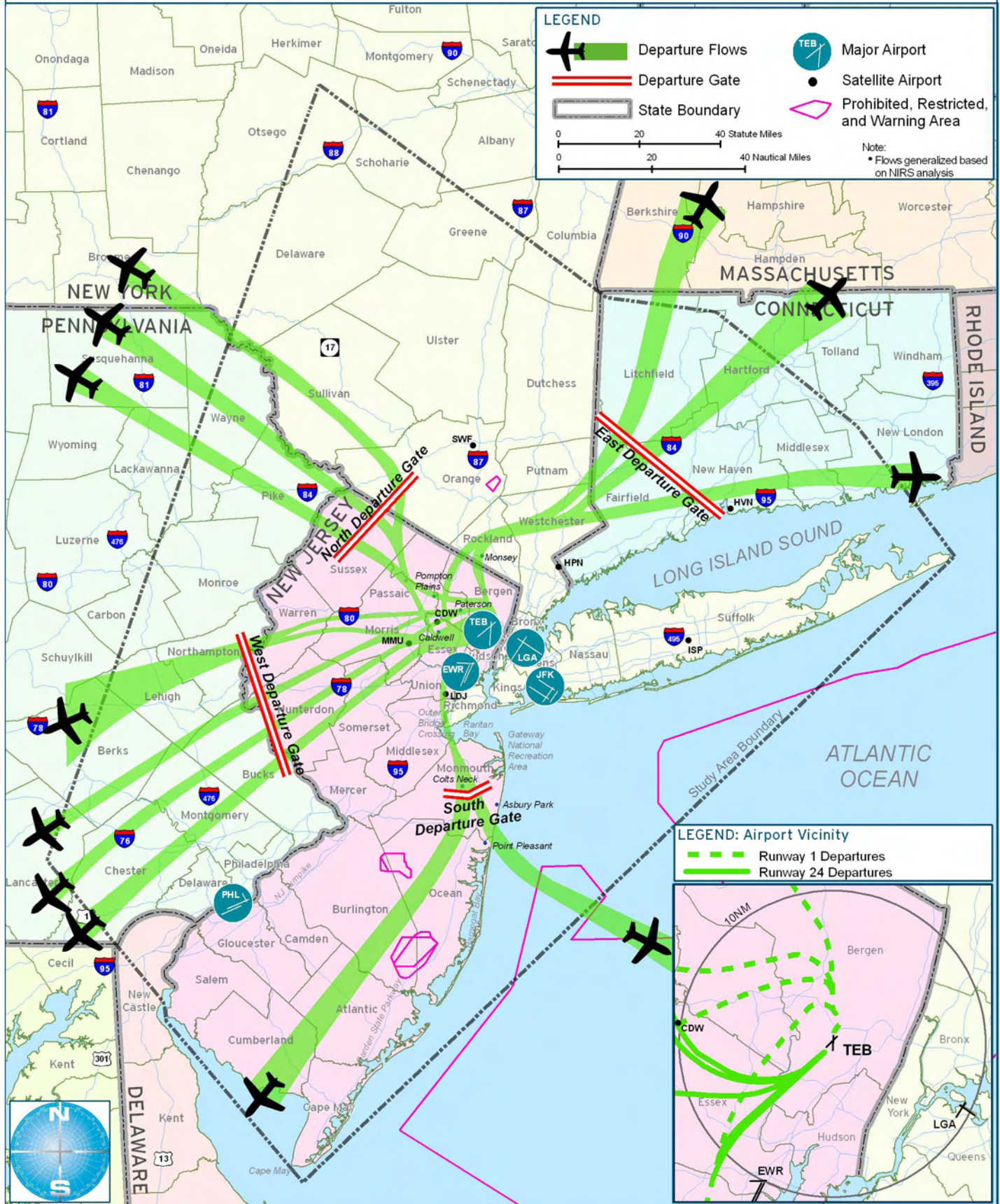




Future No Action Airspace Alternative TEB Major Departure Flows

Figure
2.7

ENVIRONMENTAL IMPACT STATEMENT

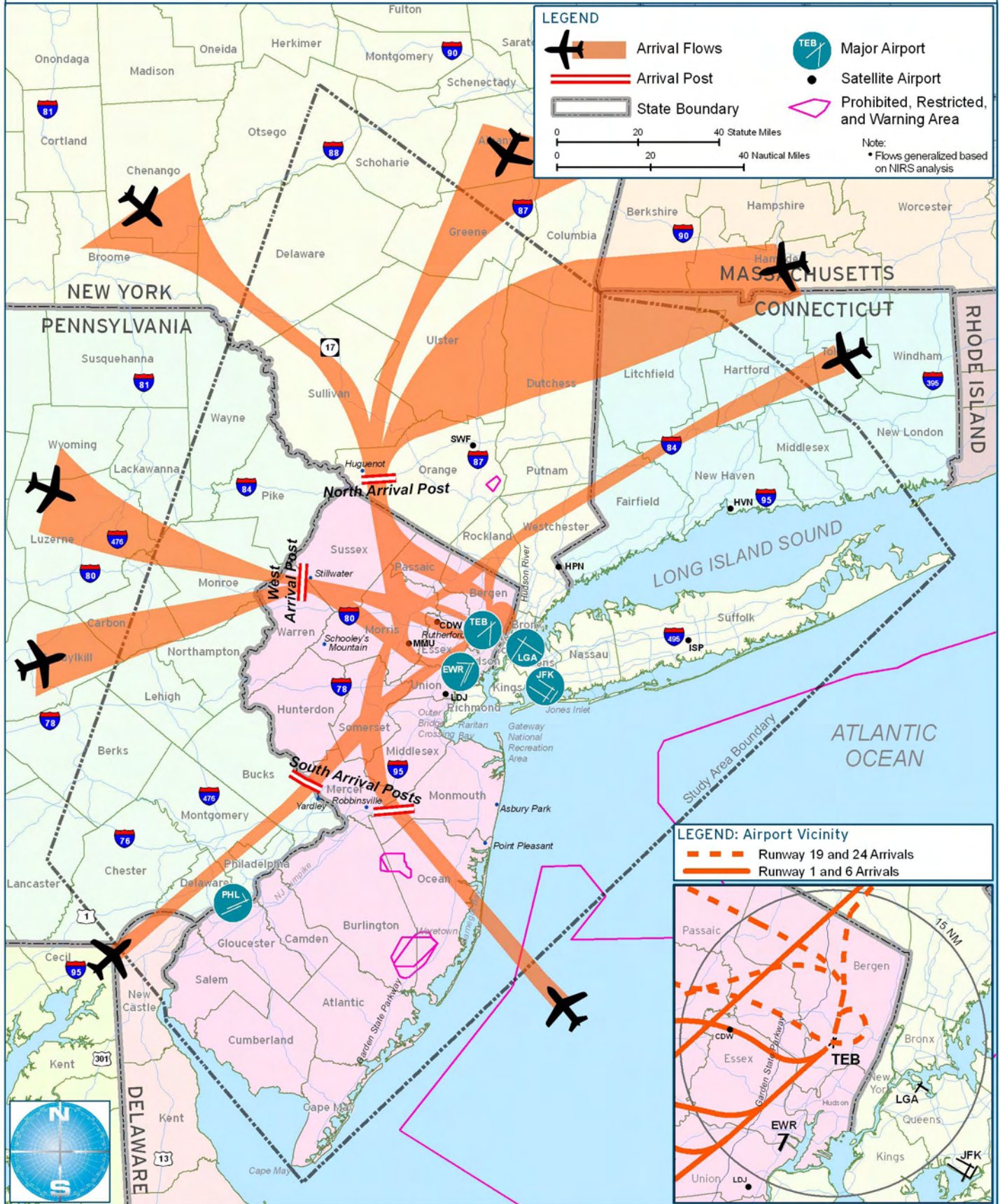




Future No Action Airspace Alternative TEB Major Arrival Flows

Figure
2.8

ENVIRONMENTAL IMPACT STATEMENT

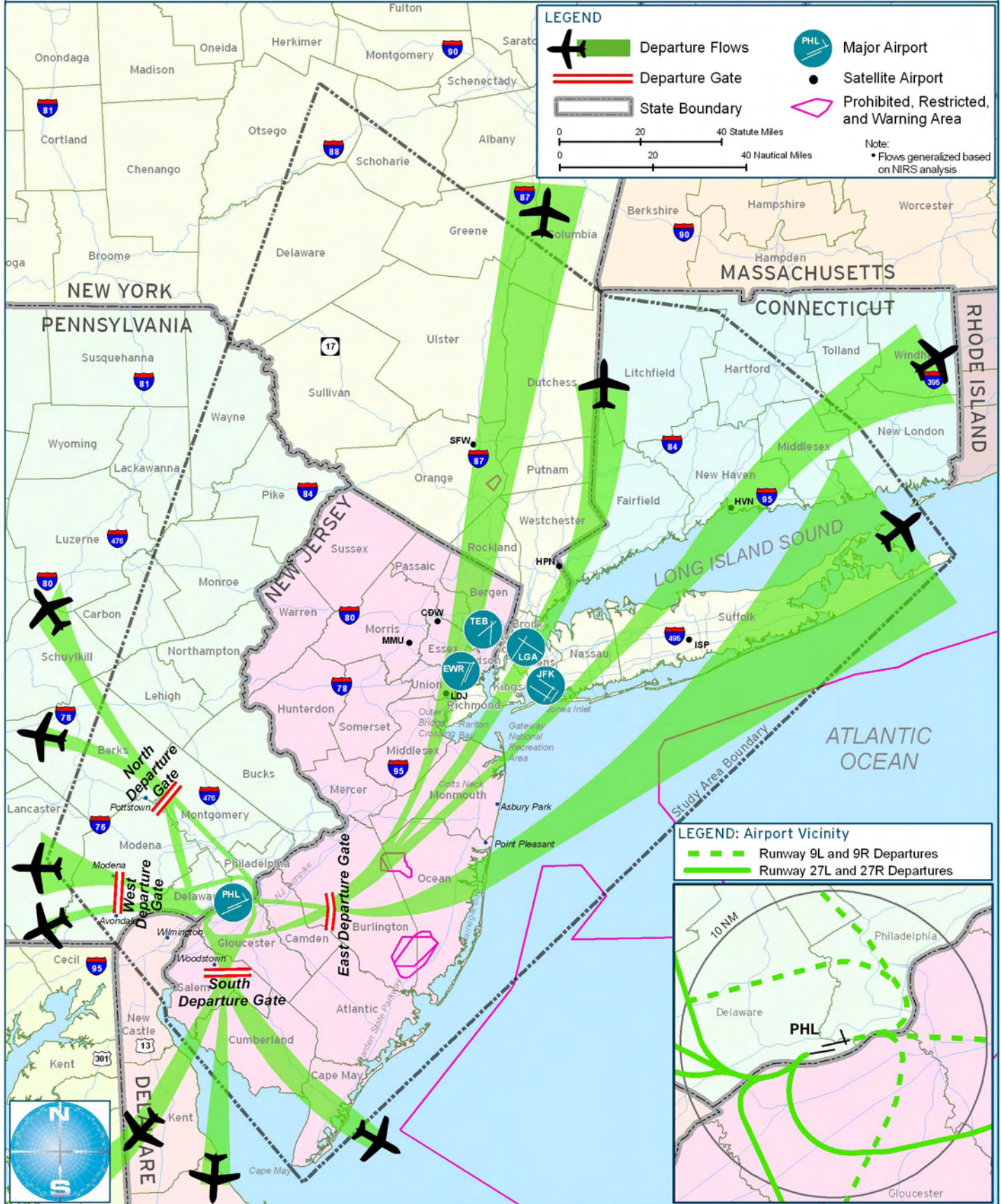




Future No Action Airspace Alternative PHL Major Departure Flows

Figure 2.9

ENVIRONMENTAL IMPACT STATEMENT

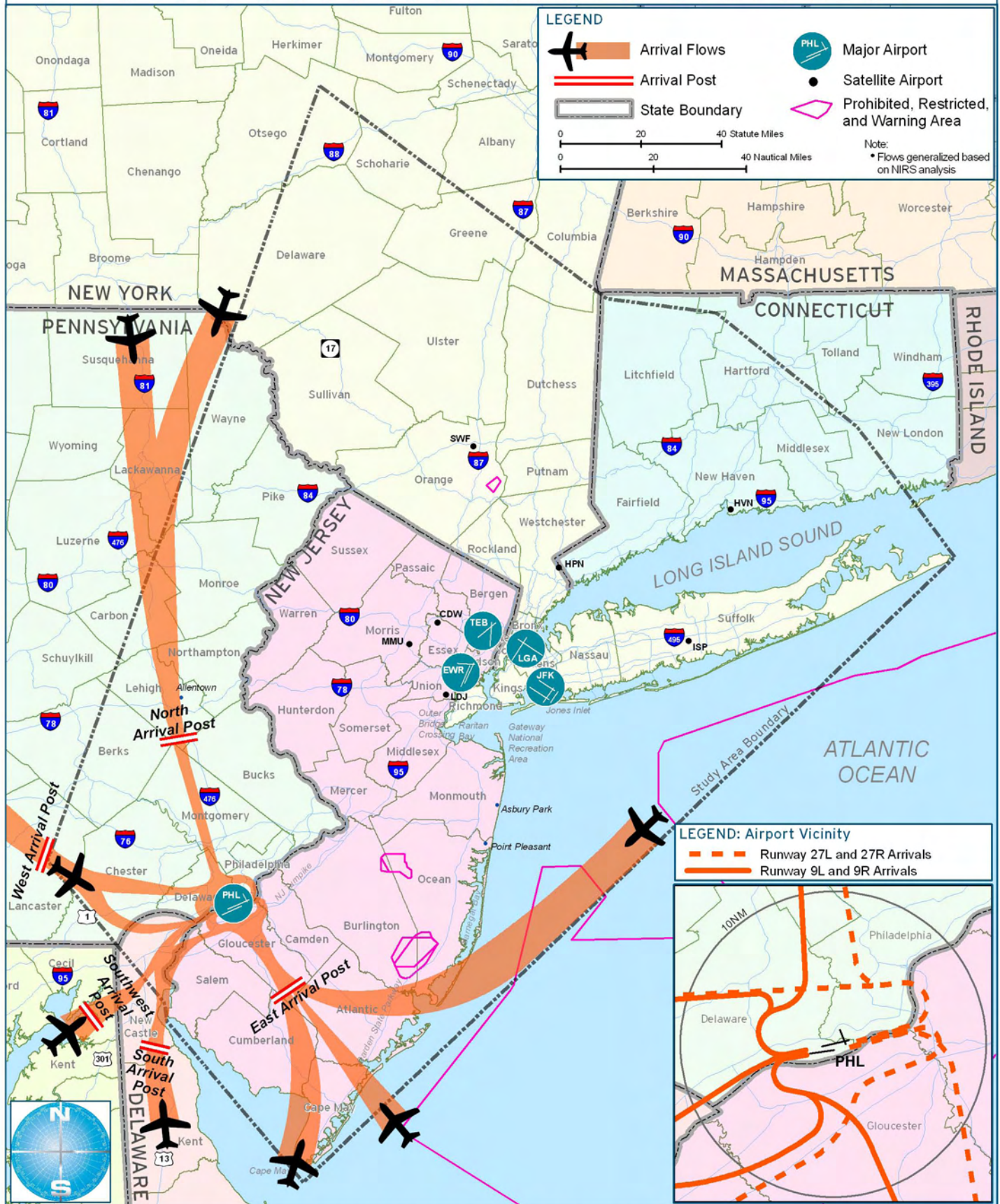




Future No Action Airspace Alternative PHL Major Arrival Flows

Figure
2.10

ENVIRONMENTAL IMPACT STATEMENT

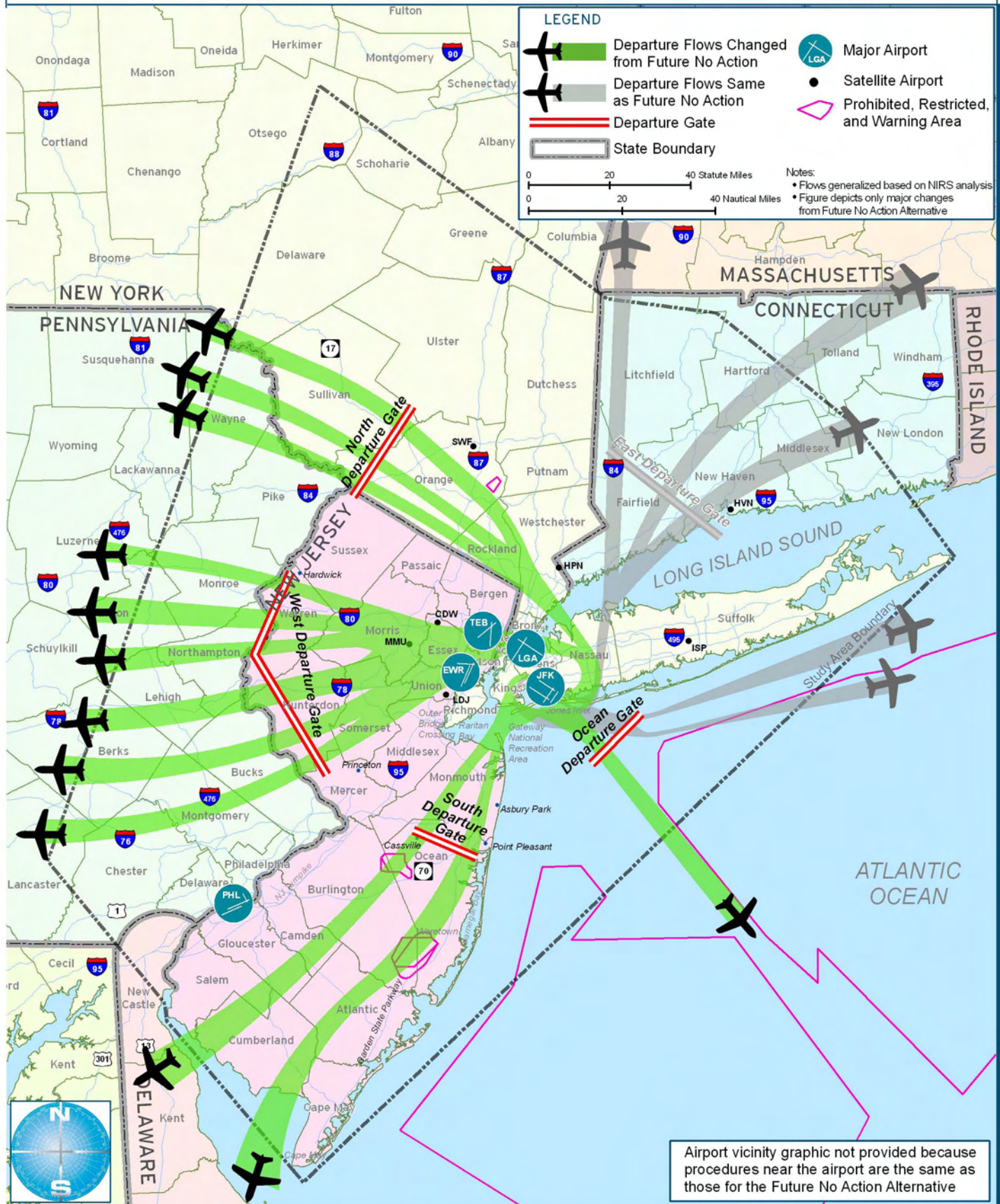




Integrated Airspace Alternative Variation with ICC JFK Major Departure Flows

Figure 2.24

ENVIRONMENTAL IMPACT STATEMENT



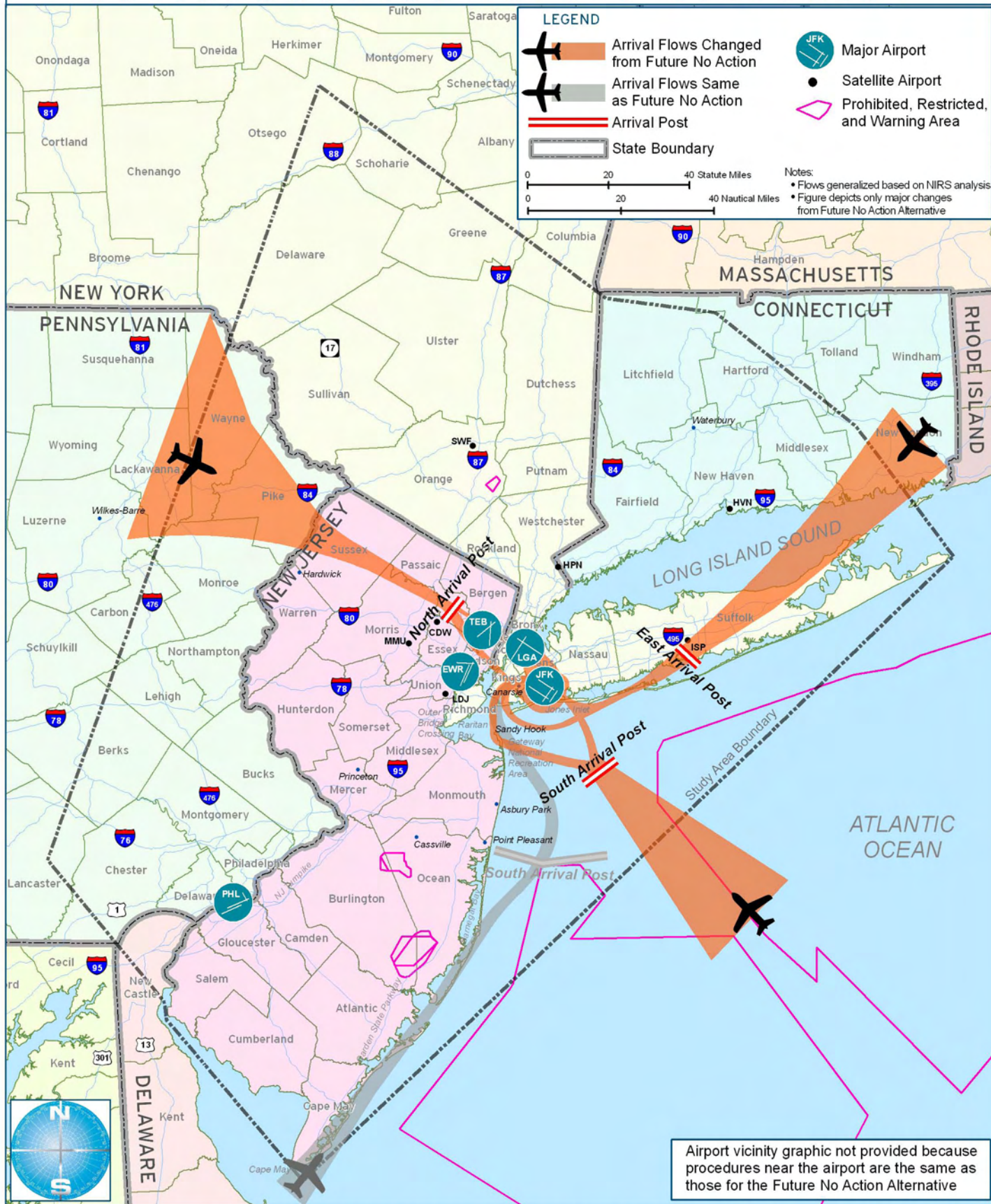
Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative



Integrated Airspace Alternative Variation with ICC JFK Major Arrival Flows

Figure 2.25

ENVIRONMENTAL IMPACT STATEMENT

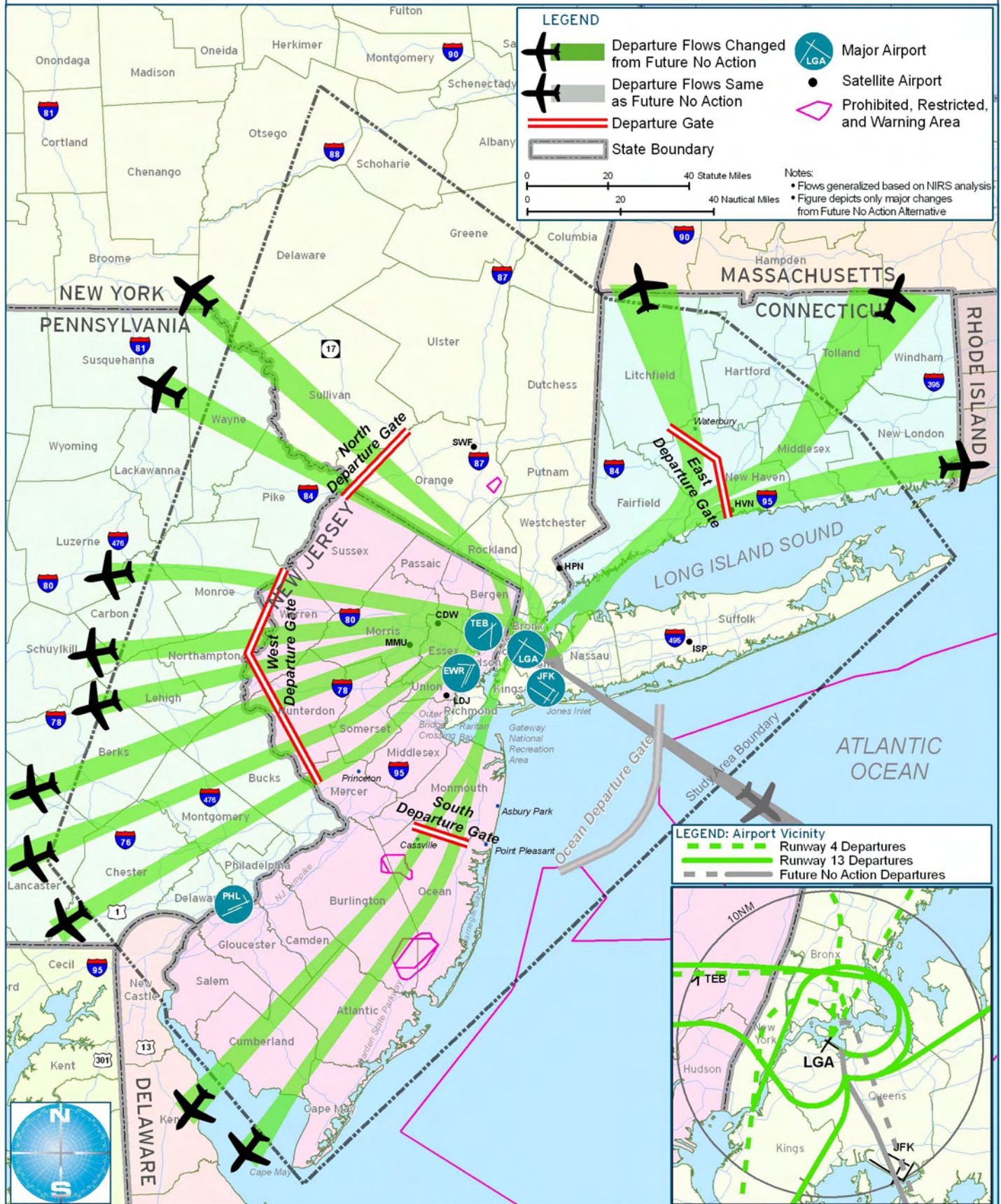




Integrated Airspace Alternative Variation with ICC LGA Major Departure Flows

Figure 2.26

ENVIRONMENTAL IMPACT STATEMENT

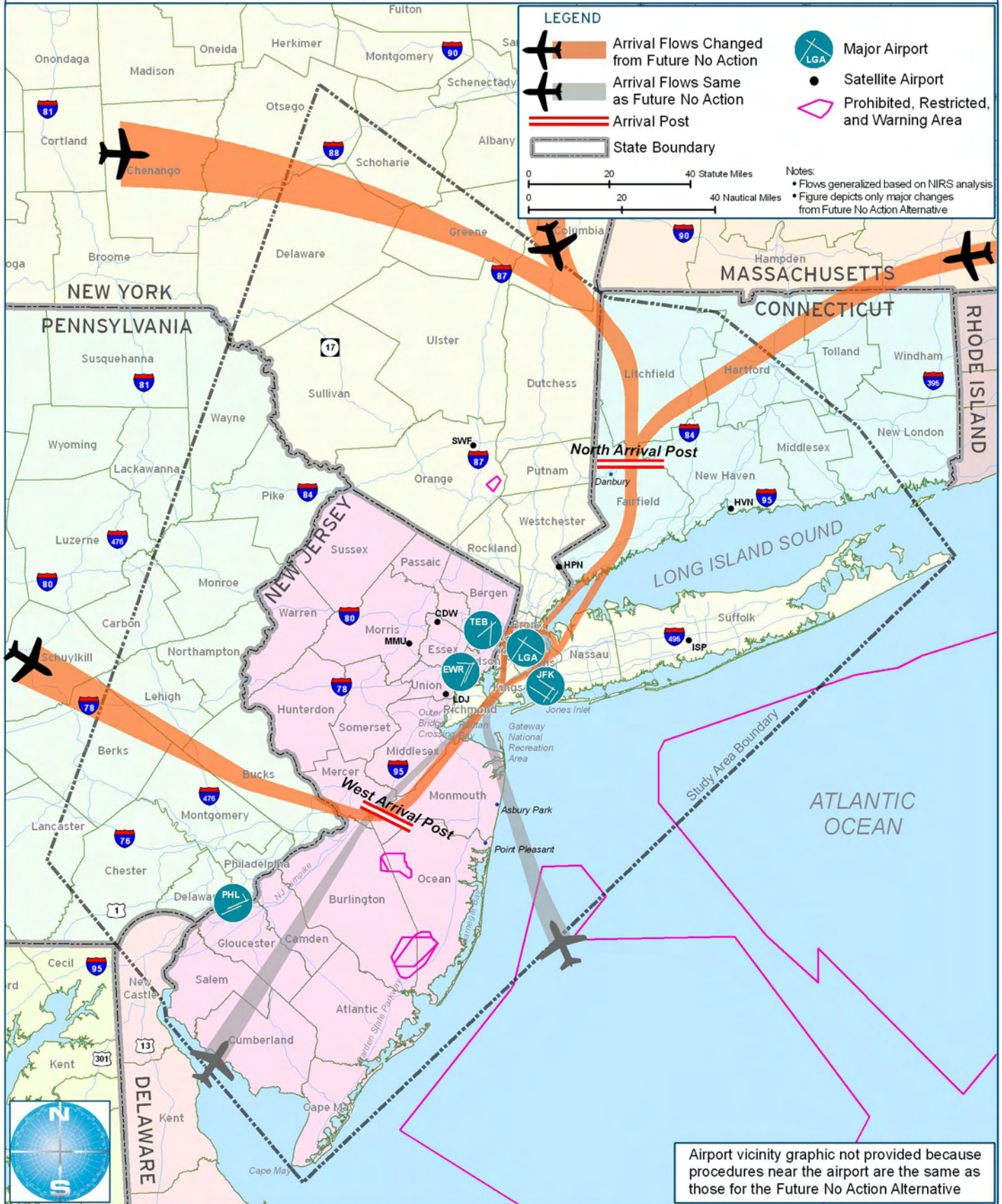




Integrated Airspace Alternative Variation with ICC LGA Major Arrival Flows

Figure 2.27

ENVIRONMENTAL IMPACT STATEMENT



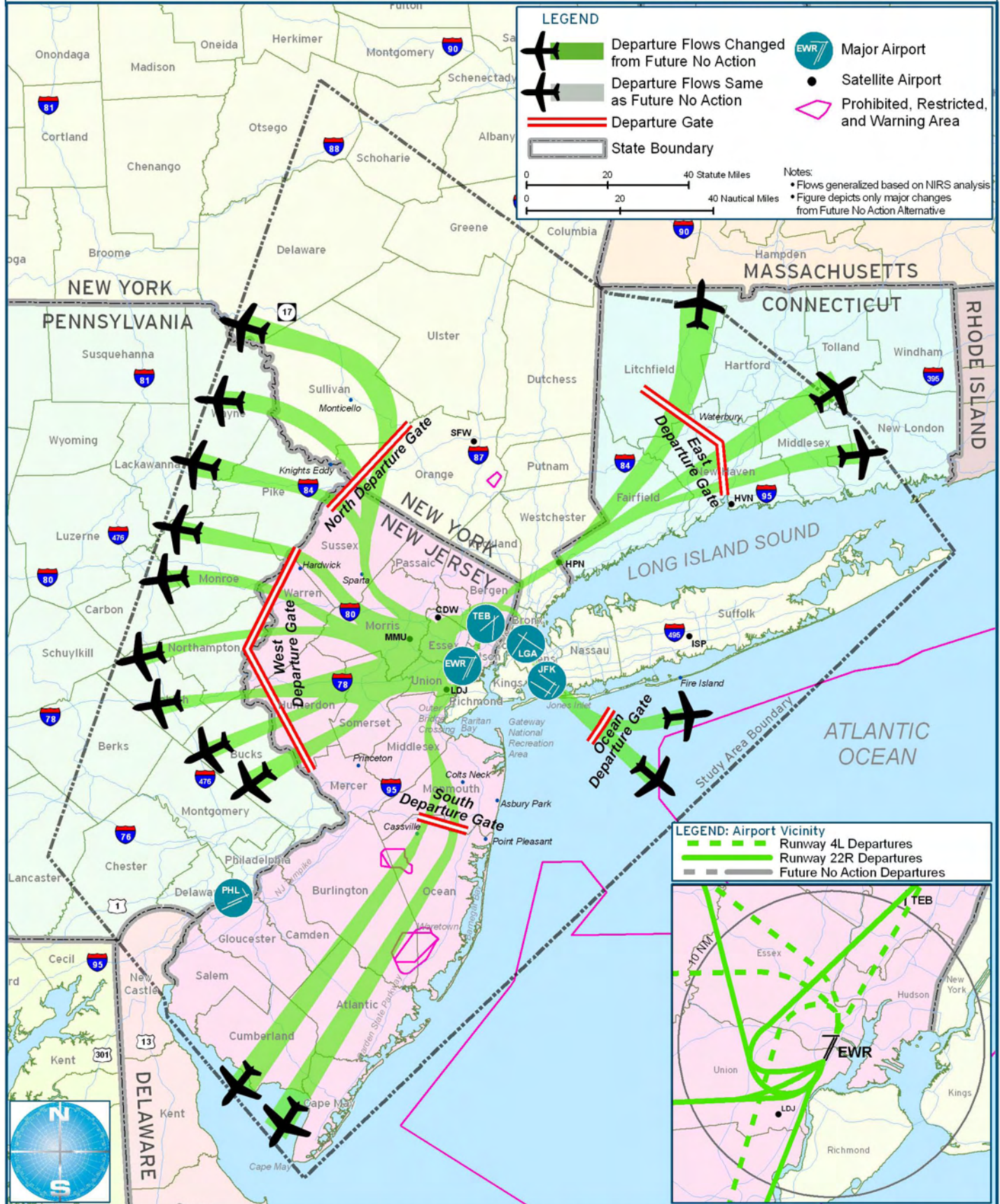
Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative



Integrated Airspace Alternative Variation with ICC EWR Major Departure Flows

Figure 2.28

ENVIRONMENTAL IMPACT STATEMENT

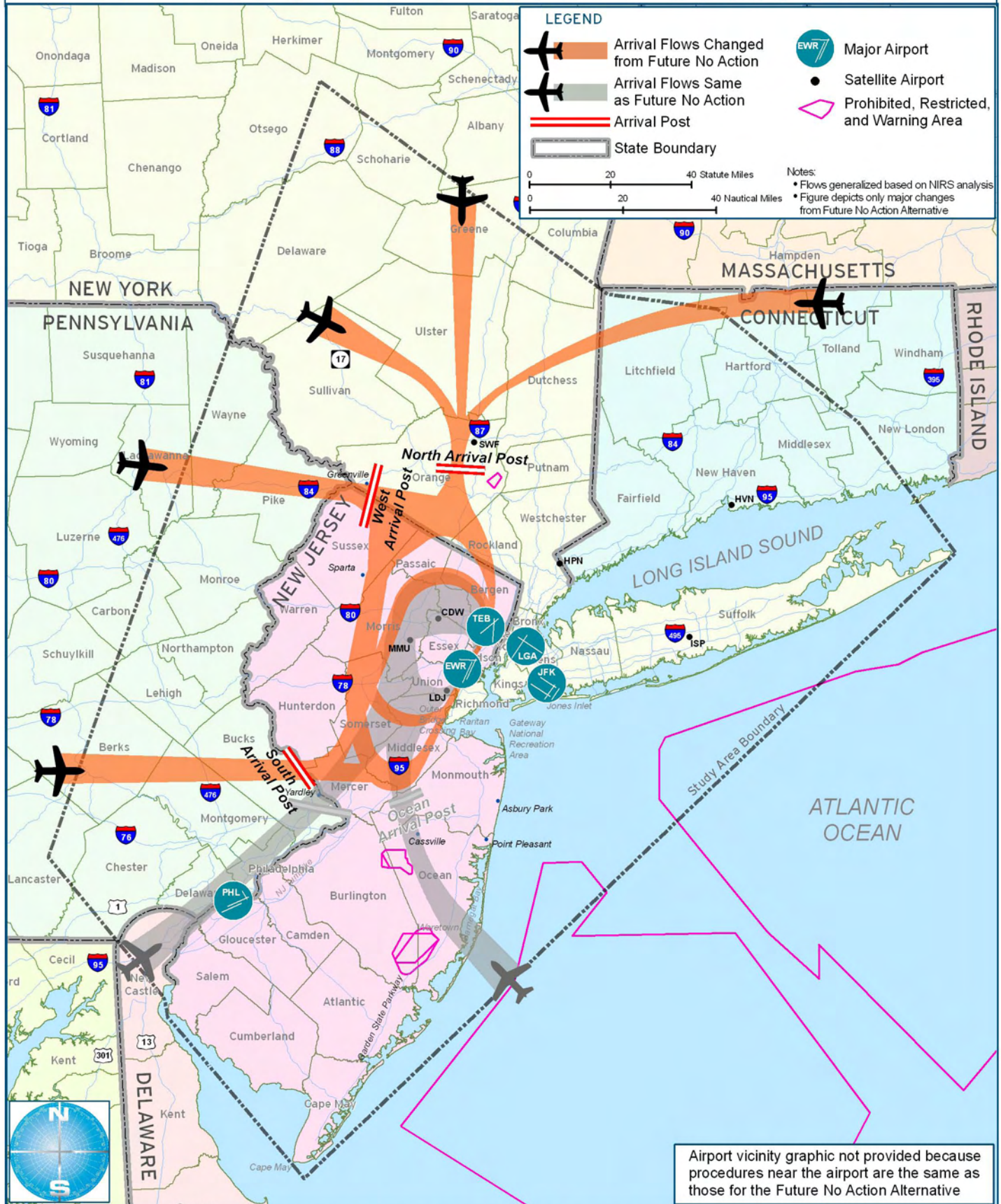




Integrated Airspace Alternative Variation with ICC EWR Major Arrival Flows

Figure 2.29

ENVIRONMENTAL IMPACT STATEMENT



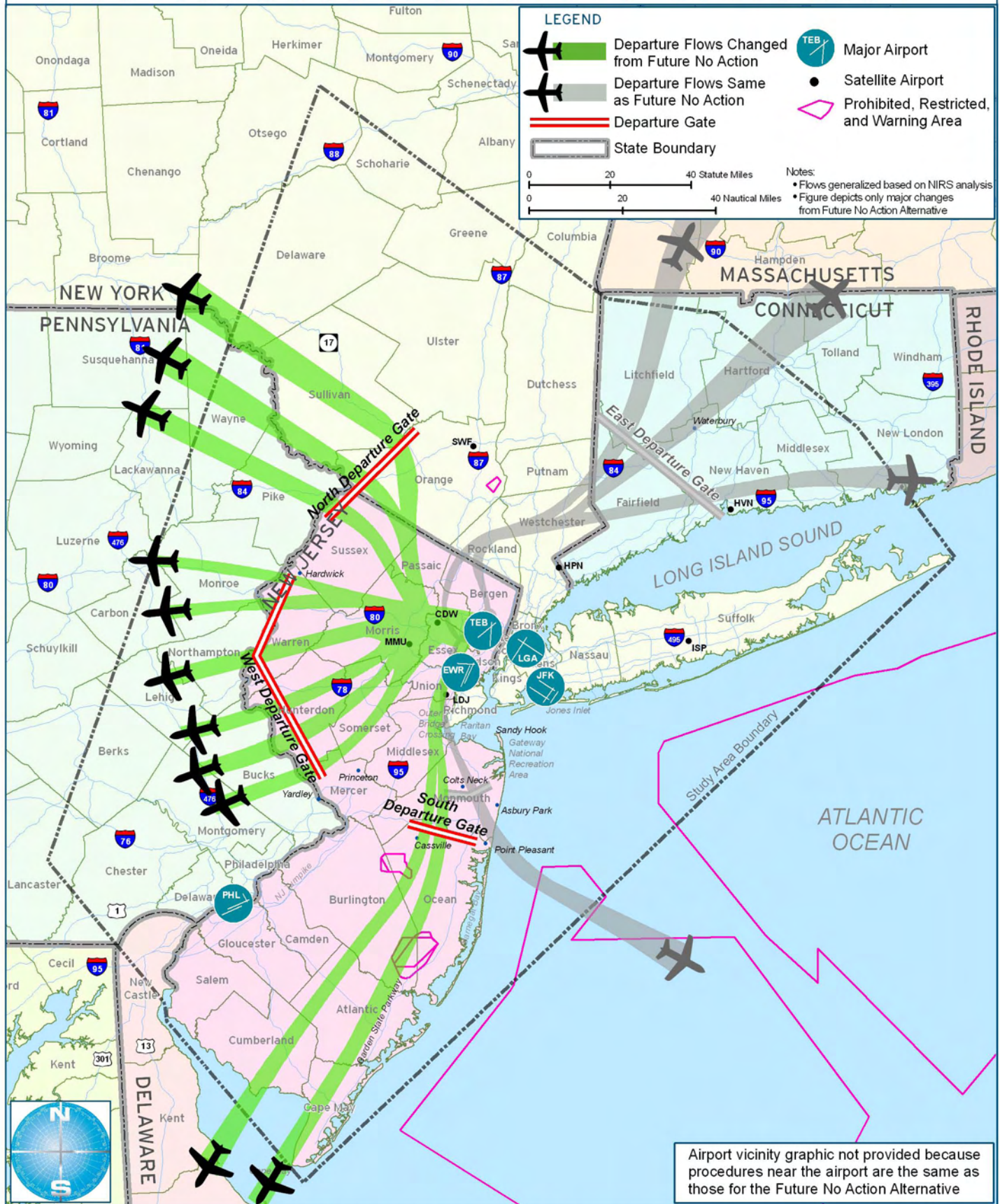
Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative



Integrated Airspace Alternative Variation with ICC TEB Major Departure Flows

Figure 2.30

ENVIRONMENTAL IMPACT STATEMENT



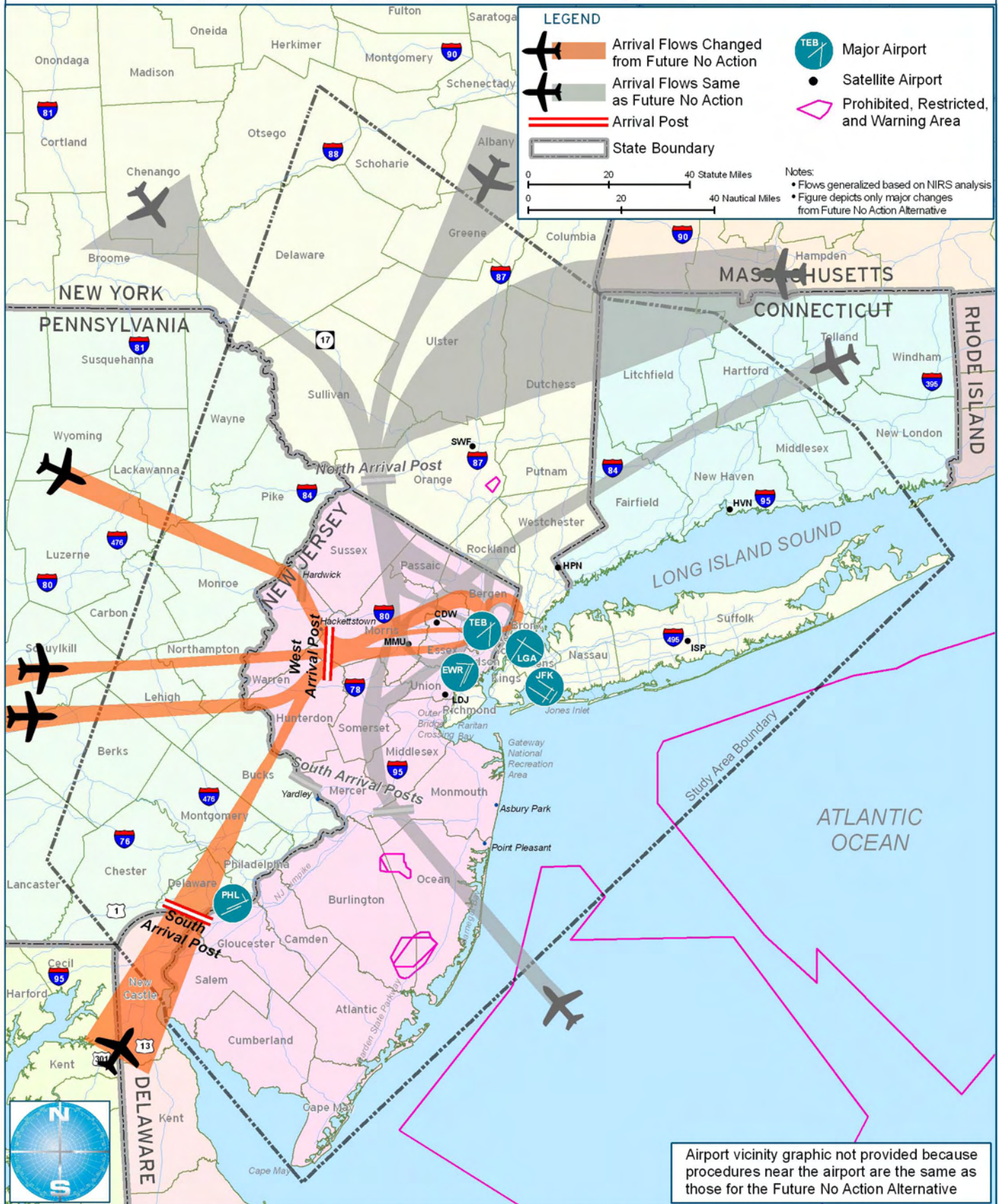
Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative



Integrated Airspace Alternative Variation with ICC TEB Major Arrival Flows

Figure 2.31

ENVIRONMENTAL IMPACT STATEMENT



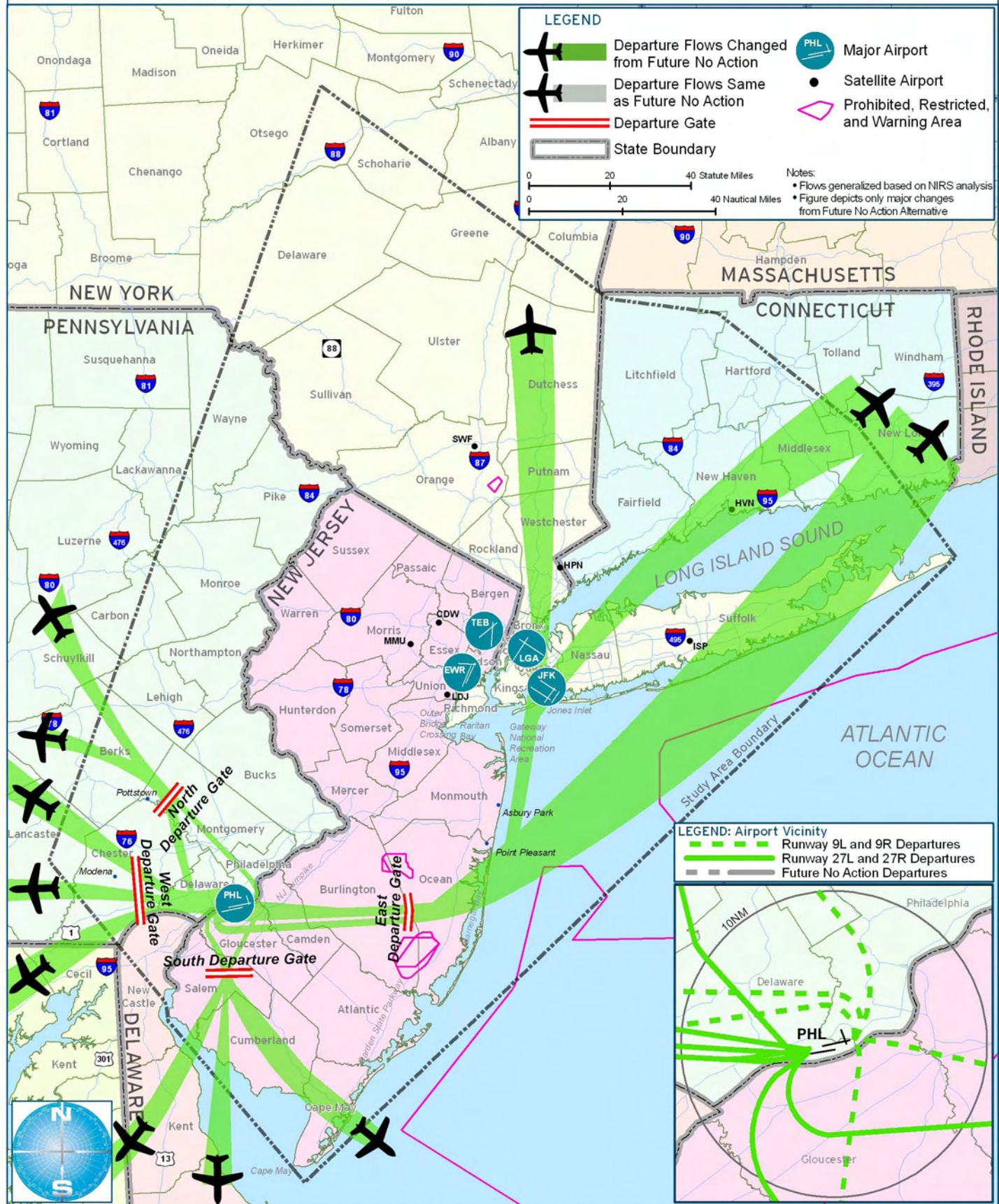
Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative



Integrated Airspace Alternative Variation with ICC PHL Major Departure Flows

Figure 2.32

ENVIRONMENTAL IMPACT STATEMENT

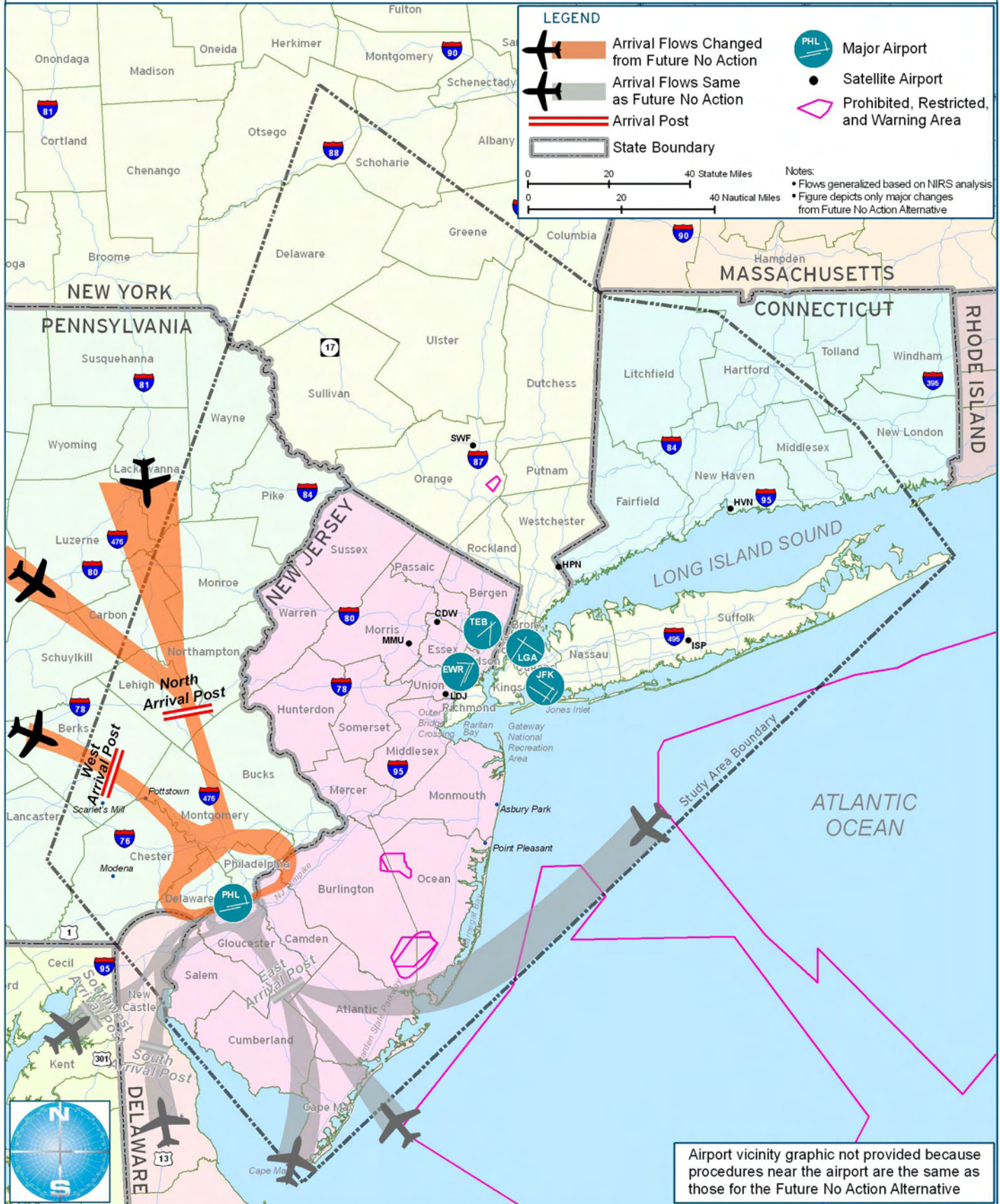




Integrated Airspace Alternative Variation with ICC PHL Major Arrival Flows

Figure 2.33

ENVIRONMENTAL IMPACT STATEMENT



Airport vicinity graphic not provided because procedures near the airport are the same as those for the Future No Action Alternative

Appendix B – Additional Analysis

In Section 5.3.5.1 of the FEIS the FAA committed to conduct further evaluation, in consultation with appropriate federal and state officials, to determine whether predicted noise increases or visual changes over affected areas of the 4(f) resources listed in Table B.1 would result in a constructive use. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is provided below.

Table B.1

4(f) Properties Subject to Additional Noise / Visual Evaluation

4(f) Property	Noise	Visual
<i>Appalachian National Scenic Trail,</i>	X	X
<i>Delaware and Lehigh National Heritage Corridor</i>	X	
<i>Delaware Water Gap National Recreation Area</i>	X	
Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site		X
<i>Hopewell Furnace National Historic Site,</i>	X	
<i>Upper Delaware Scenic & Recreational River</i>	X	
<i>Weir Farm National Historic Site,</i>	X	
<i>Wallkill River National Wildlife Refuge,</i>	X	
<i>Catskill Park (Big Indian – Beaverkill Range Wilderness Area, Slide Mountain Wilderness Area, Westkill Mountain Wilderness Area).</i>	X	

Additional Noise Evaluation

If any point within one of the subject Section 4(f) properties would experience a change in noise level as a result of the selected Project greater than 3.0 DNL, the FAA conducted further evaluation of the property in consultation with the NPS and New York State Department of Environmental Conservation.

Additional 4(f) Resources To Which Part 150 Guidelines Apply.

Upon additional review, the FAA has determined that a quiet setting does not appear to be a generally recognized feature or attribute of the significance for several of the sites that were identified for further study in the FEIS. These sites are the Hopewell Furnace National Historic Site, Upper Delaware Scenic and Recreational River, and the Delaware and Lehigh Canal National Heritage Corridor.

Hopewell Furnace National Historic Site. The purpose of the Hopewell Furnace National Historic Site is to preserve and interpret iron plantation life and operations, and to enhance public understanding of the American evolution of American iron-making and its impact on the region and the nation. Based on this purpose and the characteristics of the site, the FAA has concluded that for the Hopewell Furnace National Historic Site a

quiet setting is not a generally recognized feature or attribute of this site's significance and therefore the thresholds listed in the Part 150 guidelines apply. The noise exposure levels resulting from the selected project at all the points within the site are 40.0 DNL or less. This is well below the Part 150 noise exposure level compatibility guidelines and 5 decibels lower than the target level for soundproofing the interior of homes. Additionally, since the Hopewell Furnace National Historic Site is a historic property, the finding under Section 106 may be used to determine whether there would be a constructive use. The Hopewell Furnace National Historic Site is outside of the area of potential effect (APE). The boundaries of the APE were determined in consultation with the Pennsylvania SHPO. Therefore, the Hopewell Furnace National Historic Site would not be affected by the selected project.

The FAA has concluded that the selected project would not result in a constructive use of the Hopewell Furnace National Historic Site because the noise exposure levels would be well below the Part 150 compatibility guidelines and the site is located outside of the APE.

Upper Delaware Scenic and Recreational River. The Upper Delaware Scenic and Recreational River's Final River Management Plan (MP) does not discuss noise levels or aircraft overflight. Hunting is permitted on much of the publicly owned land along the Upper Delaware. Additionally, motorboats are allowed on the River. According to the MP residential use, agricultural use and hunting and fishing cabins are considered compatible for all of the river segments. Finally, one of the planning goals of the MP is to "Provide for the continued public use and enjoyment of a full range of recreational activities, as is compatible with the other goals." A quiet setting is not a generally recognized feature or attribute of this site's significance, rather this site appears to be devoted to traditional recreational activities, and pursuant to Order 1050.1E, the Part 150 guidelines should be used to evaluate whether there is a constructive use. The noise exposure levels resulting from the selected project at all the points within the site are 35.0 DNL or less—far below Part 150 compatibility guidelines. Therefore, the change in noise resulting from the selected project would not be a constructive use of Upper Delaware Scenic and Recreational River.

Delaware and Lehigh Canal National Heritage Corridor. The Delaware and Lehigh Canal National Heritage Corridor is more than 150 miles in length and encompasses approximately 100 municipalities. The Management Action Plan for the Delaware and Lehigh Canal National Heritage Corridor and State Heritage Park establishes a framework for stewardship in order to preserve significant historic sites, conserve the natural and cultural environments, as well as provide opportunities for capitalizing on heritage development. The Corridor follows the historic routes of the Lehigh and Susquehanna Railroad, the Lehigh Navigation System, and the Delaware Canal. According to the Management Action Plan, "The Corridor dramatically illustrates both the first steps and the milestones in the social development of young America, the anthracite coal mining era, the Industrial Revolution, the development of systematic canal and rail transportation, and the evolution of natural conservation." Recreational activities include driving tours, tourism, bicycling, canal boat rides, canoeing, white water rafting,

fishing, hiking, hunting, snowmobiling and cross country skiing. The Management Action Plan states, “In addition to the value of the natural resources and open lands of the Corridor for environmental health and habitat for plant and animal species, these resources have superlative recreation value. Natural and recreational resources cover large areas of the Corridor, and accommodate high user demand. At the center of the most densely populated area of the United States, the Corridor provides expansive open spaces and unique recreational to millions of people – opportunities that are nationally significant. The Management Action Plan also discusses promoting appropriate economic development, “A given in promoting tourism and economic development in the Corridor is the concept of ‘synergy’: when the Corridor’s substantial recreational resources are better developed and more, accessible, when its fascinating history and cultural traditions are more visible through improved interpretation, and when the physical and intellectual linkages among its attractions are better developed, the greater potential for sustained economic growth and regeneration. Thus, tourism and economic development become integral inseparable pieces of the whole of the Corridor effort.” Given that many of the recreational activities are not conducive to quiet, that the Management Action Plan includes promoting tourism and economic development, and that much of the historic context is linked to industrial development it appears that a quiet setting is not a generally recognized feature or attribute of this park’s significance. Therefore, pursuant to Order 1050.1E, the Part 150 guidelines should be used to evaluate whether there is a constructive use. The range of noise exposure levels resulting from the selected project at the locations shown on Figures 5.24, 5.25, and 5.26 is 25.3 DNL to 57.3 DNL. This range of noise exposure levels is below Part 150 compatibility guidelines and nearly the same of the ranges of noise exposure levels resulting from the 2006 No Action Airspace Alternative and the 2011 Future No Action Airspace Alternative..

Additionally, since the Delaware and Lehigh Canal National Heritage Corridor is a historic property, the finding under Section 106 may be used to determine whether there would be a constructive use. The Delaware and Lehigh Canal National Heritage Corridor is outside of the area of potential effect (APE). The boundaries of the APE were determined in consultation with the Pennsylvania and New Jersey SHPOs. Therefore, the Delaware and Lehigh Canal National Heritage Corridor would not be affected by the selected project.

The FAA has concluded that the selected project would not result in a constructive use of the Delaware and Lehigh Canal National Heritage Corridor because the noise exposure levels would be below the Part 150 compatibility guidelines and the Corridor is outside the APE.

Lands for which a quiet setting is an attribute of the land.

With respect to the remaining Section 4(f) sites for which a quiet setting is an attribute of the land, a review of the data showed that with the selected project, the aircraft noise exposure levels at the points evaluated would remain within a range of 44.0 DNL at the highest to 15.5 DNL at the lowest. This range in noise level is low to extremely low. A few illustrations are of value to provide context regarding levels of noise. For example,

FHWA has determined that a constructive use would not occur for “Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.” when the project noise does not exceed 57Leq(h).¹ This can be conservatively equated to 43.2 DNL.² In other words, any location that has an aircraft DNL value of 43.2 DNL or less could not possibly have a peak hour Leq(h) level of greater than 57 dB.

For an additional point of context, FAA sound insulation guidelines are based on the goal of reducing the interior noise level to 45 DNL for residences. Lastly, the EPA Levels Document reported that an annual outdoor noise exposure level of 55 DNL (with a 5 DNL margin of safety) is sufficient to protect public health and welfare from the effects of environmental noise.

Table B.2 compares the medians and ranges of noise exposure levels for the remaining 4(f) sites as a result of the 2006 No Action and 2011 Future No Action Airspace Alternatives as well as the selected project in 2011.³

Table B.2
Noise Exposure Level Ranges and Medians at Selected 4(f) Sites

4(f) Site	2006 No Action Airspace Alternative		2011 Future No Action Airspace Alternative		2011 Selected Project	
	Range (DNL)	Median (DNL)	Range (DNL)	Median (DNL)	Range (DNL)	Median (DNL)
Appalachian Trail – Panel 2	21.9 to 37.9	31.3	21.5 to 38.2	31.1	22.6 to 39.2	32.2
Appalachian Trail – Panel 3	17.7 to 43.1	32.5	16.0 to 43.2	33.5	15.5 to 43.9	34.4
Catskill Park – Slide Mountain Wilderness	20.6 to 34.4	28.8	19.4 to 35.7	28.5	27.5 to 37.3	33.4
Catskill Park – Big Indian Wilderness	20.0 to 35.0	30.0	15.9 to 37.1	32.2	20.8 to 37.2	33.2
Catskill Park - Westkill Mountain Wilderness	21.7 to 27.3	24.1	17.7 to 25.6	22.1	26.3 to 36.1	30.2
Delaware Water Gap National Recreation Area - North	19.5 to 31.7	23.3	16.0 to 25.6	20.1	16.4 to 38.6	24.6
Wallkill River National Wildlife Refuge	31.1 to 36.4	34.0	33.6 to 38.2	36.6	38.7 to 44.0	42.1
Weir Farm National Historic Site	34.4 to 34.4	34.4	30.9 to 31.0	31.0	36.4 to 36.5	36.4

Source: Landrum & Brown / Metron Aviation Inc. / HNTB Analysis, 2007.

¹ 23 CFR §771.135 and Table 1 of 23 C.F.R. §772.

² The criteria are based on the 1-hour Leq (Leq(h)) metric for peak hour traffic. The DNL metric is a 24-hour cumulative noise metric with an added 10 dB penalty for events that occur during nighttime hours. Translating the 1-hr Leq threshold to a 24-hour Leq can be done conservatively (finding the lowest 24-hr threshold level) by assuming that the threshold value (Leq(h) 57 dB) would occur of only one hour during the day and then no noise for the remaining 23 hours of the day. This would result in a 24 hour Leq of 43.2dB. The comparison of DNL values to 24-hour Leq values generally represents a conservative comparison since DNL levels are typically higher than Leq values would be for the same amount of noise.

³ When the FAA began the formal NEPA process, the year 2000 was established as the baseline condition for noise modeling. The FAA then estimated the noise levels for 2006 and 2011 utilizing a well recognized and validated noise model called NIRS. For additional information on noise modeling and NIRS see FEIS 3.5 and Appendix E.

Appalachian Trail. The ranges of DNL noise exposure levels along the Appalachian Trail are nearly the same for the 2006 No Action Airspace Alternative, the 2011 Future No Action Airspace Alternative and the selected project in 2011. Therefore, the noise environment along the Appalachian Trail does not appear to change as a result of the selected project.

DNL noise values provide a measure of the predicted sound levels from aircraft operations within the scope of the airspace redesign and are independent of the existing ambient, which includes natural and man-made sound sources other than aircraft. Since the more northerly areas of the Appalachian Trail affected by this airspace redesign are likely to experience a mixture of visitor-related and other man-made sounds from nearby communities, the relationship of these existing ambient sound levels to DNL noise exposure levels was also considered.

The 24-hour L_{Aeq} and L_{50} sound levels were used to represent the existing ambient in assessing potential impacts that may result from the airspace redesign. The 24-hour L_{Aeq} is the equivalent average sound level over a 24-hour period. The L_{50} is the sound level exceeded 50 percent of the time, i.e. the median sound level. Because L_{Aeq} is an energy-based metric computed logarithmically (as is DNL), L_{Aeq} values are higher than L_{50} values because their calculation tends to be influenced by higher individual noise levels, whereas the L_{50} simply reports the statistical median.

Ambient sound levels were not available for all sections of the Appalachian Trail, however, ambient sound levels were available for the Great Smoky Mountains National Park, which the Appalachian Trail also traverses.⁴ Tables B.3 and B.4 show the winter and summer ambient sound levels measured at primarily backcountry locations in Great Smoky Mountains National Park. The first two columns present the 24-hour L_{Aeq} and L_{50} sound levels for the existing ambient, i.e., it includes all sound sources, over an entire 24-hour day. Non-natural sound sources predominantly consisted of visitor and distant road noise according to notes documented by field observers during the measurements. The third column is the estimated daytime *natural* ambient sound level, a statistical median (L_{50}) of all natural sounds, excluding man-made sounds. The FAA considers existing ambient rather than natural ambient for the purposes of NEPA evaluation because the existing ambient more closely represents the existing noise environment.

Comparisons were made between aircraft-based DNL values and the 24-hour L_{Aeq} ambient levels. Using the DNL values is more conservative than computing a 24-hour L_{Aeq} noise exposure for aircraft activity for these comparisons. This is the case because DNL accounts for sound intrusions occurring during the nighttime, by penalizing related

⁴ Many parks, particularly those within similar ecosystems have similar physical, biological and meteorological parameters – including land cover, wildlife activity, visitor-use, wind and seasonality. Therefore, it would be expected that their baseline ambient sound levels would also be similar, thus, allowing for the potential transferability of baseline ambient data within large, homogeneous regions of a particular park and possibly between similar regions in other parks. Preliminary analysis comparing ambient data collected at similar sites (i.e., same land cover classes) within Acadia National Park, Glacier National Park, and Great Smoky Mountains National Park show there is some statistical evidence to support the transferability of the ambient data hypothesis. Specifically, data similarities were seen for the deciduous and evergreen forest classifications.

events by 10 dB. When L_{Aeq} -based ambient sound levels are compared to aircraft-based DNL values for the selected project, one can readily see that future aircraft noise levels are not expected to exceed existing ambient sound levels in a comparable noise environment.

Table B.3

Baseline Ambient Sound Levels in Great Smoky Mountains National Park - Winter Data

Acoustic Zone	Land Cover	Site Name	Elevation (ft)	# Days Data	24-Hour Overall Sound Levels		Estimated Daytime Natural Ambient
					L_{Aeq} (dBA)	L_{50} (dBA)	L_{50} (dBA)
Spruce /Evergreen	Evergreen Forest	Mt. Collins	5971	31	42.6	33.0	33.2
Pine-Oak	Mixed Forest	Parson Branch	2236	27	44.4	30.1	26.0
Cove Hardwood	Deciduous Forest	Porters Flat	2357	26	45.2	32.8	33.0
Northern Hardwood	Deciduous Forest	Purchase Knob	4888	26	44.0	29.1	30.8
Cove Hardwood	Deciduous Forest	Bull Head Trail	2687	29	43.8	28.7	29.6
Open Field Grass/ Pasture	Grasslands / Herbaceous	Cades Cove	1873	32	42.1	33.5	35.0
Northern Hardwood	Deciduous Forest	Noland Divide	5575	28	46.1	35.6	31.5
Median of all sites					44.0	32.8	31.5

Source: John A. Volpe National Transportation Systems Center, 2007 (draft report)

Table B.4

Baseline Ambient Sound Levels in Great Smoky Mountains National Park - Summer Data

Acoustic Zone	Land Cover	Site Name	Elevation (ft)	# Days Data	24-Hour Overall Sound Levels		Estimated Daytime Natural Ambient
					L _{Aeq}	L ₅₀	L ₅₀
					(dBA)	(dBA)	(dBA)
Spruce /Evergreen	Evergreen Forest	Mt. Collins	5971	29	46.4	29.1	28.0
Pine-Oak	Mixed Forest	Parson Branch	2236	28	51.3	29.1	28.1
Cove Hardwood	Deciduous Forest	Porters Flat	2357	26	50.5	35.9	35.2
Northern Hardwood	Deciduous Forest	Purchase Knob	4888	26	47.8	29.4	30.0
Cove Hardwood	Deciduous Forest	Bull Head Trail	2687	26	49.1	31.6	32.2
Open Field Grass/ Pasture	Grasslands/ Herbaceous	Cades Cove	1873	25	57.1	47.3	26.6
Northern Hardwood	Deciduous Forest	Noland Divide	5575	22	43.9	28.5	27.1
Median of all sites					49.1	29.4	28.1

Source: John A. Volpe National Transportation Systems Center, 2007 (draft report)

In addition to considering the range and median noise exposure levels for the property and comparing the DNL to a reasonable estimate of the ambient noise at the property, the FAA also looked at uses of the Appalachian Trail that involve a quiet setting to determine whether the selected project resulted in a constructive use of the property. In the Study Area, there are approximately 25 three-sided shelters along the Appalachian Trail that protect hikers from the elements and are also used for overnight camping.(See Figures B.1, B.2, B.3 and B.4). Modeled 2006 and 2011 noise levels for the No Action and Future No Action Airspace Alternatives, and the selected project at the shelter locations are presented in Table B.5.

Table B.5
Noise Exposure Levels at the Appalachian National Scenic Trail Shelters

Shelter	2006 No Action Airspace Alternative (DNL)	2011 Future No Action Airspace Alternative (DNL)	2011 Selected Project (DNL)
S1	29.0	29.3	26.9
S2	32.7	31.9	30.6
S3	30.1	29.7	29.7
S4	29.1	30.7	31.2
S5	29.5	30.9	32.6
S6	28.5	28.7	27.2
S7	29.2	29.3	27.7
S8	28.6	28.5	27.3
S9	34.6	36.1	35.2
S10	27.9	25.6	34.3
S11	34.8	34.6	36.1
S12	26.2	25.2	31.5
S13	29.5	29.6	30.4
S14	29.3	28.0	28.3
S15	25.8	19.3	17.9
S16	28.7	22.7	25.1
S17	31.4	31.2	35.6
S18	31.3	31.4	37.3
S19	34.8	36.1	42.6
S20	36.4	37.7	42.6
S21	40.6	40.8	38.4
S22	35.5	35.5	32.7
S23	38.7	38.4	32.4
S24	39.2	39.3	28.9
S25	40.7	40.7	21.8

Source: Landrum & Brown / Metron Aviation Inc. / HNTB Analysis, 2007.

As can be seen from the table, the highest noise level at a shelter location in 2006 for the No Action and 2011 Future No Action Airspace Alternatives would be 40.7 DNL and 40.8 DNL respectively. The highest noise level at a shelter location in 2011 with the selected project would be 42.6 DNL. The difference between the No Action Airspace Alternatives and the selected project noise exposure levels would be de minimis; 1.9 and 1.8 DNL. From this data, it is apparent that activities involving a quiet setting would not be compromised by the selected project because locations along the Appalachian Trail used in the same manner would have comparable sound exposure levels.

The FAA has concluded that the selected project would not result in a constructive use of the Appalachian Trail because the noise environment would not be substantially changed by the selected project. This conclusion is further supported by the fact that comparable ambient noise levels are expected to be higher than future aircraft noise levels, and that the noise levels at areas with activities involving a quiet setting are comparable with and without the selected project.

Catskill Park. The Catskill Park including the Catskill Forest Preserve contains land with a wide variety of uses; "...from somewhat remote trail – less mountain peaks and picturesque streams to intensively used camping areas and trails". The Catskill Park State Land Master Plan provides guidelines for uniform protection and management of the Catskill Park based on land classifications. Four basic classifications are used: Wilderness, Wild Forest, Intensive Use and Administrative. The FAA reviewed the characteristics of each of these land classifications and concluded that Part 150 guidelines would be applicable to determine the significance of noise impacts to the Catskill Park with the exception of those areas designated as Wilderness areas. Four Wilderness Areas are within the bounds of the Study Area: Slide Mountain Wilderness, Big Indian Wilderness, Indian Head Wilderness and the Westkill Mountain Wilderness Areas. With the selected project, only the Slide Mountain Wilderness, Big Indian Wilderness, and the Westkill Mountain Wilderness Areas would be exposed to noise levels more than 3.0 DNL higher than the 2011 Future No Action Airspace Alternative. The range of noise exposure levels for the three areas combined would be 15.9 DNL to 37.1 DNL with the 2011 Future No Action Airspace Alternative and 20.8 DNL to 37.3 DNL with the selected project. The ranges of noise exposure levels in the Wilderness Areas are nearly the same for both the Future No Action Airspace Alternative and the selected project in 2011. Therefore, it does not appear that the selected project would change the noise environment in the Wilderness Areas and it is concluded that there would not be a constructive use of the Slide Mountain Wilderness, Big Indian Wilderness, or the Westkill Mountain Wilderness Areas.

Delaware Water Gap National Recreation Area. The general management plan (GMP) for the Delaware Water Gap National Recreation Area (NRA) does not identify quiet or serene aspects. According to the NPS Designation of National Park System Units, "Twelve NRAs in the system are centered on large reservoirs and emphasize water-based recreation. Five other NRAs are located near major population centers. Such urban parks combine scarce open spaces with the preservation of significant historic resources and important natural areas in locations that can provide outdoor recreation for large numbers of people. Motorboat use is allowed on the Delaware River, snowmobile use is permitted on one trail and hunting is permitted in most parts of the recreation area. The GMP discussed three types of camping: developed, group, and primitive backcountry. According to the GMP primitive backcountry camping was to be managed by a permit system. Primitive backcountry camping is characterized as that without comfort facilities. According to the Delaware Water Gap Official Map and Guide, "Primitive campsites are available for through-hikers on the Appalachian Trail and canoeists on extended river trips."

With the exception of the Appalachian Trail (previously evaluated) it is unclear as to whether this site should be considered to have a setting where noise is very low because hunting is permitted throughout the NRA and motor boating is permitted on the Delaware River. However, due to the proximity of the Appalachian Trail, the FAA decided not to rely on the Part 150 guidance to determine whether there would be a constructive use. Noise exposure levels were calculated at multiple points within the Delaware Water Gap NRA. For the purposes of illustrating and discussing the results of the noise analysis, the

Recreation Area was divided into two sections; South and North (See Figures 5.28 and 5.29). Noise exposure levels (DNL) for the 2011 Future No Action Alternative and the selected project were compared. For all points located in the southern section the noise level would be lower with the selected project than with the 2011 Future No Action Alternative. For some points in the northern section the difference in noise exposure levels resulting from the selected project as compared to the Future No Action Airspace Alternative would exceed 3 DNL. The ranges of 2006 No Action Airspace alternative noise levels are from 19.5 DNL to 31.7 DNL and from 17.7 DNL to 36.4 DNL for the northern and southern sections respectively. The range of noise levels resulting from the selected project would be from 16.4 DNL to 38.6 DNL and from 15.5 DNL to 31.5 DNL for the northern and southern sections respectively. Since the reason for dividing the Delaware Water Gap NRA into two sections was for the purposes of presenting the results of the analysis and not based on use, it is appropriate to compare the ranges of values for the entire site. The difference between the highest noise exposure levels resulting from the 2006 No Action Airspace Alternative and the selected project would be only 2.2 DNL. Therefore, it does not appear that the selected project would substantially change the noise environment within the Delaware Water Gap NRA.

The relationship of existing ambient sound levels to the DNL noise exposure levels was also considered. Since the Appalachian Trail passes thru the Delaware Water Gap NRA, the same existing ambient values were used for comparison purposes. As a result of the selected project, the highest noise exposure level at the points analyzed in the Delaware Water Gap NRA would be 38.6 DNL. This would be well below a reasonable estimation of the existing ambient 24 hour L_{Aeq} values during both the winter and summer regardless of the acoustic zone.

The FAA has concluded that the selected project would not result in a constructive use of the Delaware Water Gap NRA because the noise environment would not be substantially changed by the selected project and ambient noise levels are expected to be higher than future aircraft noise levels with the selected project.

Wallkill River National Wildlife Refuge (NWR). The ranges of noise exposure levels at the Wallkill River NWR would be 33.6 DNL to 38.2 DNL and 38.7 DNL and 44.0 DNL as a result of the 2011 Future No Action Airspace Alternative and the 2011 selected project respectively. Although the noise exposure levels at the Wallkill River NWR would be higher with the selected project, they remain below the 2006 No Action Airspace Alternative noise exposure levels at the nearby, similarly used Shawangunk Grasslands NWR. These two NWRs are within the same ecosystem and have similar public use activities such as wildlife observation and fishing. The 2006 No Action Airspace Alternative noise exposure levels for the Shawangunk Grasslands NWR range from 43.4 DNL and 44.6 DNL. Therefore, it is concluded that the selected project would not result in a constructive use as it relates to visitor experience of the Wallkill River NWR.

Although public use including hunting is permitted at the Wallkill River NWR, one of the primary goals in the Draft Comprehensive Conservation Plan and Draft EA for the

Wallkill River NWR is to protect and enhance populations of threatened and endangered species. Therefore, the FAA considered the potential for noise increases resulting from the selected Project to impact the threatened and endangered species with habitat in the Wallkill River NWR. According to the NJ Wildlife Action Plan (2-16-07) habitat in this area supports five federally threatened and endangered wildlife species; the Indiana bat, bog turtle, dwarf wedgemussels, Mitchell's satyr (extirpated), and American burying beetle (extirpated). Studies on the effects of noise on wildlife have been conducted predominantly on mammals and birds. Studies of subsonic aircraft disturbances on ungulates (e.g. Pronghorn, bighorn sheep, elk, and mule deer), in both laboratory and field conditions, have shown that effects are transient and of short duration and suggest that the animals habituate to the sounds.⁵ Similarly, impacts to raptors and other birds (e.g. waterfowl) from low-level aircraft were found to be brief and insignificant and not detrimental to reproductive success.⁶ Consequently, the selected Project would not be expected to substantially impair the features or attributes of the Wallkill River NWR related to threatened and endangered species and the FAA concludes that the selected Project would not result in a constructive use of this 4(f) site.

Weir Farm National Historic Site (NHS). The FAA conducted further evaluation of the Weir Farm NHS to determine whether a quiet setting is a generally recognized feature or attribute of the site's significance. A wide range of types of visitor use is identified on the NPS website and in the Weir Farm National Historic Site General Management Plan / Environmental Impact Statement; everything from offering daily visitor landscape and audio tours to providing quiet, uncrowded space for artists. Although it appears that activities already conducted at the site are not conducive to a quiet setting, the FAA decided not to rely on the Part 150 guidance to determine constructive use because the management plan noted the need for artists to have quiet.

The range of noise exposure levels at the Weir Farm NHS would be from 36.4 DNL to 36.5 DNL as a result of the 2011 selected project. When compared to the 2006 No

⁵ Sonic Boom/Animal Disturbance Studies on Pronghorn Antelope, Rocky Mountain Elk and Bighorn Sheep, G.W. Workman, T.D. Bunch, J.W. Call., R.C. Evans, L.S. Neilson, and E.M. Rawlings, Prepared for USAF, 1992

The effects of low-altitude jet aircraft on desert ungulates, P.R. Krausman, M.C. Wallace, D.W. DeYoung, M.E. Weisenberger, and C.L. Hayes, International Congress: Noise as a Public Health Problem 6:471-478, 1993.

Effects of Simulated Jet Aircraft Noise on Heart Rate and Behavior of Desert Ungulates, M.E. Weisenberger, P.R. Krausman, M.C. Wallace, D.W. DeYoung, and O.E. Maughan, Journal of Wildlife Management 60:52-61, 1996.

⁶ Raptors and aircraft., D.G. Smith, D.H. Ellis, and T.H. Johnson, Proceedings of the Southwest Raptor Management Symposium and Workshop, National Wildlife Federation, pages 360-367 in R.L. Glinski, B.G. Pendleton, M.B. Moss, M.N. LeFranc, Jr., B.A. Millsam, and S.W. Hoffman, eds. 1988. Monitoring the Effect of Military Air Operations at Naval Air Station Fallon on the Biota of Nevada, R.E. Lamp, Nevada Department of Wildlife, 1989.

Raptor Responses to Low-Level Military Jets and Sonic Booms., D.H. Ellis, C.H. Ellis, and D.P. Mindell, Environmental Pollution 74:53-83, 1991.

Variation in Breeding Bald Eagle Responses to Jets, Light Planes and Helicopters, T.G. Grubb and W.W. Bowerman, Journal of Raptor Research 31:213-222.

Action Airspace noise exposure level of 34.4 DNL, it does not appear that the selected project would substantially change the noise environment within the Weir Farm NHS.

Additionally, since the Weir Farm NHS is a historic property, the finding under Section 106 may be used to determine whether there would be a constructive use. The Weir Farm NHS is outside of the area of potential effect (APE). The boundaries of the APE were determined in consultation with the Connecticut SHPO. Therefore, the Weir Farm NHS would not be affected by the selected project.

The FAA has concluded that the selected project would not result in a constructive use of the Weir Farm NHS because the selected project would not change the noise environment and the site is not affected as it pertains to Section 106.

Additional Visual Evaluation

Visual impacts would result in a constructive use of a 4(f) site only if the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. Normally, visual impacts are a result of construction, development, or demolition. The selected project does not include any of these actions. FHWA regulations defining constructive use include examples of when the proximity of a proposed project to a 4(f) site would substantially diminish aesthetic features or attributes that contribute to the value of a Section 4(f) property. “Examples...would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part due to its setting.”

The Proposed Action is limited to changing the aircraft routes. Unlike some other areas of the US, the North Eastern Corridor is heavily populated and is a hub for domestic and international air traffic. The Study Area is already heavily traversed by commercial aircraft. Given the proximity of existing flight tracks to all 4(f) resources in the Study Area, it is unlikely that changes in the location of such tracks would substantially obstruct the primary vista or detract from the setting of 4(f) resources that derive their value in substantial part due to their settings and vistas. However, based on consultation with the NPS, the FAA provided additional information regarding potential airspace changes in the vicinity of outstanding vistas located within the National Parks, National Wildlife Refuges and the Catskill Park Wilderness Areas.

As requested by the NPS, the FAA reviewed the management plans for the parks to determine the locations of important and / or outstanding vistas. It is noted that many management plans referred to scenic qualities in a generalized manner but did not include the locations of specific outstanding vistas. Visual impacts were primarily considered only for the specifically identified vistas. Thus visual impacts were considered for scenic vistas identified in the following parks: the Appalachian Trail, the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Home of Franklin D. Roosevelt National Historic Site, the Morristown National Historical Park, the Statue of Liberty National Monument, the

Vanderbilt Mansion National Historic Site, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, Indian Head, Westkill Mountain Wilderness Areas in the Catskills Park. For these locations, a summary of the potential airspace changes in the vicinity of the scenic vistas was provided. This information includes number of operations, and the minimum, average and maximum altitudes resulting from the Future No Action Airspace Alternative, Preferred Alternative, and the mitigated Preferred Alternative. Based on this information it was determined in the FEIS that the selected project would not result in a constructive use relative to visual impacts for scenic vistas in the following parks: the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Morristown National Historical Park, the Statue of Liberty National Monument, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, and Westkill Mountain Wilderness Areas in the Catskills Park.

Additional Analysis

In Section 5.3.5.1 of the FEIS the FAA committed to conduct further evaluation, in consultation with appropriate federal officials, to determine whether visual changes over the Appalachian Trail, the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site would result in a constructive use. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is provided below.

Appalachian Trail – Several locations along the Appalachian Trail were identified as having important or outstanding views. Brief descriptions of these viewpoints were included in Table 5.12 and a summary of the airspace changes in the vicinity of these viewpoints was presented in Table 5.13. The airspace changes were reported for groupings of viewpoints.

Viewpoints V1 to V5 - The selected project would result in a nearly 50 percent reduction in daily operations when compared to the No Action Airspace Alternative. The average overflight altitude would decrease from 15,104 feet MSL to 13,363 feet MSL, however, the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project.

Viewpoints V6 to V11 - The selected project would result in a more than doubling of the daily operations when compared to the No Action Airspace Alternative. However, the average overflight altitude would increase from 11,136 feet MSL to 14,423 feet MSL and the minimum altitude would not change.

Viewpoints V12 to V18 - The selected project would result in a more than 50 percent decrease in daily operations when compared to the No Action Airspace Alternative. Additionally, the average overflight altitude would increase from 8,983 feet MSL to 23,672 feet MSL and the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project.

Viewpoints V19 to V20 - The selected project would result in nearly a 50 percent decrease in daily operations when compared to the No Action Airspace Alternative. Additionally, the average overflight altitude would increase from 15,953 feet MSL to 21,452 feet MSL and the minimum overflight altitude would be approximately the same for both the No Action Airspace Alternative and the selected project.

Viewpoints V23 to V30 - The selected project would result in over a 50 percent increase of the daily operations when compared to the No Action Airspace Alternative. However, the average overflight altitude and minimum altitude would not change appreciably.

Viewpoints V31 to V37 - The selected project would result in nearly a doubling of the daily operations when compared to the No Action Airspace Alternative. However, the average overflight altitude would increase from 12,022 feet MSL to 12,859 feet MSL and the minimum altitude would not change.

Viewpoints V38 to V58 - The selected project would result in a small increase of 11 percent in daily operations when compared to the No Action Airspace Alternative. The average overflight altitude would decrease from 14,043 feet MSL to 12,609 feet MSL. With the exception of propeller aircraft tracks above the area between V50 and V51 the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project. The propeller aircraft may be visible from points V48 to V51. The propeller aircraft tracks are at a minimum altitude of 1,922 feet MSL. There is approximately one propeller aircraft operation about every three weeks on these tracks combined.

Viewpoints V59 to V66 - The selected project would result in nearly a 30 percent decrease in daily operations when compared to the No Action Airspace Alternative. The average overflight altitude would decrease from 11,280 feet MSL to 10,807 feet MSL, however, the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project.

Viewpoints V67 to V71 and V79 - The selected project would result in over a 40 percent increase in daily operations when compared to the No Action Airspace Alternative. Additionally, the minimum overflight altitude would not change. The average overflight altitude would decrease from 14,926 feet MSL to 11,865 feet MSL, however, the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project.

Viewpoints V72 to V78 - The selected project would result in a small decrease in daily operations when compared to the No Action Airspace Alternative. The average overflight altitude would decrease from 21,035 feet MSL to 19,261 feet MSL, however, the minimum overflight altitude would be the same for both the No Action Airspace Alternative and the selected project.

The data shows that minimum altitudes for overflights would be the same with both the No Action Airspace Alternative and the selected Project for all viewpoints except V19-20, V23-30 and V48-51. At viewpoints V19-20 and V23-30 the minimum altitudes would be appreciably/approximately the same. At viewpoints V48-51 only a minimal number of propeller aircraft would fly at an altitude lower than the No Action Airspace minimum altitude. Operations would decrease at 29 viewpoints (V1-V-5; V12-18; V19-20; V59-66, and V72-78) and increase at 48 viewpoints (V6-11, V23-30, V31-37, V38-V58, V67-71, V79). Currently, given their altitude and transitory nature, commercial aircraft do not obstruct the noted views along the Appalachian Trail. Therefore, since the selected project does not substantially change the minimum altitudes of commercial aircraft, it is concluded that the selected project would not result in an obstruction to the noted views nor would it substantially detract from the setting of the Trail. The visual effects of the airspace changes associated with the selected project are minor and would not substantially diminish the activities, features, or attributes of the Appalachian Trail. The FAA thus concluded that the selected project would not result in a constructive use as it relates to visual impacts.

Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site – Specific superb views overlooking the Hudson River, the bluffs and mansions across the river, and the Shawangunk Mountains to the west were noted in the both the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site Master Plans. According to Table 5.14 the total daily operations over these sites would increase from 109 with the No Action Airspace Alternative to 136 with the selected project. If those operations were spread out over a 24 hour period this would equate to 4.5 operations per hour with the No Action Airspace Alternative and to 5.7 operations per hour with the selected project. The table also shows that the minimum altitude of these operations does not change as a result of selected project. Therefore, because the change in the number of operations would be low and the minimum altitude would remain the same, the visual environment would not substantially change as a result of the selected project. It is thus concluded that the selected project would not result in a constructive use of these resources as it relates to visual impacts because the changes associated with the selected project would not substantially diminish the activities, features, or attributes of either historic site.



Appalachian National Scenic Trail - Panel 1

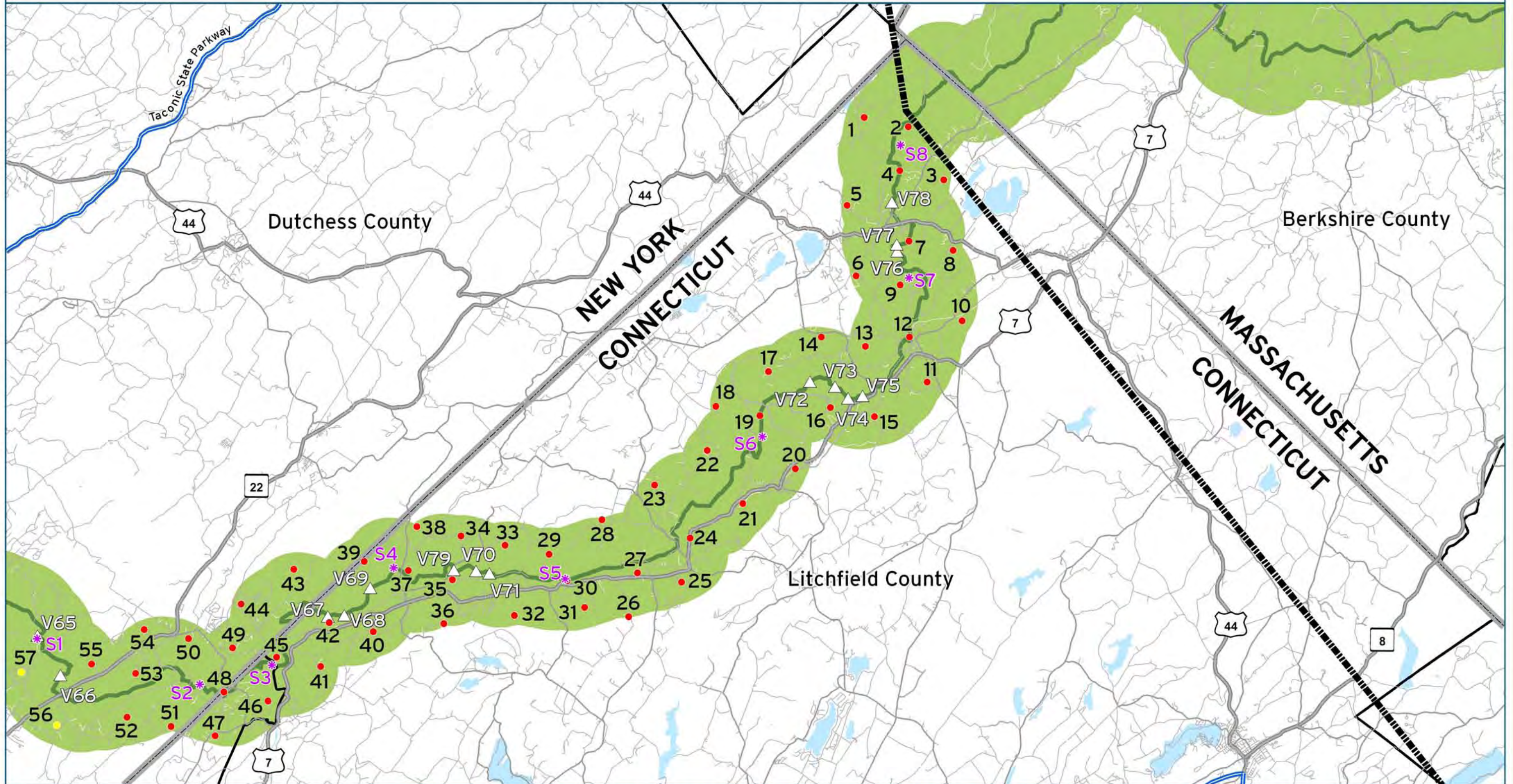
Figure B.1

ENVIRONMENTAL IMPACT STATEMENT

LEGEND

- State Boundary
- County Boundary
- Study Area Boundary
- Appalachian Trail
- Appalachian Trail Buffer (1.5 Miles)
- Difference between Mitigated P.A. and 2011 NA < 3.0 DNL and > -3.0 DNL
- Difference between Mitigated P.A. and 2011 NA ≤ -3.0 DNL
- Viewpoint
- Shelter

0 1 2 Statute Miles
0 1 2 Nautical Miles





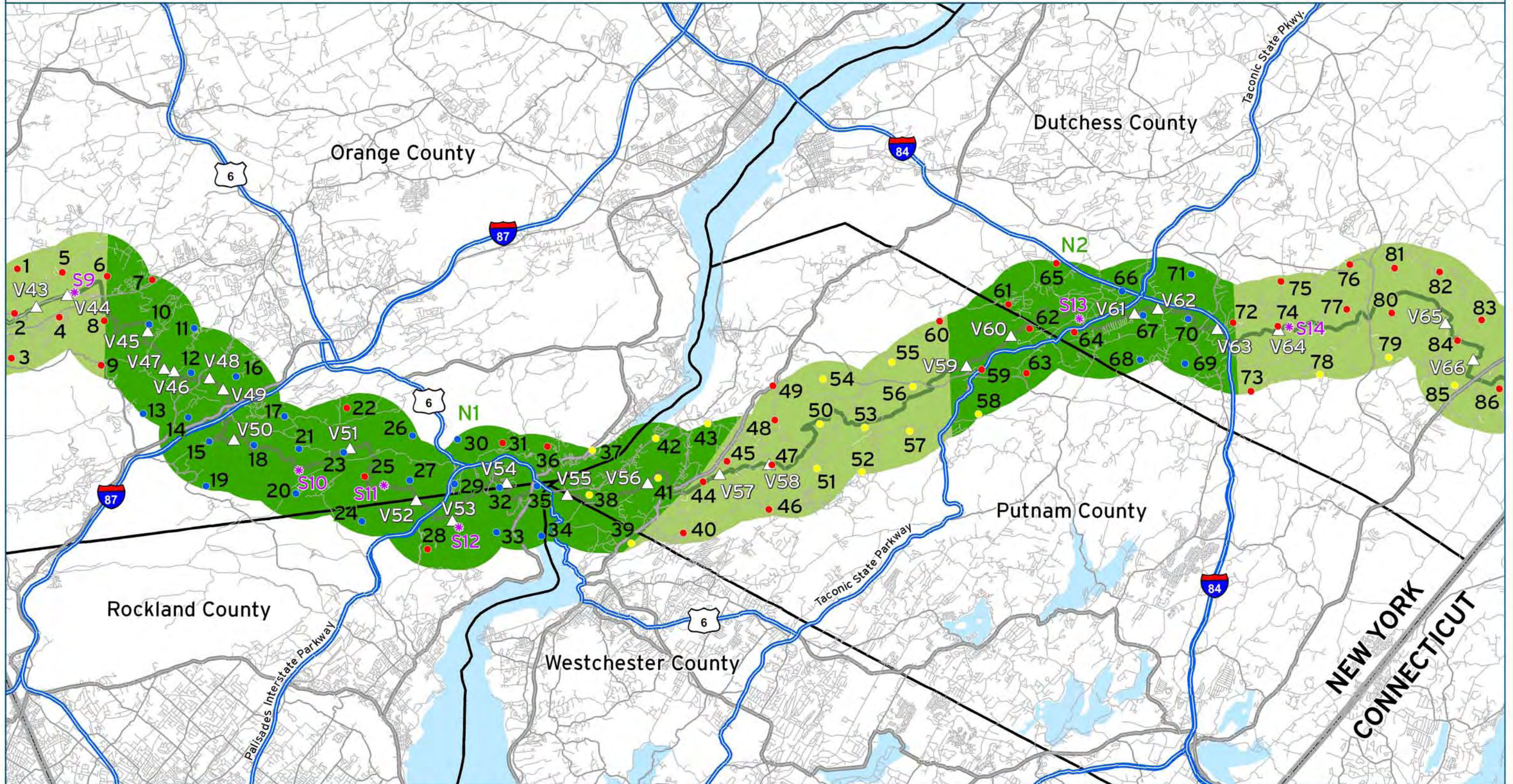
Appalachian National Scenic Trail - Panel 2

Figure B.2

ENVIRONMENTAL IMPACT STATEMENT

LEGEND

State Boundary	Appalachian Trail	Appalachian Trail Buffer (1.5 Miles) / Additional Analysis Completed	Difference between mitigated IwB and 2011 NA \leq -3.0 DNL	Viewpoint	
County Boundary	Appalachian Trail Buffer (1.5 Miles)	Difference between mitigated IwB and 2011 NA $<$ 3.0 DNL and $>$ -3.0 DNL	Difference between mitigated IwB and 2011 NA \geq 3.0 DNL	Shelter	





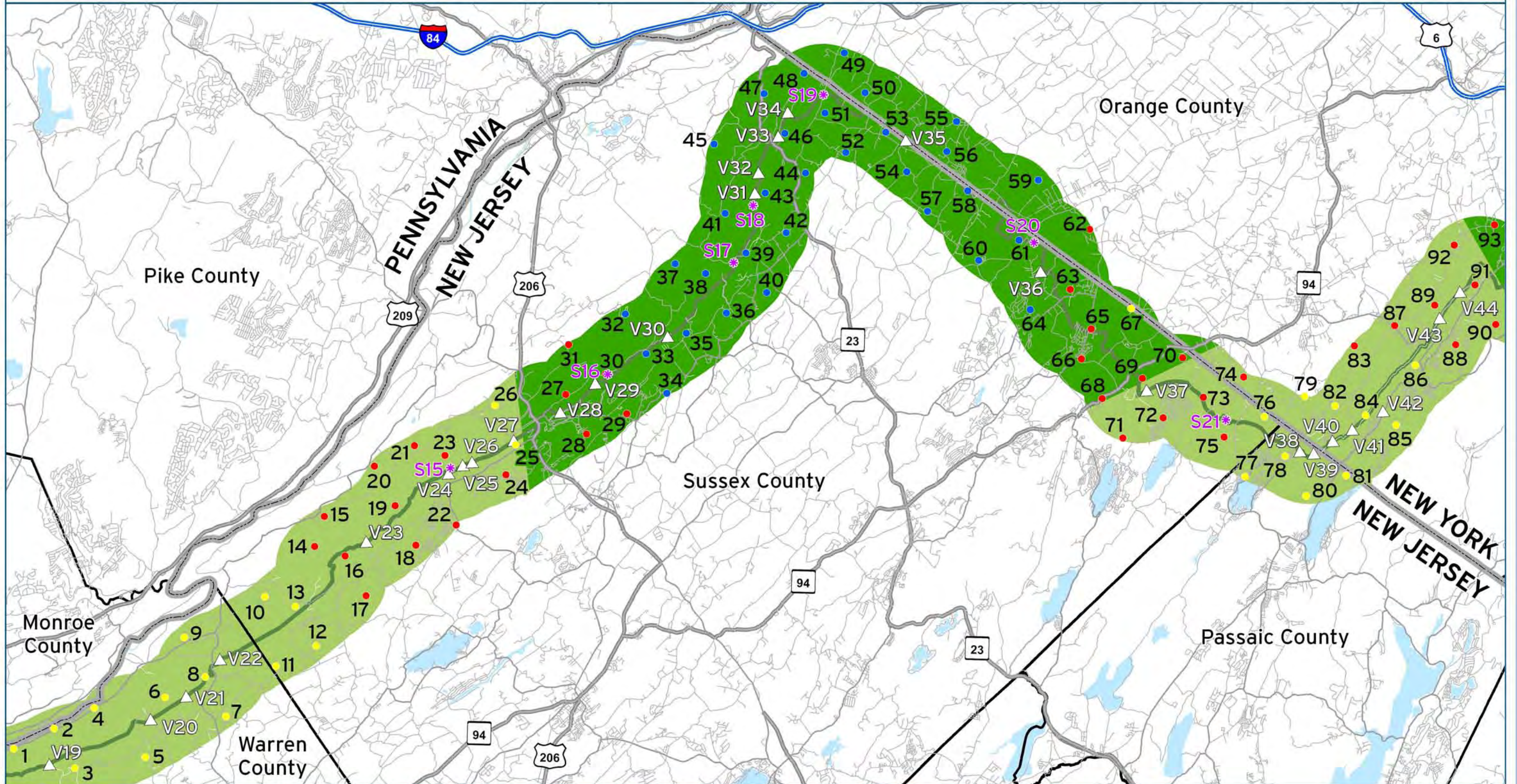
Appalachian National Scenic Trail - Panel 3

Figure B.3

ENVIRONMENTAL IMPACT STATEMENT

LEGEND

State Boundary	Appalachian Trail	Appalachian Trail Buffer (1.5 Miles) / Additional Analysis Completed	Difference between mitigated lwB and 2011 NA \leq -3.0 DNL	Viewpoint	N	0 1 2 Statute Miles 0 1 2 Nautical Miles
County Boundary	Appalachian Trail Buffer (1.5 Miles)	Difference between mitigated lwB and 2011 NA $<$ 3.0 DNL and $>$ -3.0 DNL	Difference between mitigated lwB and 2011 NA \geq 3.0 DNL	Shelter		





Appalachian National Scenic Trail - Panel 4

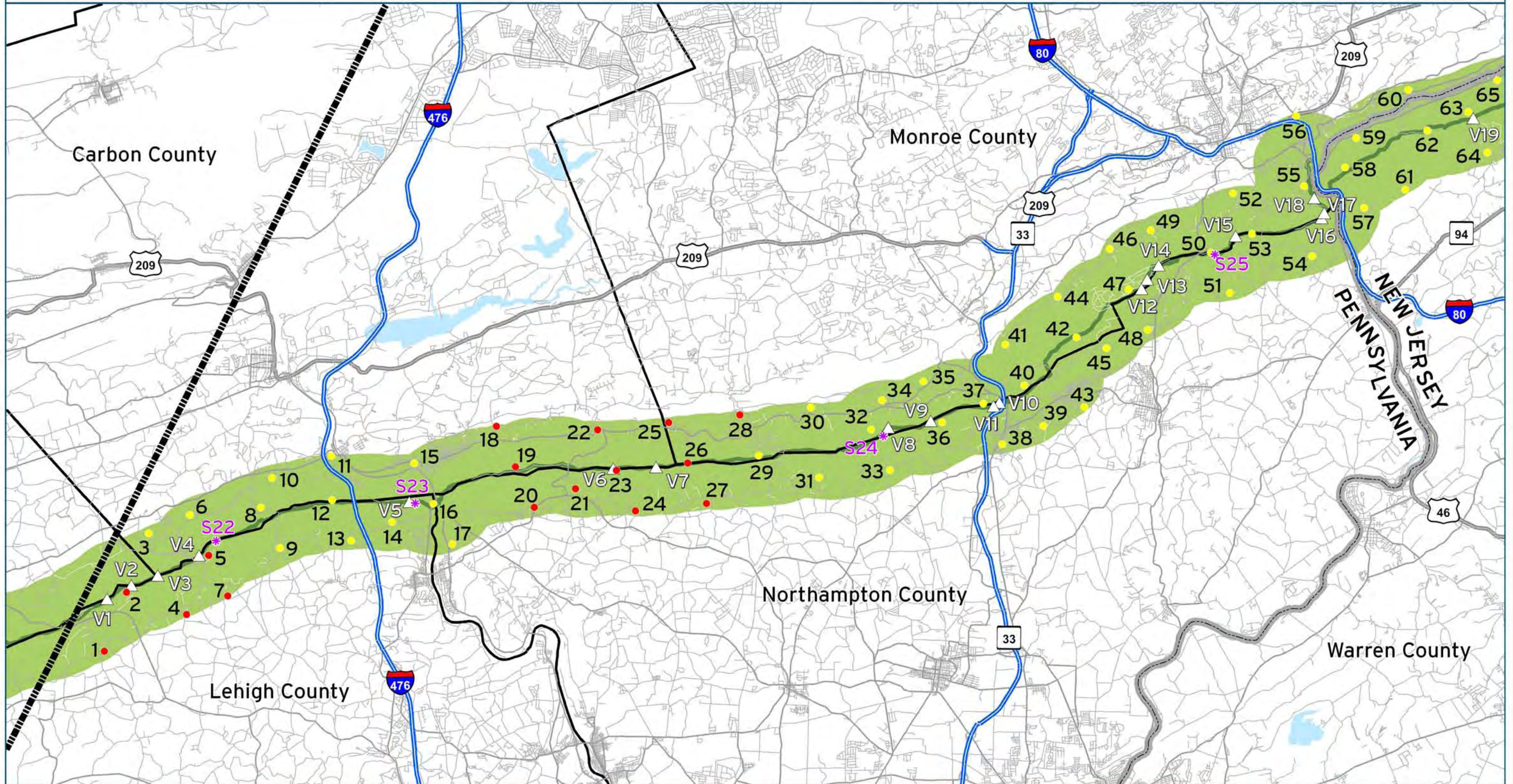
Figure B.4

ENVIRONMENTAL IMPACT STATEMENT

LEGEND

State Boundary	Study Area Boundary	Appalachian Trail Buffer (1.5 Miles)	Difference between Mitigated P.A. and 2011 NA \leq -3.0 DNL	Shelter
County Boundary	Appalachian Trail	Difference between Mitigated P.A. and 2011 NA $<$ 3.0 DNL and $>$ -3.0 DNL	Viewpoint	

0 1 2 Statute Miles
0 1 2 Nautical Miles



Section 106 Resources not Identified in the FEIS

It is noted that several sites eligible or potentially eligible for listing on the National Register of Historic Places were inadvertently omitted from the discussion in the FEIS. Information regarding these sites was included in Appendix F.11 *Section 106 Review*. These sites include the following:

The Italianate Rowhouse located at 168-173 Reid Street, Elizabeth New Jersey is within the APE near EWR. Built in 1865, this site was determined eligible for listing under National Register Criterion C as “an excellent and unusually intact example of a multi-family dwelling in the Italianate style.” Eligibility under Criterion C means that a property is important because it illustrates a particular architectural style or construction technique. The noise analysis showed that the noise exposure level at this location would potentially increase significantly as a result of the 2006 Modifications to Existing Airspace Alternative (56.4 DNL to 65.1 DNL) and the 2006 Integrated Airspace Alternative Variation without ICC (56.4 DNL to 65.0 DNL). Since this site was listed on the NRHP under Criterion C, an increase in noise would not constitute an adverse effect on the Italianate Rowhouse. Additionally, the selected Project would result in a noise exposure level of 61.4 DNL which is below Part 150 compatibility guidelines for residences.

The Sacred Heart Church and School, located at Spring and Bond Streets in Elizabeth, New Jersey, is within the APE near EWR. This site was determined eligible for listing on the National Register under Criterion C as an excellent example of the Gothic Revival style as applied to an ecclesiastical structure. The noise analysis showed that the noise exposure level at this location would potentially increase significantly as a result of the 2006 Modifications to Existing Airspace Alternative (56.3 DNL to 65.3 DNL) and the 2006 Integrated Airspace Alternative Variation without ICC (56.3 DNL to 65.3 DNL). Since this site is listed on the NRHP under Criterion C, an increase in noise would not constitute an adverse effect on the Sacred Heart Church and School. Additionally, the selected Project would result in a noise exposure level of 61.1 DNL which is below Part 150 compatibility guidelines for churches and schools.

A portion of the Central Railroad of New Jersey is also located within the APE near EWR. The section of the Railroad through Elizabeth was determined eligible for listing on the National Register in 1995. An increase in noise would not diminish the integrity of the property’s setting and therefore the selected Project would not have an adverse affect on this site.

The Corinthian Yacht Club, along with Springhouse which stands on the same property, is located just west of Governor Printz Park in Essington, Pennsylvania. These two buildings locate in the APE near PHL were found to be National Register eligible because of their significance as standing structures from the 18th and 19th centuries, as well as the archaeological potential. Activities at the Club include sailboat racing and trap shooting. The noise analysis showed that the noise exposure level at this location would potentially increase significantly as a result of the 2006 Modifications to Existing Airspace Alternative (60.3 DNL to 66.3 DNL) and the 2006 Integrated Airspace

Alternative Variation without ICC (60.3 DNL to 66.3 DNL). Since the significance of this site is based on architectural characteristics and archaeological potential, the increase in noise would not create an adverse effect on the on the Corinthian Yacht Club or the Springhouse. Additionally, the selected Project would result in a noise exposure level of 61.5 DNL which is below Part 150 compatibility guidelines for golf courses.

The Linde Air Products Corporation is located at the end of West 2nd Street in Essington, Pennsylvania, just west of the Corinthian Yacht Club and the Printzhof. This site is in the APE near PHL. In 1940 Union Carbide constructed a manufacturing facility to produce bottled gas on this property. The facility appears to be in nearly its original condition. The buildings and smokestack represent a mid-20th century manufacturing facility that may have been of significance during World War II. The site of the Linde Air Products Corporation has been occupied by several different entities over time. As a result of the varied occupants and the fact that this site is close to the Printzhof, the site of the Linde Air Products Corporation may also have archeological significance. The noise analysis showed that the noise exposure level at this location would potentially increase from 56.2 DNL to 64.8 DNL as a result of the 2006 Modifications to Existing Airspace Alternative and from 56.2 DNL to 64.8 DNL as a result of the 2006 Integrated Airspace Alternative Variation without ICC. Since the significance of this site is primarily based on architectural characteristics and archaeological potential, the increase in noise would not create an adverse effect on the on the Linde Air Products Corporation. Additionally, the selected Project would result in a noise exposure level of 57.8 DNL which is below Part 150 compatibility guidelines for general manufacturing land use.

The Westinghouse Village row houses are located on Jansen, Saude, and Seneca Avenues just north of the Westinghouse Industrial Complex in Tinicum Township, Pennsylvania. Westinghouse Village is located in the APE near PHL. Between 1918 and 1920, Westinghouse Electrical Corporation built housing for their workers. The resulting well-designed rowhouses provided a model for industrial worker's housing. The remaining standing 172 units out of the original 192 units are now privately owned. Despite some modernization, the neighborhood, which includes several distinctive Dutch Colonial buildings, retains its overall form. The noise analysis showed that the noise exposure level at this location would potentially increase significantly as a result of the 2006 Modifications to Existing Airspace Alternative (60.3 DNL to 65.4 DNL) and the 2006 Integrated Airspace Alternative Variation without ICC (60.3 DNL to 65.4 DNL). However, the selected Project would only result in a small change in noise (55.1 DNL to 56.4 DNL) and therefore, the selected Project would not create an adverse effect on the on the Westinghouse Village.

The Art Moderne House, located at 246 3rd Street in Essington, Pennsylvania, is within the APE near PHL. The home is considered eligible for the NRHP because of its unusual folk-art interpretation of modern style architecture. The 1930's or 1940's building displays a mix of styles, potentially the creation of an amateur builder. The noise analysis showed that the noise exposure at this location would potentially increase from 59.6 DNL to 67.8 DNL in 2006 as a result of Modifications to Existing Airspace Alternative and from 59.6 to 67.8 DNL as a result of Integrated Airspace Alternative Variation without ICC. The noise analysis showed that the noise exposure level at this

location would potentially increase significantly as a result of the 2006 Modifications to Existing Airspace Alternative (59.6 DNL to 67.8 DNL) and the 2006 Integrated Airspace Alternative Variation without ICC (59.6 DNL to 67.8 DNL). The increase in noise would not create an adverse effect on the on the Art Moderne House since the main criteria for its listing are the artistic architectural style. Additionally, the selected Project would result in a noise exposure level of 60.6 DNL which is below Part 150 compatibility guidelines for residences.

APPENDIX C: Agency Coordination



United States Department of the Interior



FISH AND WILDLIFE SERVICE

In Reply Refer to
2006-I-0146

New Jersey Field Office
Biological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0332
<http://www.fws.gov/northeast/njfieldoffice/>

JAN 24 2007

Steve Kelley, Airspace Manager
Eastern Terminal Service Area
Federal Aviation Administration, Eastern Region
1 Aviation Plaza
Jamaica, New York 11434-4809

Dear Mr. Kelley:

This responds to your November 16, 2006 request to the U.S. Fish and Wildlife Service (Service) for information regarding federally listed species in the vicinity of seven airports in New York, New Jersey, and Pennsylvania. The Federal Aviation Administration (FAA) has requested nesting locations of the federally listed (endangered) roseate tern (*Sterna dougallii*) and (threatened) piping plover (*Charadrius melodus*) and bald eagle (*Haliaeetus leucocephalus*) in order to assess possible adverse effects to these species as a result of the FAA's proposed New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign (Airspace Redesign).

AUTHORITY

This response is provided pursuant to Section 7 of the Endangered Species Act of 1973 (87 Stat. 834, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) to ensure the protection of endangered and threatened species and does not address all Service concerns for fish and wildlife resources. These comments do not preclude separate review and comments by the Service pursuant to the National Environmental Policy Act of 1969 as amended (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) (NEPA).

BACKGROUND

In June 2006, the Department of the Interior (DOI) commented on the draft Environmental Impact Statement (EIS) for the proposed Airspace Redesign. As noted in the DOI comment letter, low-flying aircraft may adversely affect the federally listed roseate tern, piping plover, or bald eagle by disturbing nesting birds and impacting reproductive success. To protect these species, the Service recommends flight restrictions; specifically, maintaining a minimum vertical

C-1

distance of 2,000 feet above ground level (FAA Advisory Circular 91-36C) or at least 1.0 mile lateral distance¹ from active nesting sites seasonally, as follows:

- from May 1 to September 30 for roseate tern;
- from April 1 to August 15 for piping plover, and
- from January 1 to July 30 for bald eagle.

Although most flights affected by the proposed action travel at high altitudes, nesting roseate terns, piping plovers, and bald eagles may be adversely affected by low-flying aircraft during arrival and departure, and by non-commercial aircraft utilizing the satellite airports included in the Airspace Redesign. Therefore, the Service recommends incorporating the above flight restrictions into the proposed Airspace Redesign, including notification to all airports within the study area.

Section 7(a)(2) of the ESA requires consultation with the Service for any federal action that may affect federally listed species under Service jurisdiction. The Service must review the flight restrictions and concur in writing that Airspace Redesign is not likely to adversely affect listed species. If the FAA cannot incorporate the recommended flight restrictions into the proposed Airspace Redesign, further consultation between the FAA and the FWS will be required to evaluate and minimize adverse effects to federally listed species. Consultation under Section 7 of the ESA must be concluded prior to completion of the NEPA process, and should be summarized in the final EIS.

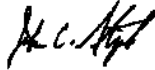
NEST LOCATIONS

As requested in your November 16, 2006 letter, roseate tern, piping plover, and bald eagle nesting locations within 10 miles of the following airports are enclosed: John F. Kennedy International, LaGuardia, Newark Liberty International, Teterboro, Philadelphia International, Islip Long Island MacArthur, and White Plains/Westchester. As you are aware, this information is confidential and should not be released in public documents. As nesting locations regularly change, the FAA should obtain updated information from the Service annually.

¹ Note that lower vertical distances and/or smaller lateral distances have been deemed sufficient to prevent disturbance to nesting birds under particular circumstances. Through the informal consultation process under Section 7 of the ESA, the Service is available to work with the FAA to refine these recommended distances based on actual noise levels and disturbance potential for particular airports or classes of aircraft.

Please contact Wendy Walsh of my staff at (609) 646-9310, extension 48 if you have any questions regarding federally listed endangered or threatened species, or about the above Service recommendations.

Sincerely,



John C. Staples
Assistant Supervisor

Final Page is Redacted

C-4



U.S. Department
of Transportation
**Federal Aviation
Administration**

Eastern Service Center

1701 Columbia Avenue
College Park, Georgia 30337

August 27, 2007

Mr. Clifford G. Day
United State Department of the Interior
Fish and Wildlife Service
New Jersey Field Office
927 North Main Street, Building D
Pleasantville, New Jersey 08232

Dear Mr. Day:

Thank you for your office's letter of January 24, 2007 which provided information to complete the Federal Aviation Administration's (FAA's) analysis of federally listed species for the New York/ New Jersey/Philadelphia Metropolitan Airspace Redesign. We have addressed the comments contained in the US Department of the Interior's (DOI's) letter of June 12, 2006 pertaining to the review of the December 2005 Draft Environmental Impact Statement (DEIS) for the New York/ New Jersey/Philadelphia Metropolitan Airspace Redesign. Both FAA's responses to DOI comments and additional analysis are contained in the Final Environmental Impact Statement which was published July 27, 2007.

We have continued to coordinate with the Fish and Wildlife Service regarding the federally listed species. Two areas of interest expressed by FWS concern whether recommended flight restrictions could be met for overflights in the vicinity of piping plover and bald eagle nesting sites. The flight restrictions provided by FWS for the piping plover consist of maintaining a minimum vertical distance of 2,000 feet above ground level or at least 1.0 mile lateral distance from active piping plover nesting sites. Although the bald eagle has been removed from the endangered species list, we have been notified that we should comply with the National Bald Eagle Management Guidelines. Category G of these Guidelines states "avoid operating aircraft within 1,000 feet vertical of the nest during the breeding season, except where eagles have demonstrated tolerance for such activity."

Transport aircraft require straight-in approaches for at least the last 2,000 feet of their descent. Transport aircraft on departure may make a single turn between 400 feet and 2,000 feet. Due to the landing and takeoff requirements of flight, FAA is unable to comply with flight restriction requirements as provided by DOI. However, FAA's mission places safety of aircraft as the highest priority. Because bird activity can present a hazard to aircraft, it is constantly monitored by air traffic controllers. FAA Order 7110.65 requires controllers to issue advisory information on pilot-reported, tower observed or radar observed and pilot verified bird activity. There are temporary conditions that require temporary changes to operations each day in the national airspace through the use of Notices to Airmen. Significant bird activity is one of the conditions that lead to modified temporary procedures.

C-5

Two piping plover nesting locations/zones are within the 5 mile bird study area for John F. Kennedy International Airport (JFK). Under the revised airspace alternatives, aircraft should be no closer to the identified current piping plover nesting sites. In analyzing the nesting zone located closest to JFK, the closest No Action track is directly over the top of the nesting zone at an altitude of approximately 1,046' above ground level (AGL). Under the Preferred Alternative condition, the results are the same – the closest flight track would be directly over the nesting zone at 1,046' AGL.

In addition, we have reviewed the bald eagle nesting locations provided by FWS. There are six nesting zones within the 5 mile bird study area for Philadelphia. The closest flight track to the identified nesting location is the No Action track which is directly over the top of the nesting site at an altitude of approximately 746' AGL. Under the Preferred Alternative condition the results are the same – the closest flight track would be directly over the top of the nesting area at 746' AGL.

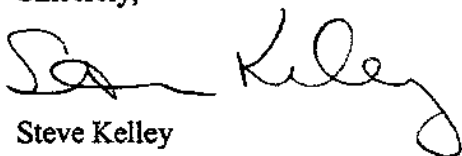
For both the piping plover and bald eagle, distances from the closest nesting site to the closest track are the same for the No Action Alternative and Preferred Alternative. The location of the closest piping plover nesting sites is in the immediate approach and departure paths for one of the runways at JFK. Similarly, the location of the closest bald eagle nesting site is in the immediate approach and departure path of a runway at PHL. Therefore, there is no ability to increase separation to these existing nesting sites. However, because nesting at these distances currently occurs, both piping plovers and eagles have demonstrated a tolerance for such activity. It is our position that the effect of air traffic operations on bird activity will be the same for the No Action Alternative as it would be for the Preferred Alternative resulting in a no affect determination for the identified species.

Additionally, the FAA has identified, during its additional analysis of Section 4(f) resources, several endangered or endangered species in the Wallkill River National Wildlife Refuge. Those listed species are the Indiana bat, bog turtle, dwarf wedgemussels, Mitchell's satyr (extirpated), and American burying beetle (extirpated). Based on a review of the literature, the FAA believes that there will be no affect on the species in the Wallkill River National Wildlife Refuge.

Based on the information above, we are requesting a letter of concurrence from your office on the FAA Endangered Species Act, Section 7, No Affect Determination concerning this study.

Thank you for your assistance.

Sincerely,



Steve Kelley
Airspace Manager

C-6

cc: Ms. Wendy Walsh, FWS, Pleasantville, NJ
Mr. Steve Sinkevich, Long Island Field Office, FWS, NY

[AJO2E2B.4]:[LK:lk]:[404-305-5587]:[8/24/07]:[FWS_concurrence_request_R1_082407.doc]

C-7

Lee Kyker/ASO/FAA
ATO, Eastern System Support
Group

To frank_turina@nps.gov

cc

bcc

08/29/2007 06:22 PM

Subject Follow-up re: NY NJ PHL Airspace Redesign Study

Good Afternoon Mr. Turina,

I wanted to follow-up with you since my phone call earlier this month to confirm your receipt of the Final Environmental Impact Statement (FEIS) for the NY NJ PHL Airspace Redesign Study. As referenced in the FEIS, I've attached additional information which is intended to address the areas of interest of the NPS.



NYNJPHL_Airspace_Redesign_Sect4f_Analysis_082907.pdf NYNJPHL_Airspace_Redesign_4(f)_Appendix_A_082907.pdf



Figures A1 thru A4.zip

Please do not hesitate to contact me if you have any questions.

Lee Kyker

Lee M. Kyker
Environmental Protection Specialist
Eastern Service Center, System Support Group
Phone: (404) 305-5587
Fax: (404) 305-5199

C-8

Lee Kyker/ASO/FAA
ATO, Eastern System Support
Group

08/29/2007 06:24 PM

To lfands@gw.dec.state.ny.us
cc
bcc
Subject

Mr. Davies,

I wanted to follow-up with your office to confirm your receipt of the Final Environmental Impact Statement (FEIS) for the NY NJ PHL Airspace Redesign Study. A complete copy of this document is also available on our project web site at : https://www.faa.gov/nynjphl_airspace_redesign

As referenced in the FEIS, I've attached additional information which is intended to address areas of interest to the NY DEC.



NYNJPHL_Airspace_Redesign_Sect4f_Analysis_082907.pdf NYNJPHL_Airspace_Redesign_4(f)_Appendix_A_082907.pdf



Figures A1 thru A4.zip

If you have any questions, please do not hesitate to contact me.

Lee Kyker

Lee M. Kyker
Environmental Protection Specialist
Eastern Service Center, System Support Group
Phone: (404) 305-5587
Fax: (404) 305-5199

C-9



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

AUG 31 2007

Mr. Steve Kelley
Federal Aviation Administration
National Airspace Redesign
c/o Nessa Memberg
12005 Sunrise Valley Drive, MS C3.02
Reston, VA 20191

Dear Mr. Kelley:

The Environmental Protection Agency (EPA) has reviewed the final environmental impact statement (FEIS) for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area Airspace Redesign (CEQ # 20070324) which encompasses the entire state of New Jersey and portions of New York, Connecticut, Delaware and Pennsylvania. The Study Area comprises approximately 31,180 square miles and encompasses all or portions of 64 counties, and hundreds of municipalities. This review was conducted in accordance with Section 309 of the Clean Air Act, as amended (42 U.S.C. 7609, PL 91-604 12(a), 84 Stat.1709), and the National Environmental Policy Act (NEPA).

Project and Alternatives:

The stated purpose of the project is to increase the efficiency and reliability of the airspace structure and Air Traffic Control (ATC) system by making modifications to aircraft routes and air traffic control procedures used in the NY/NJ/PHL Metropolitan Region. In addition to the No Action Alternative, the DEIS analyzes three other alternatives: the Modifications to Existing Airspace Alternative, the Ocean Routing Airspace Alternative, and the Integrated Airspace Alternative (with and without an Integrated Control Complex).

In March 2007, the FAA chose the Integrated Airspace Design with an Integrated Control Complex as the preferred alternative, and released a noise mitigation report on that alternative in April 2007. FAA held several public hearings on its noise mitigation report, and comments were accepted until May 11, 2007.

EPA commends the FAA for its commitment to assuring public participation in the NEPA process for the NY/NJ/PHL Metropolitan Area Airspace Redesign. Given the complexity of this project, numerous public hearings during all phases of the process were certainly warranted; FAA aptly met this challenge. Also, the longer comment period on the draft EIS was important for the public to be able to review the document thoroughly.

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C-10

While we understand the FAA's position that this project does not increase capacity at the airports, EPA is still concerned that a new airspace design will induce growth at the airports wanting to make use of the increased efficiency and reliability of the airspace structure. We are particularly concerned about the air quality, noise and other impacts this potential growth could have on Environmental Justice areas in the vicinities of the airports. As such, we request that the FAA keep us informed of any airport expansions or redesigns, because EPA would like to be involved in any planning and NEPA processes as soon as possible.

Thank you for the opportunity to comment. Should you have any questions concerning this letter, please contact Lingard Knutson of my staff at (212) 637-3747.

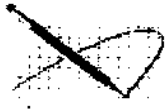
Sincerely yours,



John Filippelli, Chief
Strategic Planning and Multi-Media Programs Branch

2
C-11

TOTAL P.03



Steve Kelley /AEA/FAA
09/05/2007 11:09 AM

To Daphne Fuller/AWA/FAA@FAA, Lisa
Holden/AWA/FAA@FAA, Edie Parish/AWA/FAA@FAA, Lee
Kyker/ASO/FAA@FAA, Pete CTR
cc
bcc
Subject Fw: ER # 2006-0727-042

Steve Kelley
Manager, Airspace Redesign
Eastern Terminal Services
1 Aviation Plaza
Jamaica, NY 11434
Tel: 718-553-4558
Fax: 718-995-5687

-----Forwarded by Steve Kelley/AEA/FAA on 09/05/2007 11:07AM -----

To: Steve Kelley/AEA/FAA@FAA
From: "McLearen, Douglas C" <dmclearen@state.pa.us>
Date: 09/05/2007 11:06AM
Subject: ER # 2006-0727-042

Dear Mr. Kelly:

It is the opinion of the Pennsylvania SHPO (Bureau for Historic Preservation) that you have completed your Section 106 consultation requirements for the following project:

New York - New Jersey Airspace Redesign

If you have any additional comments or questions, please direct them to the project reviewer, Ms. Susan Zacher (717) 783-9920.

Sincerely,

Douglas C. McLearen
Pennsylvania Historical & Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, Pennsylvania 17120-0093

Phone: (717) 772-0925
Fax (717) 772-0920

dmclearen@state.pa.us

C-12



September 5, 2007

Mr. David Stilwell
Field Supervisor
New York Field Office
3817 Luker Road
Cortland, NY 13045

Dear Mr. Stilwell:

The purpose of this letter is to provide additional information concerning the potential noise and visual impacts of the New York/New Jersey/Philadelphia Metropolitan Airspace Redesign on the piping plover and roseate tern. In response to our letter of August 27, 2007, to Mr. Clifford G. Day in the New Jersey Field Office of the U. S. Fish and Wildlife Service, staff asked the FAA whether the airspace redesign project would result in more aircraft flights over existing piping plover nesting sites near airports at altitudes lower than 2,000 feet.

Generally speaking there is no potential for the airspace redesign project to result in more flights because airspace redesign will not cause or induce growth in air traffic. Air traffic is forecast to increase in the future in the study area with or without the proposed project. Airspace redesign is needed to increase the efficiency and reliability of the airspace structure and air traffic control system, thereby accommodating growth while enhancing safety and reducing delays in air travel.

As discussed in our letter to your colleague Mr. Day in the New Jersey Field Office, we examined the distance from existing piping plover nesting sites to the closest flight track today as well as the distance from the identified nesting sites to the closest flight track under the Preferred Alternative at each of the airports where such sites were identified.

The location of the closest piping plover nesting sites at one airport is in the immediate approach and departure paths for one of the runways. Therefore, we do not have the ability to move the flight track higher to increase the distance from the sites. Under the preferred alternative for airspace redesign, aircraft should be no closer to the current piping plover nesting sites as identified. Indeed, the fact that nesting currently occurs at these distances demonstrates that piping plovers have a tolerance for such activity.¹

¹ Krausman, P.R. M.C. Wallace, D.W. DeYoung, W.E. Weisenerger, and C.L. Hayes. 1993. The effects of low-altitude jet aircraft on desert ungulates. International congress: Noise as a Public Health Problem 6:471-478.

C-13

Turning to the request for further analysis of the potential for more planes flying over identified breeding areas below the 2000' altitude, FEIS Section 2.5.8 describes the changes in arrival and departure routings at airports under the preferred alternative. Although the preferred alternative includes some low altitude changes to maximize the limited runway capacity at airports in the study area, the FEIS clearly indicates that there would be no major changes in low altitude flight paths and runway usage at the airports that have nearby piping plover nesting sites

In support of that conclusion, we have provided the attached table summarizing our analysis of the overflights at each of the nesting sites that you provided. You will note that in nearly all cases the *Preferred Alternative* reduces the number of flights that would typically pass through the zone of interest surrounding each nesting site. The one exception is a Bald Eagle nesting site very near the Philadelphia International Airport where the preferred alternative would cause an increase in the number of daily flights by 0.2 per day (about 1 extra flight every five days) for an increase of 1.4%.

Neither the Fish and Wildlife Service, the Federal Aviation Administration, nor the airport owner want aircraft to fly near birds. JFK has a Wildlife Management Plan to discourage bird activity in the vicinity of the airport. FAA Advisory Circular 150/5200-33A, Hazardous Wildlife Attractants on or near Airports, recommends a distance of 5 statute miles between the farthest edge of the airport's airport operating area and the hazardous wildlife attractant. JFK also has a Bird Hazard Task Force of which FWS is a member. It is through JFK's Wildlife Management Plan that FWS's separations standards are sought to maintain both avian protection and aviation safety. In addition, there is a Memorandum of Agreement between the FAA, the U.S. Air Force, the U.S. Army, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to Address Aircraft-Wildlife Strikes.

This Memorandum of Agreement (MOA) acknowledges each signatory agency's respective missions. Through this MOA, the agencies establish procedures necessary to coordinate their missions to more effectively address existing and future environmental conditions contributing to aircraft-wildlife strikes throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety, while protecting the Nation's valuable environmental resources. Aircraft-wildlife strikes are the second leading causes of aviation-related fatalities. Globally, these strikes have killed over 400 people and destroyed more than 420 aircraft. While these extreme events are rare when compared to the millions of annual aircraft operations, the potential for catastrophic loss of human life resulting from one incident is substantial. The most recent accident demonstrating the grievous nature of these strikes occurred in September 1995, when a U.S. Air Force reconnaissance jet struck a flock of Canada geese during takeoff, killing all 24 people aboard.

Burger² (1986) studied the response of migrating shorebirds to human disturbance and found that shorebirds did not fly in response to aircraft overflights, but did flush in response to

² Burger, 1986.

humans and their dogs on the beach. Burger³(1981) studied the effects of noise from JFK airport on herring gulls (*Larus argentatus*) that nested less than 1 kilometer from the airport. Noise levels over the nesting colony were 85 to 100 dBA on approach and 94 to 105 dBA on takeoff. No effects of subsonic aircraft on nesting were noted, although some birds flushed when supersonic aircraft flew overhead and, when they returned, they engaged in aggressive behavior. Groups of gulls tended to loaf in the area of the nesting colony, and these birds remained at the roost when subsonic aircraft flew overhead. Up to 208 of the loafing gulls flew when supersonic aircraft flew overhead. These birds would circle around and immediately land in the loafing flock.

There are studies which have shown that wildlife react to visual stimuli that are below 1,000 feet above ground level (Lamp 1989⁴, Bowles 1995⁵). Aircraft overflights and the noise associated with those overflights can directly affect wildlife. However, the existing flight track over the identified piping plover bird nesting site is greater than 1,000 for our Preferred Alternative.

In summary, for the reasons stated above the FAA has determined that the procedural and routing changes associated with the preferred alternative have no potential to affect the piping plover or the roseate tern. We are including the roseate tern although no nesting sites of the roseate tern have been confirmed in the Study area for many years.

We hope this information has been helpful. We request a letter of concurrence from your office on the FAA Endangered Species Act, Section 7, No Affect Determination for both species for this EIS.

³ Burger, Joanna 1981 Effects of Human Disturbance on Colonial Species, Particularly Gulls
Joanna Burger *Colonial Waterbirds*, Vol. 4, 1981 (1981), pp. 28-36
doi:10.2307/1521108

⁴ Lamp, R.E. 1989. Monitoring the Effect of Military Air Operations at Naval Air Station Fallon on the Viota of Nevada. Nevada Department of Wildlife, Reno.

⁵ Bowles, A.E. 1995. Responses of Wildlife to Noise. Pages 109-156 in R.L. Knight, and K.J. Gutzwiller, editors. *Wildlife and Recreationists: Coexistence Through Management and Research*. Island Press, Covelo, CA.

Other references:

Abundance and Distribution of Migrant Shorebirds in Delaware Bay,
Kathleen E. Clark, Lawrence J. Niles, Joanna Burger
The Condor, Vol. 95, No. 3 (Aug., 1993), pp. 694-705

BURGEJR., 1991. Foraging behavior and the effect of
human disturbance on the Piping Plover *Charadrius*
melodus. *J. Coastal Res.* 7:39-52.

BURGERJ., ANDM. GOCHFELDI. 1991. Human activity

Thank you for your assistance.

Sincerely,


for Steve Kelley
Airspace Manager

cc: Ms. Wendy Walsh, FWS, Pleasantville, NJ
Mr. Michael T. Chezik, DOI, Office of Environmental Policy and Compliance
Mr. Steve Sinkevich, Senior Fish & Wildlife Biologist

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C-16

Lynne Pickard /AWA/FAA
AEE-002, Environment and
Energy

09/05/2007 10:46 AM

To Lee Kyker/ASO/FAA@FAA, Daphne
Fuller/AWA/FAA@FAA, Donna Warren/AWA/FAA@FAA,
Edie Parish/AWA/FAA@FAA, Lisa Holden/AWA/FAA@FAA,

cc

bcc

Subject DOT 4(f) Consultation with DOI/NPS 

As I verbally informed you yesterday, Karen Trevino, Manager of the NPS Natural Sounds Program and designated coordinator of NPS comments on FAA NEPA reviews with respect to aviation noise impacts on national parks, called me yesterday to say that she had reviewed our additional analysis over the weekend and NPS has no further comments on the NY-NJ-PHL airspace redesign EIS. She was preparing a letter confirming this response, and said she would email an advance copy.

Lynne Sparks Pickard
Deputy Director
Office of Environment and Energy
Federal Aviation Administration
Tel. 202 267-3577
Fax 202 267-5594
lynne.pickard@faa.gov

C-18



In Reply Refer to:

2007-I-0146

United States Department of the Interior

FISH AND WILDLIFE SERVICE



New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232

Tel: 609/646 9310

Fax: 609/646 0352

<http://www.fws.gov/northeast/njfieldoffice/>

Steven Kelley, Airspace Manager
Eastern Service Center, Federal Aviation Administration
1701 Columbia Avenue
College Park, Georgia 30337

Dear Mr. Kelley:

This responds to your August 27, 2007 request to the U.S. Fish and Wildlife Service (Service) for concurrence that the Federal Aviation Administration's (FAA) proposed New York/New Jersey/Philadelphia Metropolitan Airspace Redesign is not likely to adversely affect federally listed species or to disturb the bald eagle (*Haliaeetus leucocephalus*).

The proposed action is to redesign the airspace in the metropolitan area, including developing new routes and procedures to take advantage of improved aircraft performance and emerging air traffic control technologies. The proposed action does not include any physical construction or development of facilities. Direct FAA action would be required, including the design, development, implementation, and use of new or modified air traffic control procedures and reconfigured airspace. The proposed Airspace Redesign would primarily affect air traffic to and from five major airports (John F. Kennedy International, LaGuardia, Newark Liberty International, Teterboro, and Philadelphia International), as well as 16 satellite airports.

AUTHORITY

This response is pursuant to Section 7 the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA), and the Bald and Golden Eagle Protection Act (54 Stat. 250; 16 U.S.C. 668-668d) (Eagle Act). Comments are also provided pursuant to the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712) and the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*)

C-19

FEDERALLY LISTED SPECIES

The Service concurs with the FAA's determination that the proposed action will have no effect on the federally listed (endangered) Indiana bat (*Myotis sodalis*) or dwarf wedgemussel (*Alasmidonta heterodon*), (threatened) bog turtle (*Clemmys muhlenbergii*), or two extirpated species: Mitchell's satyr (*Neonympha m. mitchellii*) and American burying beetle (*Nicrophorus americanus*).

The FAA determined in its August 27, 2007 correspondence to the Long Island Field Office that the proposed airspace redesign would have "no effect" on the piping plover (*Charadrius melodus*) or roseate tern, (*Sterna dougallii*) and requested Service concurrence with that determination. The correspondence from FAA indicates that it is unable to comply with the Service's "flight restriction requirements" of maintaining a minimum vertical distance of 2,000 feet above ground level or at least 1.0 mile lateral distance from active piping plover nesting sites. Based on the best available information concerning piping plover and roseate tern breeding on the south shore of Long Island, including areas in the proximity of John F. Kennedy Airport, however, we concur that the birds have largely acclimated to this activity. Therefore, a finding of "not likely to adversely affect" is appropriate as this evidence suggests that any effects to the birds from noise associated with flight operations are expected to be insignificant and are not anticipated to cause take.

Except for the above-mentioned species, no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur in the Airspace Redesign action area. If additional information on listed and proposed species becomes available or if project plans change, this determination may be reconsidered.

BALD EAGLE

The bald eagle was removed from the federal List of Endangered and Threatened Wildlife effective August 8, 2007. The bald eagle continues to be protected under the federal Eagle Act and Migratory Bird Treaty Act. The bald eagle also remains a State-listed species in both New Jersey and Pennsylvania. For the continued protection of bald eagles, and to ensure compliance with federal and State laws, the Service recommends managing bald eagles in accordance with the National Bald Eagle Management Guidelines and all applicable State regulations.

The National Bald Eagle Management Guidelines contain a recommendation to avoid operating aircraft within 1,000 feet of bald eagle nests during the breeding season, except where birds have demonstrated tolerance for such activity. Your August 27, 2007 letter states that arriving and departing flights at Philadelphia International Airport currently pass directly over eagle nesting areas at altitudes as low as 746 feet above ground level. Under the proposed Airspace Redesign, conditions would remain the same; the closest flight track would be directly over a nesting area at an altitude of 746 feet. The Service concurs with your conclusion that bald eagles in the vicinity of Philadelphia International Airport are generally acclimated to aircraft operating along current

flight paths and at current altitudes and would not be disturbed by the proposed air-space redesign.

To ensure continued compliance with the Eagle Act and State laws, the Service recommends that the FAA work with the States of New Jersey and Pennsylvania to monitor the response of bald eagles upon implementation of the Airspace Redesign. In particular, the monitoring effort should be designed to assess: (1) the potential for new, low-level flight paths to disturb¹ bald eagles at nesting, foraging, and communal roosting areas where birds are less likely to be acclimated to associated noise levels; (2) the potential for new flight paths to disturb eagles at different times of the day or year than under existing conditions; and (3) the increased potential for disturbance as air traffic increases within the Airspace Redesign Study Area.

Endangered and Nongame Species Program
Division of Fish and Wildlife
2201 Route 631
Woodbine, New Jersey 08270
(609) 628-2103

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797
(717) 787-4250

If monitoring reveals that bald eagles are being disturbed by low-flying aircraft, the FAA should contact the Division of Migratory Birds regarding the Service's proposed Eagle Act permitting program:

U.S. Fish and Wildlife Service
Division of Migratory Birds
300 Westgate Center Drive
Hadley, Massachusetts 01035
(413) 253-8643

OTHER MIGRATORY BIRDS

The Service notes that the FAA's Final Environmental Impact Statement generally incorporated our previous comments and recommendations regarding migratory birds, and presents a much-improved analysis of potential changes in aircraft-bird collisions as a result of the proposed rerouting of air traffic. The Service recommends that the FAA continue to consider potential impacts on migratory bird concentration areas (e.g., wetlands, coasts, rivers, wildlife refuges) in routing aircraft below 3,000 feet in altitude (mainly arrivals and departures).

¹ "Disturb" means to agitate or bother a bald eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with its normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (*Federal Register* Vol. 72, No. 107, June 5, 2007).

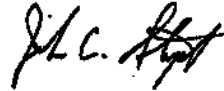
NATIONAL WILDLIFE REFUGES

As noted in previous comments provided for the FAA Draft Environmental Impact Statement by the Department of the Interior, there are still concerns related to insufficient data on noise impacts as they relate to National Park Service units and the other listed Section 4(f) resources, including units of the National Wildlife Refuge System in New York, New Jersey, and Pennsylvania. It was recommended in those comments that "FAA perform a more thorough analysis of impacts to National Park Service units and other listed Section 4(f) resources, using the correct guidelines and appropriate metrics, then re-evaluate the issue of 4(f) use" and we do not believe this has been done yet specific to National Wildlife Refuges.

CONCLUSION

The Service appreciates the cooperation of the FAA in evaluating the potential effects of the proposed Airspace Redesign on federal trust resources including federally listed species, the bald eagle, other migratory birds, and National Wildlife Refuges. Please contact Wendy Walsh (Wendy_Walsh@fws.gov) of my staff at (609) 646-9310, extension 48, or Steve Sinkevich (Steve_Sinkevich@fws.gov) of the Service's Long Island Field Office at (631) 776-1401, if you have any questions or require further assistance.

Sincerely,



John C. Staples
Acting Supervisor

Appendix D – Comment Letters on the FEIS

Steve Kelley
Manager, Airspace Redesign
Eastern Terminal Services
1 Aviation Plaza
Jamaica, NY 11434

Dear Mr. Kelley,

We have reviewed the NY / NJ / PHL Metro Airspace Redesign draft EIS "Noise Mitigation Report" and the "Operational Analysis of Mitigation of the NY/ NJ / PHL Airspace Redesign" and appreciate the opportunity to offer comments on the final Environmental Impact Study.

Regarding section 8 of the "Operational Analysis of Mitigation of the NY/NJ/PHL Airspace Redesign" concerning the EWR Night-time Ocean Routing, we believe that this routing would cause a significant operational burden to UPS. It would also likely cause a significant increase in emissions over parts of Staten Island area and add significant complexity to the New York Metro Air Traffic Area. The additional 7.4 minutes of flight time (as estimated by the FAA) required for each of our departures that would be required to fly the procedure would generate considerable costs as well as the potential for significant down-line disruption to our network.

The proposed routing would impact a total of 19 of the most critical flights in our system each week (under UPS' current operating schedule) approximately 50% of the time, based on current runway utilization. Variable costs of the additional flight time alone are conservatively estimated at \$450,000 to \$500,000 per year based on a \$2.11 per gallon fuel cost. True cost of the additional flight time would be much higher were we to consider fixed ownership costs. The down-line impact cost to our network is not precisely estimatable at this time, but suffice it to say that shipments out of New York for our customers are of significant economic importance.

We previously offered two alternatives to the EWR Night-time Ocean Routing. The first was to simply handle the night time and day time operations the same. We can, however, no longer support our second alternative, which was to not start the use of the routing until midnight. This summer has seen a significant increase in the number of operations at JFK. For too many reasons to mention here, we have often seen significant levels of traffic operating at JFK until well after midnight. This traffic was not considered in the design of the EWR Night-time Ocean Routing and would, in our opinion, likely result in unacceptable levels of delay to both airport's departures.

Thank you for your consideration. Should you have any questions as to UPS' stance on this or any other aspect of the proposed noise mitigation strategy, please feel free to contact me.

Tim Stull
Manager - Air traffic Systems
UPS
502-359-5704
tstull@ups.com

D-1

2007-08-22 H1

PO Box 603
Ridgefield, Ct. 06977
August 22, 2007

Mr Steve Kelley
Federal Aviation Administration
One Aviation Plaza, 4th Floor
Jamaica, NY 11434

Re: Comments on the NY/NJ/Phil Airspace Redesign FEIS

Dear Mr Kelley,

In accordance with 40 CFR 1503.1(b) set below are comments on the FEIS especially those parts not made available during the public comment period on the DEIS. These comments are directed to omissions and errors which need to be addressed in a supplemental DEIS.

There are three events which manifest themselves after the DEIS was released and will significantly effect the environmental analysis in the EIS. 40 CFR 1502.9(c)(ii) provides that there should be a full consideration of them in a supplement. These events include: [A] the PANYNJ operation of Stewart airport; [B] the essentially static number of operations at EWR for the last 4 years to date contrary to the EIS forecast; and [C] the increasing load factor on aircraft in place of expanded airline operations and its effects on operation count projections.

Each of these events will contribute to the current operations levels at EWR not coming even near the 2011 forecast of 524,140 operations. This number is critical in the operational and environmental analysis because almost all of its metrics are predicated on an annual average day in 2011 or the 90th percentile day in 2011, each of which is directly calculated from the forecast of 2011 annual operations.

The Mitre operations analysis in Appendix C highlights the central importance of 2011 operations levels with the following discussion on page xxvi:

"Newark shows the greatest benefits from the Integrated Airspace with ICC alternative {the preferred alternative}, since the benefits associated with the use of *dual arrival streams* dominate the increased flying distance.".....

"However, it must be noted that the penalties caused by longer routes are a fixed cost that is proportional to the number of flights." "there is a break-even point in traffic levels.somewhere between the median and 90th percentile day in the 2011 forecast". **"If the forecast demand levels do not materialize, the [preferred alternative] may not reach the break-even point"**.

D-2

(A) You have stated at public meetings and in the DEIS responses that the new ownership situation at Stewart was not being considered further in the EIS because "the lease has not been signed yet." This implies the takeover is still too uncertain and speculative to be considered as "data". However on July 2007 when the FEIS was still be written, the PA's Board of Directors certified to the public so as to satisfy SEC financial reporting requirements that *Stewart is a additional facility of PA.* (see PANYNJ Board of Directors meeting minutes July 26, 2007, Calendar item 12, page 20)

You are undoubtedly aware that the Stewart facilities have already been extensively refurbished in recent years including a new, modern control tower, refurbished runway lighting, extensive taxiway repavement and a direct access road completed to the interstate highway system.

Further in FAA response 1.4.1 it is acknowledged that:

"Since Stewart is far from the other airports with long runways and has no other large airspace complex constraining it on any other side, it can *expand greatly...*" [Appendix Q, page 7]

It would appear that the PA's announced plan to offload significant air operations from its other metro airports especially EWR will have a significant downward impact on actual operations at EWR by 2011, contributing to the failure to reach the **Break-Even point.**

[B] Several commentators, including NJCAAN in May 10,2007, point 9, have drawn attention to the fact that 2006 actual operations at EWR missed the study forecast by 14%. It has been reported by PA and FAA that EWR operations were:

458,677	in	2000	(study baseline)
440,437	in	2004	
440,953	in	2005	
444,258	in	2006	
443,622	in	12 months ending June 2007	

These numbers indicate a clear trend to a static level { a plateau } in operations at EWR contrary to the assumption of continuous growth in operations forecast for 2006 and 2011 in the FEIS. More important, the actual annual average day now is considerably below the baseline number of 1222. In the 12 months ending in June 2007, the AAD was about 1215. As indicated above, the break-even point is between 1436 and 1634 per day (median and 90th percentile of 2011 forecast). The operations forecast assumed a growth rate of 3.5% between 2006 and 2011. At that rate the present operations at EWR will not reach the break-even point by 2011!

[C] Another recent event which is causing EWR operations to increase at a slower rate than predicted in the FEIS is the increasing load factor for airlines. Because of the steep rise in aircraft fuel, competitive pressure from low cost airlines and other economic changes unanticipated in the EIS forecast, airlines have been forced to increase load factors significantly beyond those expected in the EIS studies. Instead of adding additional aircraft, airlines have been adjusting to increased passenger volume by cramming more passengers onto each flight. It would be a simple calculation to quantify the impact of this new trend on the 2011 forecast. This calculation should be done in a supplemental report so that the 2011 forecast may be updated appropriately.

It should be also noted that the 2011 forecast is now out of date. A 5 year forecast is required for aircraft operations in environmental studies by Section 14.4g(2) in Appendix A of Order 1050.1E. The FEIS is being issued in 2007, therefore the appropriate forecast period should be 2012. If the 2011 FEIS forecast were reasonably close to actual operations this shortfall in the prescribed study period might be acceptable. However given the large variations (plateau vs growth) now becoming apparent, the FEIS operations forecasts need to be updated in accordance with Order 1050.1E's requirements for a full and fair discussion [Sections 500a(1), 208a].

[D] The discrepancy between the 2006, 2011 forecasts and the actual operations results can be explained in large part due to the fact that the FEIS studies assume optimal weather conditions (hereinafter "blue sky") for all days in annual averages. The FAA's FEIS response at Appendix Q Section 10.3.2 reports that records show blue sky days exist *only* 70% of the time. Further the FAA 2004 Airport Capacity report shows metrics for calculating the actual decrease in operations throughput for both marginal and instrument [IMC] weather conditions at the airport (EWR). If one applies the adverse weather reductions to the forecast annual operations totals, about 2/3 of the discrepancy between the forecast and actual results can be explained.

Although the blue sky analysis can give important theoretical perspective on the operations capacity situation, in an environmental impact analysis, the effect of adverse weather must be fully disclosed and evaluated to give the Decisionmaker a full and fair discussion of the actual environmental circumstances that will prevail in connection with a proposed action such as the airspace redesign.

The Mitre report referenced in Appendix Q, Section 1.1.8, concerning Analysis of a Severe Weather Scenario, although an important step in the overall analysis is incomplete by itself. Adverse weather can impact a flight at 3 points, at departure, en route and at arrival. The Mite Severe weather report covers only the second point. Marginal or IMC weather conditions at the arrival and departure airports are one of the principal causes of delay. As pointed out above the 2004 Airport capacity report has specific metrics for adverse weather at EWR. Further as stated in my June 26, 2007 Third comment the dual arrival streams proposed for EWR are particularly negatively influenced by adverse weather.

The FAA states this point very well in the current OEP ver 8, 2007, Smart sheet TERM-5 Reduced Separation Standards.

"Simultaneous aircraft arrivals may be conducted at Closely Spaced Parallel Runway (CSPR) airports [as for ex.EWR] based on the use of visual (good weather) procedures. As weather conditions deteriorate, simultaneous arrivals based on visual procedures must be discontinued and standard instrument flight rules (IFR) aircraft separation must be provided. For CSPR airports this results in the operational loss of one of the two CSPRs, resulting in a 50 percent decrease in the maximum potential arrival rate. The reduced CSPR operations at major airports increase system-wide delays and make it difficult for air carriers to maintain scheduling integrity. "

The point is that the dual arrivals at EWR may be not operative during late afternoons due to thunderstorms and mornings due to overcast so that a substantial percentage of the delay savings presently projected in the FEIS will not in fact materialize for this aspect of the airspace redesign! It appears that a substantial part of the delay savings in the

redesign come from the reduced aircraft separation rules which are diminished if not completely overcome by adverse weather conditions at the terminal airspace . A supplemental report is necessary to fully disclose and evaluate the effects of adverse weather on the FEIS metrics which analyze the environmental impacts of the proposed action.

[E] Since there are many valuable improvements in the airspace redesign not connected to the dual arrival streams at EWR and since the problems outlined above pertain in large part to the dual arrival streams, I am urging the consideration of a mitigation measure of no action in part by not moving the North Gate until the environmental analysis outlined above is done so that such movement can be justified. Unlike other parts of the redesign which are to be mitigated by employing them only when necessary during peak operations, the moved North Gate is in place 24/7. No time of day mitigation is possible so the residents of Ct. and NY will be exposed to noise levels where almost no aircraft noise presently exists 24 hours a day even when the dual arrival track is not needed!

In my comments to the mitigation plans of last April I made the foregoing mitigation suggestion but the reviewer misunderstood it as a reference to the global no action alternative and therefore made no actual response to my request. It should be kept in mind that the ROD is a much more appropriate place for such fine adjustments to the proposed action rather than in court. In Court the whole airspace redesign plan may be seriously interrupted rather than just the dual arrivals. There is strong precedent for such a partial mitigation action. In the FEIS that was recently approved for Logan airport in Boston, the center taxiway portion of the plan was postponed until a supplemental report was prepared for it.

There is also a wider perspective. If the dual arrival issue were resolved quickly with the partial mitigation, such action will facilitate other actions in Congress of greater concern to the FAA such as the passage of a new funding bill and confirmation hearings on the next Administrator.

Your consideration of the above stated comments will be very much appreciated.

Sincerely,


Michael Kroposki Esq.

New Jersey Coalition Against Aircraft Noise
P.O. Box 554 Scotch Plains, New Jersey 07076

August 29, 2007

Mr. Steve Kelley, FAA
One Aviation Plaza,
4th Floor,
Jamaica, NY 11434

Re: Comments on FEIS for NY/NJ/PHL Airspace Redesign

Dear Mr. Kelley:

Please accept the following material on new developments for your consideration as partial comment by the New Jersey Coalition Against Aircraft Noise (NJCAAN) on the Federal Aviation Administration's ("FAA's") Final Environmental Impact Statement (FEIS) for the NY/NJ/PHL Metro Airspace Redesign. NJCAAN is currently reviewing the FEIS document, but cannot adequately comment on the numerous issues in the document in the limited time available prior to the Record of Decision. However, NJCAAN feels that the enclosed new material changes the landscape for the redesign and is especially significant. By submitting the enclosed additional material, NJCAAN does not intend to diminish the import of any of its earlier comments on the Draft EIS submitted in 2006, or its later 2007 comments submitted in response to the FAA proposed noise mitigations.

Four exhibits are attached that further characterize the gamut of problems due to overcrowding and delays in the NY/NJ/PHL metropolitan area and contain proposals to address the problems. Several exhibits highlight the likely ineffectiveness of the airspace redesign in addressing metro area aviation problems. The likely near term adoption a subset of the enclosed proposals may make unnecessary aspects of the airspace redesign and will certainly invalidate the operational and noise studies done for the FEIS.

1. Exhibit A: Letter from New Jersey Senator Robert Menendez to Transportation Secretary Peters and FAA Administrator Blakey

The enclosed letter by Senator Menendez requests examination of methods for limiting demand and encouraging use of larger aircraft to make more efficient use of airport and airspace facilities. The letter highlights the limited ability of technological solutions to increase capacity. The airspace redesign time frames are lengthy and achievement of efficiency goals undemonstrated. Note that the FAA denies that the airspace redesign increases capacity. Demand reduction methods encouraged by Senator Menendez also appeared in a number of comments from the public to the DEIS.

The noise impacts to New Jersey of the Airspace Redesign are clear and Senator Menendez states opposition to the airspace redesign because of them.

D-6

2. Exhibit B: Article from August 13, 2007 Wall Street Journal

The enclosed article from page A1 of the August 13, 2007 Wall Street Journal entitled, "Frequent Flying, More Trips Worsen Airport Delays," discusses the metro area delays and points out a 12% recent downward shift in the size and passenger carrying ability of aircraft using the metro area airports as a factor. The effect of this reduced aircraft size on delays greatly exceeds that of capacity and efficiency gains in the airspace redesign. This article also highlights the great influence on delays that congestion management and slotting can have based on experience at John F Kennedy (JFK) and LaGuardia Airports.

The article cites objections from various segments as reasons for the FAA not vigorously working to raise aircraft size to increase airspace usage efficiency. However, the FAA has chosen instead, to subject large environmental justice populations in the vicinity of Newark Liberty International Airport to greatly increased noise for small purported throughput gains that would be much less effective in reducing delays than demand control alternatives. Comments in Appendices N and Q of the FEIS shows enormous broadly based opposition to the proposed airspace changes that counterbalances the industry objections cited in the article.

3. Exhibit C: Article from July 12, 2007 New York Times

The enclosed article from the July 12, 2007 New York Times points out the 26.4% increase in flights and sharp increase in delays at JFK following the removal of slot restrictions. This flight increase is more than twice the 12.9% increase in number of passengers. Removal of JFK slot restrictions resulted in reduced airspace efficiency and effectiveness in carrying passengers. The article further points out a tendency for individual carriers, left to their own devices, to squander airspace efficiency to optimize their own operations.

4. Exhibit D: Article from July 9, 2007 USA Today

The enclosed article from the July 9, 2007 issue of USA today points out limitations on JFK ground operations as an additional factor creating delays. It mentions FAA pressure to get controllers to space aircraft more closely to address airspace congestion, which can hardly be considered to promote safety.

A brief comment on noise modeling errors. NJCAAN comments requested the examination of effects of errors in the FAA model on its noise impact projections, but none was forthcoming in the FEIS. The FAA states that NIRS is based upon the same calculation software (engine) as INM so it has the same limitations for accuracy. A quick review of the literature^{1 2} shows that INM can easily

¹ DP Rhodes and JB Ollerhead, "Aircraft Noise Model Validation," 2001 International Congress and Exhibition on Noise Control Engineering (Internoise 2001), The Hague, The Netherlands, 2001, Aug 27-30, Figure 3.

² DP Rhodes, S White, P Havelock, "Validating the CAA Noise Model with Noise Measurements," Environmental Research and Consultancy Department, CAA, London, Figure 4, Page 6, Paper available at http://www.caa.co.uk/docs/68/Valid_ANCON.pdf

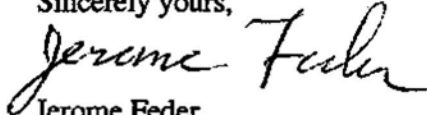
yield errors of several decibels, and commonly underestimates the noise. NJCAAN's previous comments have pointed out that large environmental justice populations in Elizabeth, New Jersey receive 3 and 5 decibel noise increases but fall just below the FAA 65 DNL threshold. Closer examination of the populations projected as receiving large aviation noise increases in view of the errors and sensitivities in the FAA models, particularly for those areas modeled as near 65DNL, is clearly warranted and yet was not done in the FEIS.

In summary, NJCAAN urges the further consideration of other alternatives for increasing airspace usage efficiency and safety as opposed to the high impact and more complex alternatives in the airspace redesign. The FEIS states a 3.7 mile increase in flight distances for the Preferred Alternative, which will increase fuel consumption and emissions. The FEIS depends on purported delay reduction to offset these increases. Given the previous behavior of the carriers, the realization of this delay reduction is questionable. By comparison, adoption of demand control methods can yield reduced delays, less fuel burn, less emissions and less noise within the current airspace design.

At this point, near term adoption of demand control methods including promotion of increased aircraft size appears likely. This, plus the increased use of Stewart Airport, can profoundly affect airspace operation. NJCAAN believes that the FAA did not adequately review all available alternatives including demand management controls and utilization of Stewart Airport, in its airspace redesign and should include these proposals as viable alternatives. As a result, any implementation should be put "on hold" until the FAA can include the pending adoption of more effective demand control methods with the alternatives. We believe that the preferred alternative falls far short of meeting the project's purpose and need of reducing the area's aircraft delays.

Thank you.

Sincerely yours,



Jerome Feder,
Director, NJCAAN.

EXHIBIT A

D-9

EXHIBIT A

ROBERT MENENDEZ
NEW JERSEY

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August 21, 2007

The Honorable Mary E. Peters
Secretary
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

The Honorable Marion C. Blakey
Administrator
Federal Aviation Administration
800 Independence Ave, SW
Washington, DC 20591

Dear Secretary Peters and Administrator Blakey:

I am writing in response to the formation of a new FAA task force to address flight delays in the New Jersey/New York area. This task force (following closely behind the formation of a similar task force by the Port Authority of New York/New Jersey) is a welcome, although overdue, development. I share my constituents' frustrations about the number of delayed flights at Newark Liberty International Airport. In June, only 54% of the flights arriving at the airport were on time. This is simply unacceptable. Solutions must be found as soon as possible.

I understand that the FAA is anxious to reduce delays by investing in an upgrade of air traffic control equipment, and I am wholeheartedly supportive of this effort. Further, I know the FAA believes its proposed airspace redesign will also ease delays. I am opposed to the airspace redesign, as currently devised, because it does not adequately address our citizens' air noise concerns. Regardless, neither of these solutions will have any impact on delays for months or even years. What we need now is for the FAA and the DOT to show leadership and devise ways to mitigate this problem immediately.

As part of its review, the FAA congestion task force should examine whether temporary limits on operations should be placed on all of the region's airports. Currently, the FAA limits La Guardia Airport to 75 take-offs or landings per hour. I understand that the FAA and the DOT have been actively assessing current operations at JFK Airport and that one airline has even asked the FAA to reestablish operating limits at JFK. All three international airports, as well as Teterboro Airport, share the same overcrowded airspace that shuttles over 100 million passengers a year. These operations are clearly at the breaking point and market forces alone will not alleviate the problem. The FAA task force should immediately take steps to assess whether caps are needed at these airports. Failing that, the FAA should at the very least convene schedule reduction meetings immediately with all relevant operators in the region.

D-10

The congestion taskforce also needs to reexamine whether these increased delays can be managed by giving more priority to larger planes, particularly during periods of extreme congestion. Corporate jets are increasingly being used to travel in and out of the region and commercial airlines are increasingly using smaller regional aircraft that only seat 37 to 50 people. The FAA taskforce should study whether sensible rules on aircraft size need to be implemented in this saturated airspace. Last year the FAA proposed minimum average sizes for the planes that fly into and out of La Guardia, but this plan faced stiff opposition. This opposition was due in part to fears that smaller airports might lose access to the region, and I certainly understand those concerns. But many of these flights are coming from or going to major international airports that can accommodate much larger planes. The Port Authority of New York/New Jersey has suggested writing aircraft size requirements into gate leases. The specifics will have to be worked out, but the task force should examine whether to impose some form of regulation maximizing the number of seats per flight in our crowded air space, particularly during periods of heavy congestion and on routes that can accommodate larger aircraft.

Lastly, I would like to know if the increased number of international flights coming into the region may be causing more domestic flight delays. My staff was informed that when flying in from overseas, international flights often lack the fuel to circle for long periods of time. This means that during times when the airports are delayed, it is the shorter-route domestic flights that must circle and wait for an opening while the international flights land. Is there a noticeable difference in delays for incoming domestic or international flights into the New Jersey/New York region? Are there steps that can be taken to address this? Please provide my staff with flight delay information for international flights coming into Newark Liberty International Airport, JFK Airport, and La Guardia Airport. Please also provide flight delay information for flights from the West Coast, Hawaii, and Alaska.

The broader problem that must be solved is that we have a severely overburdened aviation network. Market forces alone will not fix these problems. Further, technological solutions will take too long to implement and will only be able to increase capacity to a certain extent. For immediate relief and for long term planning, it is incumbent on the FAA congestion taskforce to determine as soon as possible what sensible regulations can be implemented to ease delays, cancellations and other disruptions in the near-term at our region's major airports.

I thank you for your attention to this matter and eagerly await your reply.

Sincerely,


ROBERT MENENDEZ
United States Senator

D-11

SEN. MENENDEZ CALLS FOR IMMEDIATE ACTION TO REDUCE FLIGHT DELAYS

Senator welcomes new FAA congestion taskforce and provides recommendations

Tuesday, August 21, 2007

WASHINGTON – U.S. Senator Robert Menendez (D-NJ) today urged the Federal Aviation Administration (FAA)'s congestion taskforce to immediately address flight delays in the New Jersey/New York area and provided some of his recommendations in a letter. The Senator welcomes the formation of the taskforce especially when in June 2007 only 54% of the flights arriving at the Newark Liberty International Airport were on time.

"We have a severely overburdened aviation network and market forces alone will not fix the problem," said Menendez, "For immediate relief, it is incumbent on the FAA congestion taskforce to develop sensible regulations to ease delays, cancellations and other disruptions in the near-term at our region's major airports."

Menendez believes the FAA should:

- examine whether temporary limits on operations (otherwise known as "caps") should be placed on all of the region's airports,
- immediately convene schedule reduction meetings with all relevant airlines and operators in the region,
- reexamine whether these increased delays can be managed by giving more priority to larger planes, particularly during periods of extreme congestion,
- determine whether the increased number of international flights coming into the region have increased delays for domestic flights.

To read full text of the letter to the FAA: <http://menendez.senate.gov/pdf/082107lettertofaa.pdf>

EXHIBIT B

D-13

FREQUENT FLYING
Small Jets, More Trips
Worsen Airport Delays

FAA Likes Bigger Craft
But Passengers, Airlines
Prefer Busy Schedules

By SCOTT MCCARTNEY

August 13, 2007; Page A1

At 5 p.m. last Wednesday, planes from all over were lining up in the air to land at New York's La Guardia Airport. Over the next hour, 41 flights were scheduled to touch down, but there wasn't room for them all. Thirty-three arrived late, one by three hours.

With runway space this scarce, you might think that airlines would use big planes that can carry lots of people. Instead, of those 41 flights, 21 involved small commuter aircraft. Five of them were propeller planes.

The nation's air-travel system approached gridlock early this summer, with more than 30% of June flights late, by an average of 62 minutes. The mess revved up a perennial debate about whether billions of dollars should be spent to modernize the air-traffic control system. But one cause of airport crowding and flight delays is receiving scant attention. Airlines increasingly bring passengers into jammed airports on smaller airplanes. That means using more flights — and increasing the congestion at airports and in the skies around them.

Smaller Planes, Bigger Delays
 Airlines have been increasingly using smaller planes, and congestion is adding to flight-delay problems

	Avg. seats per plane	Number of flights delayed in June
2007	137	181,007
2006	137	150,683
2005	136	139,742
2004	136	148,726
2003	137	89,441
2002	147	87,075
2001	150	111,975
2000	154	138,347

Sources: Airline Monitor and the U.S. Bureau of Transportation Statistics

At La Guardia, half of all flights now involve smaller planes: regional jets and turboprops. It's the same at Chicago's O'Hare, which is spending billions to expand runways. At New Jersey's Newark Liberty and New York's John F. Kennedy, 40% of traffic involves smaller planes, according to Eclat Consulting in Reston, Va. Aircraft numbers tell the tale: U.S. airlines grounded a net 385 large planes from 2000 through 2006 — but they added 1,029 regional jets — says data firm Airline Monitor.

As air-travel woes have spread, some aviation officials and regulators, including the head of the Federal Aviation Administration, have begun saying delays could be eased if airlines would consolidate some of their numerous flights on larger planes. Just two problems with that. One is that airlines like having more flights with smaller jets. The other is that passengers like it, too.

Illustrating the phenomenon, three airlines flying out of midsize Raleigh-Durham, N.C., send 21 flights a day into La Guardia. All but one of the flights use small planes. That's fine with David Sink, a Durham insurance executive. "There are lots of flights, so time-wise, it worked out well for me," said Mr. Sink recently, taking an American Eagle

flight home. Given a choice between more flights or larger planes, he'd prefer more flights.

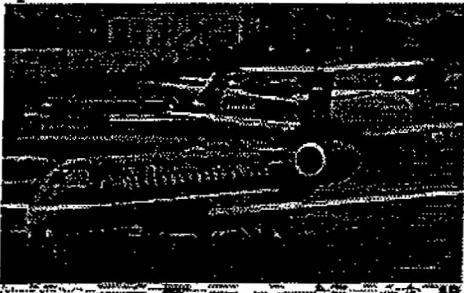
The FAA once could tackle congestion by limiting the number of takeoff and landing slots. But Congress in 2000 voted to phase out slot requirements to open up the airways to competition from low-fare carriers. The FAA sets a limit on how many takeoff and landings it can safely handle at each congested airport, but airlines are free to schedule as they want. If there are too many planes because of overscheduling or just delayed flights stacking up, the FAA slows down the flow of airliners.

At La Guardia, for example, the FAA allows 75 aircraft movements -- a takeoff or a landing is one movement -- an hour for commercial airlines in good weather. If high winds or storms drop that rate lower, the FAA asks airlines to cancel or delay flights. And sometimes the bottleneck comes not on runways, but in the air when planes from multiple airports are trying to get a spot on specific routes into or out of the area. Much of the traffic into and out of New York meshes together onto specific routes in the Washington, D.C., area; when there are too many planes, it's like multiple lanes of cars squeezing into a two-lane tunnel.

Airport Crowding

Trying to tackle airport crowding, the FAA last year proposed a complicated plan to force airlines to increase the average size of the planes they land at La Guardia. FAA Administrator Marion Blakey, questioning the use of many smaller planes and their more-numerous flights, says that "from the standpoint of passengers and from the standpoint of getting the best use out of high-priced real estate, this is not the way we should be going." But the FAA plan encountered fierce opposition and is in limbo. "A solution eludes us," Ms. Blakey says.

Smaller cities say they need the small planes in order to be connected to the nation's transportation system. Only with smaller planes can a city the size of, say, Madison, Wis., have nonstop service to La Guardia. Travelers, of course, much prefer nonstops, for speed and reduced hassles.



Commercial jetliners on the tarmac at LaGuardia Airport in New York

Airlines like the economics of small planes. For one thing, they're usually flown by lower-paid pilots and flight attendants from commuter subsidiaries or contractors. Smaller jets also let carriers bulk up their schedules without flying lots of empty seats. The combination of smaller jets and more numerous flights makes airlines' schedules more attractive to high-dollar business travelers.

Those regional jets -- planes with fewer than 100 seats -- don't just flit to small towns. Airlines cram them into their big hubs, too. Delta Air Lines flies regional jets between Atlanta and both Chicago and New York. United Air

Lines flies regional jets out of O'Hare to six cities -- Atlanta, St. Louis, Pittsburgh, Salt Lake City, Montreal and Charlotte, N.C. -- all in the 5 p.m. to 7 p.m. rush. Three-quarters of the flights between La Guardia and Toronto are on planes with fewer than 100 seats. The upshot: 20 flights a day, all competing for a shot at a runway.

The small-plane conundrum is, at least in part, a byproduct of the financial troubles of the airline industry. After Sept. 11, 2001, airlines grounded older, larger jets that were gas guzzlers. The big jets weren't needed when traffic dropped dramatically after the terrorist attacks. Airlines substituted small regional jets, subcontracting the flying. Now traffic is coming back. But many airlines have deployed most of the widebodies they have in international flying, which is more lucrative because it faces less price competition. And because of their financial woes, U.S. airlines haven't been adding many large jetliners.

Since 2002, domestic traffic by mainline airlines has increased 3.6% in terms of revenue-passenger miles, which is the number of miles that paying customers are flown, Airline Monitor says. But traffic on airlines' regional partners -- which fly the smaller aircraft -- is up 196%. The average size of jets flown by U.S. airlines, including the widebodies on foreign routes, is 137 seats, down from 160 a decade ago.

Meanwhile, flight delays have worsened every year since 2003, according to the Bureau of Transportation Statistics. In the January-June period four years ago, just under 83% of flights arrived on time; in the comparable period this year, only 72.7% did. The three big airports in the New York area are the worst for late flights. But unlike in Las Vegas, what happens there doesn't stay there: New York's delays cascade across the country.

A late arrival for one flight means a late takeoff for another, which will arrive late in Dallas or Seattle or Denver. Or, a flight from Orlando, Fla., to Pittsburgh might be delayed because the Washington-area regional traffic-control facility moves a stream of New York-bound planes to the west around storms -- clogging the route the Pittsburgh flight would use.

The problems don't arise just in bad weather. Friday, July 13, saw good weather in most of the country. But in what's called a ground stop, the FAA barred the takeoff of flights headed to Newark. Too much volume forced controllers to keep planes waiting on the ground to take off, sometimes for hours. Continental Airlines says that in 29 of June's 30 days, the FAA imposed a ground stop or ground-delay program on flights headed to Newark.

In response to Congress's mandate to phase out slot requirements, the FAA has completely eliminated them at Kennedy. And airlines have poured in more flights. Through May this year, the number of passengers at JFK is up 14% from a year earlier, but the number of flights is up 27%, says the Port Authority of New York and New Jersey, which operates that airport, La Guardia and Newark Liberty. Flights using smaller

planes leapt 85% at JFK in that period, says the Port Authority. FAA officials have reduced, but not yet fully phased out, slot requirements at La Guardia.

Size Minimums?

Searching for a new remedy, the FAA last year proposed minimum average sizes for the planes that fly into and out of La Guardia. Currently, planes using the airport average 98 seats, the agency says. It proposed that airlines' fleets would have to average 105 to 120 seats, depending on how many of their flights went to small communities. The FAA estimated this plan would reduce delays at La Guardia by 37%.

"Promoting larger aircraft is the only means to increase passenger access to La Guardia," said the FAA proposal. But opposition from airlines and smaller communities was so strong that the plan is basically dead, says the agency's Ms. Blakey.

Foes of the plan included the Port Authority, which considers aircraft size at La Guardia an airport issue. The Port Authority says it could bring about larger planes simply by writing aircraft size requirements into gate leases. It says it's studying such an idea. Former American Airlines boss Robert Crandall says Congress should let the FAA go back to controlling slots, matching scheduling to capacity. Airport overcrowding is "fixable, but it's not fixable without major policy change," the former AMR Corp. CEO said at a recent conference.

Another proposal: Change the structure of landing fees. Airports now set them by weight. A small jet pays a smaller landing fee than a large plane, even though its use of the runway is the same. Why not charge a flat fee per landing, suggest some economists -- or even charge the small jets more, to encourage airlines to shift to fewer flights on larger jets?

Yet another idea is to tie landing fees to the level of demand through the day, so they'd cost more at peak hours. This would encourage airlines to spread out flights and use bigger planes, says Dorothy Robyn, a consultant at Brattle Group and former aviation adviser in the Clinton administration. She says the current system "guarantees overuse of the air-traffic-control system because airlines aren't charged the true cost."

Airlines say tinkering with landing fees, which are only about 2% of total costs, wouldn't change their behavior, because customers want the convenient service possible when they use lots of smaller planes. Carriers say less use of small jets would make it harder for them to offer off-peak flights. "We put [regional jets] into some markets because we don't have demand at certain times," says David Seymour, vice president of operations control at US Airways Group Inc. Airlines add that less use of smaller jets also would reduce connection options for people on long transcontinental or international trips. With its commuter affiliates using smaller planes, US Airways flies nine trips a day from La Guardia to also-congested Philadelphia International Airport. There, most passengers connect to other flights. The arrangement allows US Airways to offer New York customers more options for long trips.

Carriers contend that without changing rules, the FAA could do a better job of moving traffic into and out of the Northeast. They note that JFK has four runways, but usually only two are used at once. The reasons are complicated, and include a limited number of permissible flight paths, as well as bottlenecks that can result in the Washington area. A push this year to use three JFK runways at once has had mixed results.

An almost decade long effort to redesign the designated airways around New York to move airplanes faster and more efficiently is still bogged down in regulatory review. Neighborhoods that might face more noise have been trying to derail the plan in Congress.

Surge In Flights

The FAA says it is doing the best it can with old equipment and a surge in flights. The agency's Ms. Blakey says she thinks airlines will eventually have to switch to larger jets because of the costs that delays impose on the airlines, in inefficient use of planes and fuel. Even such a shift wouldn't fix all the delay issues, though, she says: "La Guardia is always going to be a bottleneck."

With delays climbing, airlines face a tough choice unless the FAA can boost capacity. Carriers have to accept delays, or else reduce flight frequency. Not wanting to risk losing passengers to competitors, airlines are showing scant interest so far in consolidating their numerous small-plane flights into fewer flights with bigger planes.

On Nov. 4, American Airlines will offer new nonstop flights between New York and Flint, Mich. American will send a morning flight to La Guardia and a flight back to Flint at 6:40 p.m., adding to the competition at La Guardia for precious runway space. The jets American will use: 37-seaters.

Write to Scott McCartney at middleseat@wsj.com

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EXHIBIT C

D-19

NY Times—July 12, 2007

Ending a Limit on Kennedy Flights Increases Passengers and Delays

By KEN BELSON

In the past six months, Richard W. Petree Jr. has reluctantly settled into a routine. He boards an evening flight at Kennedy International Airport, sinks into his seat and waits for the pilot to tell passengers that their departure will be pushed back an hour. Then he returns to his BlackBerry until the next broadcast about further delays.

"An hour and a half to two hours in a queue on the tarmac is now absolutely typical," said Mr. Petree, an investment banker from Manhattan who flies frequently to Budapest, Dubai, Istanbul, London, Riyadh and other points overseas. "No one looks up from their reading anymore when the announcement is made. And the airline acts as if we should expect delays."

The situation is increasingly common at Kennedy, where delayed departures are now as bad as at Newark Liberty International and worse than at La Guardia.

The main cause was a federal decision at the start of the year to remove the limit at Kennedy on the number of arrivals and departures between 3 p.m. and 8 p.m. Not surprisingly, airlines rushed to offer new flights, quickly clogging the airspace, runways, taxiways and gates at Kennedy.

In many cases, smaller regional jets that seat only up to 70 passengers account for many of the new flights, yet the demands they place on air traffic controllers are similar to those of larger jets.

This helps explain why the number of flights at Kennedy surged 26.4 percent in the first four months of this year compared with the same period last year, even though the number of passengers increased only 12.9 percent over the previous year, according to monthly figures compiled by the Port Authority of New York and New Jersey, which operates the airports. In all, Kennedy handles about 1,200 flights a day.

At La Guardia, where the limits are still in place, flights decreased 1 percent, and at Newark, where the limits were not in place, flights rose 6.9 percent.

To handle the additional traffic, the Federal Aviation Administration has started allowing Kennedy to use three of its four runways at the same time for longer periods during the day. Still, the Bureau of Transportation Statistics says that from January through May, 29.1 percent of all departures there have been delayed, up from 18.1 percent in the same period last year.

"The bottom line is you can only get so many planes in," said William R. DeCota, director of aviation at the Port Authority. "The airspace and runways can probably be handled more

D-20

efficiently, but that requires new procedures and technology."

Beset by delays, in May the Port Authority set up a task force made up of airline executives, regulators and other officials to consider ways to loosen the current bottleneck at Kennedy as well as handling the additional 25 million passengers a year that are expected by 2015 at the area's three major airports.

The task force, which will meet for the first time on Wednesday, can discuss such things as management of the taxiways and gates and issues related to the size of the planes — all factors related to the bottleneck — but it is not permitted to bring up scheduling because of antitrust regulations. In addition, the Port Authority has no jurisdiction over the airlines, many of which support using regional jets.

"There are a lot of markets where the distances aren't that great, and for fuel and scheduling purposes, it makes more sense to use smaller planes," said Sametta C. Barnett, director of government affairs at Delta Air Lines. "You have to have domestic feeds to get people from across the 50 states to the international flights."

In the case of Delta, flights on smaller regional jets account for about 61 percent of Delta's departures to 86 cities from Kennedy.

The airlines, while deploring the delays, do not speak in a single voice. JetBlue, which does not use any regional jets, says the delays penalize low-cost carriers that do not discount fares. As a result, JetBlue asked the aviation agency last month to reimpose traffic limits at Kennedy if delays cannot be reduced.

"The F.A.A. has a responsibility that demand at the airport does not outstrip capacity," said Robert C. Land, senior vice president for government affairs at JetBlue.

International carriers, which bunch their departures for Europe and the Middle East at night, are also frustrated because their jumbo jets must also jockey with regional jets on the taxiways.

"The delays are wreaking havoc because we have to pay our airport staff more overtime and folks are missing connections at our hubs in Germany," said Jennifer Urbaniak, a spokeswoman for Lufthansa. "In every one of these cases, we try to make up for the delays by flying as fast we can. But that's not the answer."

The Port Authority is trying to persuade the airlines to cut the number of flights and use larger jets by reminding them of how delays affect their bottom line. Delivery companies like DHL, for instance, promise to repay customers whose packages are not delivered on time. JetBlue has a Customer Bill of Rights that entitles passengers whose scheduled departures are delayed to vouchers for discounts on future flights.

The Port Authority may also prefer that airlines use larger planes because they pay higher landing fees, which are based on an aircraft's weight. The agency also collects \$4.50 from every departing passenger with a paid ticket. That money goes toward airport improvements, and even though passenger numbers are up, this is another reason to use larger planes with more seats.

D-21

"If we get more people in, we get more money in," Mr. DeCota said. "It means you pay off projects faster."

For the longer term, the aviation agency is introducing new technology that will allow jets to fly more efficiently. It is certifying flight crews to use satellite-based systems that enhance a plane's ability to make more precise turns as it prepares to land. By doing so, fewer planes to Kennedy will be on paths that overlap with flights heading to La Guardia, reducing delays there.

Some JetBlue pilots are already using the system in clear weather at Kennedy.

In addition, another kind of satellite technology will enable planes to fly closer together, particularly in bad weather, reducing potential delays, and the aviation agency is redesigning the region's airspace to redirect the flow of arrivals and departures more efficiently.

"We're talking about satellite systems with a lot more precision that will change the role of air traffic controllers," said Mike Cirillo, vice president for system operation services at the Federal Aviation Administration. Still, these are long-term solutions for current problems and are cold comfort to passengers waiting for hours to arrive and depart at Kennedy.

Victoria Printz, a business consultant from Manhattan, found that out while circling the airport for 90 minutes on a recent flight from London.

"The pilot said it was his longest approach to J.F.K. since he started flying," she said.

Jeff Bailey contributed reporting.

D-22

EXHIBIT D

D-23



Problems at JFK ripple through U.S. aviation

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Enlarge By Todd Pitt, USA TODAY

Traveler Lor-e Philips, whose flight home to Los Angeles was canceled, waits with her luggage last month in the JetBlue terminal at JFK Airport. JFK is projected to handle more than 480,000 flights this year.

By Alan Levin, USA TODAY

NEW YORK — John F. Kennedy International Airport has long been known as the nation's gateway to the world, but by 6 p.m. on a recent Monday it looked more like a dysfunctional parking lot.

A conga line of arrivals sat on an unused runway more than a mile from the gates. The main taxiway was clogged by a dozen jets waiting to depart. Another dozen, mostly hulking wide-body arrivals from Europe, were clustered at the northwest corner of the airport — an area chosen to keep them clear of the growing chaos.

As some jets waited for hours to move, the frustration increased. An unidentified pilot on Comair Flight 5233, which had arrived from Burlington, Vt., about 90 minutes earlier, asked the tower for help getting to his gate because his jet's air conditioner was broken. "Our cabin temperature is getting up into the 90s right now," the pilot said.

"Call your company and tell them to find gates for all those guys in front of you," a controller replied, according to a recording of the conversation provided by LiveATC.net, a website for aviation professionals that monitors air-traffic communications. "I can't move anyone out."

JFK, one of the nation's most storied airports — and the most popular for flights into and out of this country — is choking on delays, creating a ripple effect throughout the U.S. aviation system. More than four decades after Euro Saarinen's wing-roofed TWA terminal here helped introduce modern architecture, jetways and other innovations to airports, JFK's terminals often are a crowded mess — symbolic of how a range of vexing problems in the aviation system come together in New York.

FIND MORE STORIES IN: Federal Aviation Administration | Delta Air Lines | JetBlue Airways | JFK | Administrator Bobby Sturgeon

At JFK, increasing competition has fueled a dramatic rise in domestic flights in recent years, putting more stress on the most tangled piece of airspace in the world.

It's an area roughly 20-by-20 miles that sees well over 1 million flights a year, including those passing through nearby LaGuardia and Newark Liberty International airports. JFK handles nearly 400 international flights a day, but domestic flights now outnumber international ones by 2 to 1.

Air traffic analysts and federal officials say JFK and its neighboring airports are examples of what busy hubs could look like in the future. Airports in several metro areas, notably San Francisco, are seeing increased flight delays stemming from congestion.

http://www.usatoday.com/travel/flights/2007-07-09-jfk-cover_N.htm

D-24

Through May this year, about four in 10 flights at JFK, LaGuardia and Newark were at least 15 minutes late, the nation's worst delays for the period in the past decade, according to the federal Bureau of Transportation Statistics.

On Feb. 14, an ice storm crippled JFK, which led JetBlue Airways to strand aircraft on the ground for up to 10 hours in an incident that drew national attention to airlines' struggles with delays.

A USA TODAY examination of the reasons behind the delays at JFK finds several factors, some of them entrenched and difficult to change:

-The patchwork of air routes available to jets over New York, last updated 20 years ago, requires controllers to put aircraft in holding patterns nearly every day because they simply run out of room. The Federal Aviation Administration (FAA) is trying to revamp the flight lanes, but the effort faces intense opposition from local communities concerned about increasing noise in several areas. Opposition could delay the FAA's effort for years.

-Tension between the FAA and its controllers heightens the delays. The Port Authority of New York and New Jersey, which manages the region's airports, has found that fewer aircraft have reached runways each hour in recent years because controllers have added more space between planes than required.

The increased spacing comes in the wake of a dispute between the controllers union and the FAA over how to discipline controllers who allow planes to get too close to one another.

FAA Deputy Administrator Bobby Sturgell says the FAA has imposed measures to encourage controllers to run planes closer together. But the plan has become emblematic of the ongoing debate of how to maintain safety while allowing more air traffic.

-Airline competition has helped to clog JFK. During the past two years, Delta Air Lines has sharply increased flights as the number of international flights also has risen.

Officials at JetBlue, the 7-year-old carrier that has become JFK's leading airline, carrying 11.5 million passengers into and out of the airport, have taken the unusual step of endorsing limits on flights because they say that at peak times, airlines are scheduling more flights than JFK can handle.

-Construction to prepare JFK for the mammoth Airbus A380 — set to begin airline service this year in Asia and Europe — has blocked key taxiways. That's added to flight delays because controllers can't efficiently move jets from one side of the airport to the other. During the construction, one taxiway was moved and others were reinforced.

The problems illustrate how fragile the aviation system has become at its busiest airports, says John Hansman, a professor at the Massachusetts Institute of Technology who studies air traffic.

"A few things start to go wrong, and then it cascades," he says.

In recent months, the problem has prompted a flurry of activity by airlines, the Port Authority and the FAA.

Delta has successfully lobbied the FAA to make more use of JFK's four runways so additional jets can land each hour. The airline industry's Washington trade group, the Air Transport Association, last month demanded that the FAA add flight routes in the New York area. The Port Authority formed a task force to address delays. In response, the FAA has sent a team to New York to study JFK's problems.

"We are putting a lot of focus on it," Sturgell says. "We know it's important to our national system as well as the citizens flying into and out of the New York area."

Sturgell says JFK's problems won't be solved without new technologies the agency plans to introduce in coming decades, such as satellite-based navigation that will allow aircraft to safely fly closer together.

"It speaks to the limitations of the current air traffic system," Sturgell says.

A boost from JetBlue

D-25

http://www.usatoday.com/travel/flights/2007-07-09-jfk-cover_N.htm

Built on marshland in Jamaica Bay about 12 miles from Manhattan, JFK originally was known as Idlewild, the name of the golf course that once was on the site.

By the late 1990s, its distinctive terminals had become worn, top carriers such as Pan Am had gone out of business and the bulk of traffic into New York City had moved elsewhere. LaGuardia and Newark both had far more flights.

But in 2000 an upstart airline, JetBlue, saw potential in the underutilized airport and began offering low-cost flights there.

Within three years, it was the airport's top airline, and it has continued to grow. It now has about 344 flights a day.

Other carriers followed JetBlue's growth, particularly Delta. During the past two years, it and its partners nearly doubled the number of daily flights at JFK to 362.

Now JFK handles more flights a day than its New York rivals and has grown at a faster rate since 2000 than any other large U.S. airport, according to FAA data.

JFK is on a pace to handle 460,000 flights this year, 33% more than 2000, the Port Authority says.

'Stacked full of airplanes'

The impact of that growth shows on days such as Monday, June 11.

Late that afternoon, a line of intermittent storms moved up the East Coast, slowing air travel. FAA air traffic managers at the agency's Command Center near Washington, D.C., ordered controllers at JFK to halt most domestic departures but allowed arrivals to continue.

As more and more jets arrived, controllers ran out of places to put them. Barking orders in staccato bursts, they tried to keep taxiways clear by moving arrivals to an unused runway. But the effort couldn't keep the taxiway in front of Delta's terminal clear.

The pilots of Delta Flight 133 from Athens, one of the jets that had been sent to the far side of JFK, radioed shortly after 5:30 p.m. to say the airline was holding taxiway "lima-alpha" open for them so they could reach the terminal. The controller replied that the taxiway was full of planes.

Controller Barrett Byrnes, president of the local controllers union and one of those on duty in the tower that day, says the scene has become typical.

"It's not every night, but it's most nights," Byrnes says. "When you overburden an airport, as delays begin to happen, you are never able to recover from them. Once the delays start, it's over."

Inefficient routes

Former controller Steve Kelley recalls being struck 20 years ago by the inefficient routes that planes in the New York area followed. Little has changed since then.

Nowhere else in the world do so many aircraft converge into such tight confines as New York.

If the weather is bad at JFK, for example, one of the airport's runways is unusable because the route required for a low-visibility approach interferes with flights at other airports. JFK's four long runways could handle more flights, but the area's controllers can't accept more aircraft.

Kelley, who now manages the FAA's effort to redesign flight corridors on the East Coast, says using modern technology such as highly accurate aircraft routes guided by satellite would help reduce delays at JFK and other area airports.

For example, the delays on June 11 were triggered by a few small thunderstorms. One of the features of the FAA's plan would allow planes to use additional routes outside the region, so they would have more paths to fly around storms, Kelley says.

However, the FAA's experience in New York shows it won't be easy to make such changes.

D-26

http://www.usatoday.com/travel/flights/2007-07-09-jfk-cover_N.htm

The prospect of rerouting aircraft across the region has created bitter opposition. Public meetings on the plan have been contentious. Virtually no elected official in the region has endorsed the idea.

The FAA has concluded that the number of people affected by noise from aircraft would drop because of plans to keep more planes over the ocean, rivers and highways, but some communities that rarely hear aircraft noise would get more of it.

Area congressmen have asked the Government Accountability Office to study the FAA's plan.

"I'm extremely concerned that this airspace redesign is a colossal mistake," says Rep. Robert Andrews, D-N.J.

More space between planes

Looming in the background of JFK's delays are disputes between controllers and FAA managers.

Two years ago, the FAA found that controllers at the New York Terminal Radar Approach Control center, which handles aircraft below 18,000 feet in a roughly 50-mile radius around the city, routinely were bringing planes slightly closer together than the rules allowed (typically 3 nautical miles).

The facility's union president, Dean Iacopelli, says that since then, several controllers have been disciplined for minor traffic-directing infractions that previously would not have drawn punishment.

The FAA's move has led controllers to put more space between planes, prompting a decline in capacity at New York's airports, says Tom Bock, the manager of airspace and operational enhancements for the Port Authority.

Iacopelli says controllers are simply trying to follow the directions they are receiving from management. The FAA is investigating ways to allow controllers to squeeze more aircraft together while staying within their guidelines, Sturgell says. The agency recently eased its rules regarding minor infractions.

Byrnes and Iacopelli say declines in staffing at New York facilities also have added to delays. Controllers have had increasingly tense relations with the FAA since it imposed pay cuts last year. The FAA says staffing levels are adequate and that it's hiring more controllers.

Endless wait times

As darkness fell on JFK on June 11, delays continued to stack up.

Some of the storms that blocked domestic routes drifted over the Atlantic Ocean, forcing a halt to departures to Europe.

By evening, every flight leaving JFK was late and some jets sat for hours waiting to leave. One pilot waiting for departure clearance asked the tower how long he should expect to wait.

"If I had that answer, I'm in the wrong job," a controller responded, according to a recording of the conversation provided by LiveATC.net. "... I couldn't even begin to tell you."

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D-27

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Pete CTR
Nelson/AEA/CNTR/FAA
09/05/2007 10:01 AM

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Subject Fw: Comments on NJ/NY/PHL Airspace Redesign

These comments were hand delivered to the FAA Administrators office on FRI 8 31 07...

Peter A. Nelson
Senior Management Analyst Air Traffic Operations
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— Forwarded by Pete CTR Nelson/AEA/CNTR/FAA on 09/05/2007 10:00 AM —



<steve.kelton@hklaw.com>
09/05/2007 09:48 AM

To Steve Kelley/AEA/FAA@FAA

cc Pete CTR Nelson/AEA/CNTR/FAA@FAA

Subject Comments on NJ/NY/PHL Airspace Redesign

Dear Mr. Kelley:

On behalf of the County Attorney of Rockland County, New York, we provide the following comments on the Final Environmental Impact Statement on the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign ("EIS")(July 2007). (Please note: the attached comments and reports were also delivered to you care of the FAA's DC headquarters on Friday, August 31, 2007.)

<<FAA ltr from LRL to Blakey.pdf>>

<<Rockland County Comments.pdf>>

<<Fidell Report.pdf>>

<<Lane Report.pdf>>

<<Beckmann Report.pdf>>

Sincerely,

D-28

CFEIS # 4

FAX TRANSMITTAL

TO: Steven Kelly Project Manager
FAA
One Aviation Plaza
Jamaica, NY 11434
ATTENTION: PETE NELSON

FROM: Chris Seidel, Secretary

DATE: August 31, 2007

RE: **Airspace Redesign Proposal for New York Area**

Attached is a copy of the "Comment" by Chairwoman Harriet Cornell. A hard copy of this document was mailed to Hon. Marion C. Blakey today.

D-29

314 708 7849 P.01/04

CHAIRMAN, RC LEGISLATURE

AUG-31-2007 15:29

The Legislature of Rockland County



HARRIET D. CORNELL
Chairwoman

Comment by
Hon. Harriet Cornell
Chairwoman, Rockland County Legislature
Airspace Redesign Proposal for New York area

When the F.A.A. announced its "preferred airspace redesign alternative for the New York area," it highlighted issues such as reducing delays and making air travel more reliable. But there was no mention of the millions of people who would not be purchasing airline tickets—people who live and work directly in these flight paths—who would be the most affected and disadvantaged by this "preferred airspace redesign alternative." The FAA Preferred Alternative clearly affects our quality of life.

Rockland has long been considered one of the most attractive places to live in the New York Metropolitan region. We have wonderful schools, state-of-the-art health care and extensive outdoor recreational opportunities. The FAA owes it to the residents of Rockland County to listen to our concerns and revamp accordingly—even if it means going back to the drawing board.

Thanks to an editorial in The Journal News on July 17, 2007, I learned that the County of Westchester had hired an independent consultant in 2006 to review the FAA plans. In September of 2006 the FAA made a commitment, based upon initial comments on the DEIS submitted by Westchester, to provide the noise data needed in order for the consultant to investigate issues of concern. It took almost eight months for the FAA to send the data, which was received two days before the close of the comment period in May 2007. I obtained a copy of the in-depth Report that Westchester County sent to the FAA after they analyzed the late-arriving data on Noise Mitigation. And while it may not be relevant to comment about some of the strictly Westchester-based analysis, I can extrapolate what appears to be a major flaw in the FAA proposal.

What the FAA did not do is compare the Mitigated Preferred Alternative to the NO Action Alternative.* What they did do was to compare the Mitigated and Unmitigated versions of FAA's Preferred Alternative. While that comparison is of value in understanding the benefits of proposed mitigation, comparison of the Mitigated Preferred Alternative to the No Action Alternative would answer the question of greatest concern to our residents: "*How will aircraft-related noise exposure change for me if the FAA pursues its proposed action?*" The fact that this comparison was not made is a fatal flaw!

D-30

The Rockland County Legislature - Allison-Parris County Office Building - 11 New Hempstead Road - New City, New York 10956]

P.02/04

914 708 7849

CHAIRMAN, RC LEGISLATURE

AUG-31-2007 15:29

In addition, FAA Order 1050.1E "Environmental Impacts: Policies and Procedures" states that noise exposure should be "compared to the No Action alternative for the same time frame." If that were done, it would show the change that the community would likely experience at the time of implementation.

The practice of comparing the mitigated and unmitigated versions of the Preferred Alternative has confused many members of the public who think the unmitigated version means the same as No Action. The FAA is attempting to make changes that will profoundly affect the residents of our region "under the radar screen."

I call for the FAA to change its stance and prepare a Supplemental EIS or Supplemental Environmental Assessment and allow for public comment on that document to clarify and ensure that all relevant issues are aired. This should include an analysis of suggestions made at the July 30 meeting in Rockland and others made in writing. A valuable suggestion submitted from Village of Sloatsburg Trustee Brian Nugent and deserving of attention relates to the Modifications to Existing Airspace (MTE) Alternative which would fan out departure routes while leaving the existing arrival paths in their current locations. This would eliminate the controversial Newark Runway 22 flight path over Rockland.

In addition the public comment period should be extended to give this county and others an opportunity to analyze the noise, air and water quality impacts. We cannot take the word of this federal agency that its redesign would have little impact on our communities, because its stated goal is something else entirely. *The FAA is focusing on the ever-increasing numbers of flights and the long delays at airports, not the quality of life of those on the ground.*

Considering the increase in air traffic from Stewart Airport which has already been reported as a result of additional air carriers, and which will continue to grow under the management of the Port Authority—and the fact that air traffic from Stewart was not considered or analyzed by the FAA—I believe that the Redesign Proposal is deficient and should not be implemented.

Very little has been said about air quality. With up to 600 planes flying over Rockland every day, I want to know if the FAA has hard information on how this will affect the quality of our air? In 2004, the U.S. Environmental Protection Agency identified 10 counties in New York State that are not in compliance with the EPA's health-based standards for fine particle pollution. Rockland is one of those counties. The EPA, through the auspices of the Clean Air Interstate Rule, has promised to bring Rockland and other counties up to standards by 2010. If these flights are to begin flying over the county in 2011, what will happen to our compliance with these vital health standards?

The proposed flight pattern could send 600 flights a day directly over Rockland's U.S. EPA Federally Designated Sole Source Aquifer. In addition to the pollution that will reach the ground and affect the aquifer, there is also the danger of an aircraft disaster that

D-31

would be a major catastrophe affecting over two million people who depend on this aquifer for their water.

As others have so eloquently stated, there will be a deleterious effect of the airplane noise over our parks. Increased airplane noise will certainly have a negative effect on the enjoyment of our open spaces as well as a negative effect on the fauna in our parks.

As part of the public record I wish to commend Legislator Pat Withers from the Town of Ramapo for his leadership role in bringing these proposed changes to light, together with Legislator Pat Moroney of Orangetown. Elected legislative leaders in Rockland, its towns and villages should have received direct notice from the FAA years ago and hearings should have been scheduled to obtain local input. I also wish to thank Congressman Eliot Engel for arranging a meeting in Washington with FAA officials followed by a public meeting in Rockland. Thanks also to Ramapo Town Supervisor Christopher St. Lawrence for hosting a televised public meeting; to other elected officials who traveled to Washington and all Rockland citizens who have joined in solidarity to prevent implementation of this redesigned airspace which poses such threats to the quality of life.



Harriet Cornell
 Chairwoman, Rockland County Legislature
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 Tel: 845-638-5100
 Fax: 845-708-7849
cornellh@co.rockland.ny.us

Dated: August 30, 2007

** If the FAA did this comparison, it was not included in material distributed to the public or in any form comprehensible to lay people or in any form recognized by professionals (see Report by Harris Miller Miller & Hanson, Inc. for the County of Westchester, dated June 22, 2007) or presented orally at either of the two meetings hastily held in Rockland.*

D-32

3

ELIOT L. ENGEL

17TH DISTRICT, NEW YORK

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FOREIGN AFFAIRS
CHAIRMAN
WESTERN HEMISPHERE
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EUROPE

MIDDLE EAST AND SOUTH ASIA

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August 31, 2007

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Federal Aviation Administration
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To Whom It May Concern:

I write to express my continuing opposition to the FAA continuing to adopt the ill-conceived airspace redesign plan. The FAA is continuing to force this plan on hundreds of thousands of people whose quality of life will be dramatically affected by it, and who simply oppose this plan. Rather than listen to and address their concerns, the FAA sought to bypass the people of Rockland and Westchester Counties, who are directly affected by it, and move forward with the plan.

In addition, it is completely unacceptable that a federal agency would fail to contact federally elected officials, representing the affected area, with information about how a change in flight routes which adversely affects their constituents' quality of life.

Locally affected areas deserve to have their voice heard, through an on-the-record meeting. My constituents in Rockland deserved to have their voices heard, and this right was denied to them by the FAA. This entire process was poorly handled from the beginning.

There are a number of scenarios that the FAA could have used instead of their current proposal, all of which would have been better for the affected people of Rockland and Westchester Counties. And if the residents of these counties had been able to comment on the record with the FAA in attendance, the plan might have been dramatically altered.

Furthermore, we still have not received answers to critical questions that we have been asking for months. For example, how loud will it be when a plane flies overhead at 6,000 feet? This will be happening up to 600 times per day, and we deserve an answer to this question. We have been given 24 hour averages, but averages mean nothing to us when we don't know how loud a single plane will be. We also need to reconcile the fact that

D-33

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certain proposed overflight areas have higher elevations which will certainly bring substantially more noise than areas with a lower elevation.

And what about pollution? We live in a metropolitan area of over 15 million people, with pollution coming from various sources, which includes the Thruway, carrying over 150,000 cars a day. Having 600 airplanes flying over our neighborhoods every day adds concerns of asthma, cancer, and other respiratory illnesses.

These are just a few of the many concerns that New Yorkers have about this proposal. Other concerns such as the potential growth of Stewart International Airport, flying planes over the Indian Point nuclear power plant, and the negative impact on property values in the affected areas, remain unresolved.

I absolutely cannot support this proposal until our concerns are addressed. We have far too many questions that are being left unanswered, and we require satisfactory answers before giving serious consideration to the redesign plan.

Sincerely,

Eliot L. Engel
Member of Congress

D-34

Holland Knight

Steve Kelton

Holland & Knight LLP

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protect confidentiality. [FAA lr from LRL to Blakey.pdf](#) [Rockland County Comments.pdf](#) [Fidell Report.pdf](#) [Lane Report.pdf](#)



[Beckmann Report.pdf](#)

D-35

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August 31, 2007

VIA UPS

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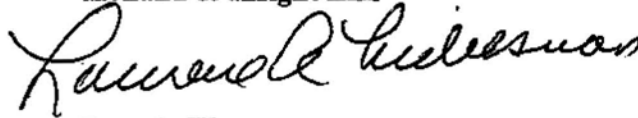
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Dear Administrator Blakey and Mr. Kelley:

On behalf of the County Attorney of Rockland County, New York, we provide the following comments on the Final Environmental Impact Statement on the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign ("EIS")(July 2007).

Sincerely,

Holland & Knight LLP



Teno A. West
Lawrence R. Liebesman
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D-36

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August 31, 2007

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Dear Administrator Blakey and Mr. Kelley:

On behalf of the County Attorney of Rockland County, New York, we provide the following comments on the Final Environmental Impact Statement on the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign ("EIS")(July 2007).

Teno A. West
Lawrence R. Liebesman
Steven Kelton

D-37

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Executive Summary	2
• The EIS's Purpose And Need Statement Is Too Narrow.	2
• The FAA's Treatment Of Alternatives And Presentation Of Mitigation Measures Violates Nepa.....	2
• The Potential Property Value Loss From The Airspace Redesign As Set Forth In The Beckmann And Lane Reports Requires Additional FAA Review And Reconsideration Of Its Preferred Alternative.	2
• The Noise Impact Methodology Used By The FAA Is Unreliable And Has Been Discredited By Experts In Peer-Reviewed Studies.....	3
• The EIS Does Not Adequately Address Environmental Justice Concerns.....	3
• The EIS Does Not Adequately Assess Secondary And Cumulative Effects.	3
• Noise Impacts On Sensitive Public Parkland, Recreational Areas, Wildlife And Waterfowl Refuges And Significant Historic Sites Have Not Been Adequately Addressed.....	3
• The FAA's Use Of Out-Of-Date And Incomplete Information Requires Supplemental Nepa Documentation With Public Comment.	4
<u>ANALYSIS</u>	4
(A) The EIS's Purpose and Need Statement is Too Narrow and Ignores Congressional Action Making Aircraft Noise Reduction a Fundamental Part of FAA's Mission.....	4
(B) The FAA's Treatment of Alternatives and Presentation of Mitigation Measures Violates NEPA.	8
(C) The Preferred Alternative's Impact on Real Property Values is, by itself, Reason for Reconsidering all Options.	11
(D) The Noise Impact Studies Use an Unreliable Methodology, are Biased, and are so Speculative that More Studies are Necessary.	12
(E) Environmental Justice Concerns are Still Present and Unacceptable.....	13
(F) The Inevitable Secondary and Cumulative Effects Require Additional Discussion.	15

(G) The Impacts on Section 4(f) Resources Require, at a Minimum, Additional Comment Period Before the ROD can be Released.18

(H) The Out-of-Date or Incomplete Information Require a Supplemental NEPA Document and Public Comment.....19

REPORTS

1. Sanford Fidell, PhD., Critique of Aircraft Noise Analysis of Final Environmental Impact Statement for New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign
2. Theodore Lane, PhD., Impact of Aircraft Noise Over Rockland County, New York
3. Beckmann Appraisals, Inc., Preliminary Real Property Impact Analysis on Tax Assessments

INTRODUCTION

Rockland County is New York's southernmost county west of the Hudson River. The area is a suburban county home to nearly 300,000 people; its citizens live among five towns containing 19 incorporated villages. The area has long been considered one of the most attractive places to live in the New York metropolitan region, with wonderful schools, state-of-the-art health care, and extensive outdoor recreational facilities.

County and regional residents alike have come together on this important issue: to express outrage over the noise and other impacts from the preferred alternative in the Federal Aviation Administration's ("FAA") Final Environmental Impact Statement on the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign ("EIS")(July 2007) on the Agency's airspace redesign. Indeed, nearly 1,200 people of all races, religions, ages, and incomes came to a public meeting recently to send a loud message of concern that, if distilled to one sentence, would read: FAA, delay this important decision until significant unresolved issues can be adequately aired and evaluated. The citizens' concern is strengthened by the fact that the U.S. Environmental Protection Agency ("EPA"), in its comments on the draft EIS, gave the document a grade of "EC-2"—the lowest grade that EPA can give to an EIS/draft EIS without substantial internal elevation through the Associate Administrator and potentially the Deputy Administrator. The Department of Interior has also raised strong concerns about the FEIS noise impacts to park land and historic resources enjoyed by County residents.

The County originally believed that it would be spared the brunt of the impact from this airspace redesign. It is now apparent, however, that the Preferred Alternative will significantly impact County residents by routing hundreds of flights a day over the County's airspace. The County is now facing the very same kind of impacts as other municipalities in New Jersey, New York, Pennsylvania and other nearby states whose residents are going to be negatively affected by increased traffic, noise, and other impacts of the airspace redesign.

It is absolutely critical for the FAA to address significant issues that have not been satisfactorily addressed to date through the National Environmental Policy Act ("NEPA") process. There is a lot at stake for the entire region, including Rockland County. This pending decision is about quality of life issues that face tens of millions of Americans in the region with wide-ranging effects. Rockland County believes that the path to the best decision is based on the fundamentals of NEPA: full disclosure by the FAA, public participation, and sound science. Faced with an airspace redesign that could last the next fifty years, the worst thing would be to rush to judgment without a full review of all potential impacts because of some artificial deadline. Unfortunately, it appears that the FAA is doing exactly that.

The County Attorney is submitting these comments before the Record of Decision ("ROD") is issued as allowed under NEPA.¹ The comment period must be reopened and the

¹ See 40 C.F.R. § 1503.1(b) ("In any case other agencies or persons may make comments before the final decision unless a different time is provided under Sec. 1506.10"). Since the EIS was published in the Federal Register on August 3, 2007, a final decision cannot be made before September 4, 2007. See 40 C.F.R. § 1506.10(b)(2) ("No

FAA should prepare a supplemental NEPA analysis and seek public comment on that analysis. The ROD should not be released until that process is completed and the serious deficiencies in the current EIS, outlined in our comments below, are fully addressed. Indeed, under 40 C.F.R. § 1506.10(d), the FAA as the lead agency on this EIS has full authority to reopen and extend comment periods under NEPA to seek the public's views on significant issues that have not been adequately addressed. The "compelling reasons of national policy" demand such action. Id.

Executive Summary

- **The EIS's Purpose and Need Statement is too narrow.** FAA's exclusive focus on increasing efficiency and reliability and rejection of noise reduction conflicts with repeated Congressional action making aircraft noise reduction a fundamental part of FAA's mission. Congress's noise reduction mandate was made unequivocally clear when it passed the Airport Noise and Capacity Act of 1990. Congress has reaffirmed that directive on numerous occasions through the federal appropriations process by insisting that the FAA address aircraft noise specifically with respect to the New York/New Jersey/Philadelphia ("NY/NJ/PHL") airspace redesign process. In fact, the FAA's continuing disregard for aircraft noise reduction as fundamental to the redesign has drawn frequent criticism from members of Congress.
- **The FAA's treatment of alternatives and presentation of mitigation measures violates NEPA.** The FAA's narrow focus has resulted in an EIS that improperly "skews" the Agency's approach toward consideration of alternatives. This violates NEPA's mandate that agencies "rigorously explore and objectively evaluate all reasonable alternatives." In particular, the FAA's rejection of the Ocean Routing alternative as not worthy of serious consideration ignores the significant benefits of that alternative in reducing impacts on communities and sensitive populations. Further the FAA's failure to take a system-wide, "holistic" approach has resulted in the failure to seriously consider other alternatives such as efficient use of existing facilities by larger jets, peak hour demand control and use of alternative transportation modes for short and intermediate trips. Further, the FAA's failure to objectively compare the mitigated preferred alternative to the No Action alternative distorts the true impacts to the citizens of Rockland County who will experience noise impact from hundreds of flights every day with direct and measurable impacts on resident's quiet enjoyment which will lower property values.
- **The potential property value loss from the airspace redesign as set forth in the Beckmann and Lane Reports requires additional FAA review and reconsideration of its preferred alternative.** The FAA's Preferred Alternative's impact on real property values is, by itself, reason for reconsidering all options. We include two reports by experts in the field of assessing aircraft noise impacts on real property values and related effects on the tax base. Dr. Theodore Lane of Lane/Thomas and Associates concludes

decision on the proposed action shall be made or recorded . . . until . . . (2) Thirty (30) days after publication of the notice described above in paragraph (a) of this section for a final environmental impact statement").

D-41

that the socio-economic impacts of the airspace redesign actually underestimates the actual noise impacts. While the absolute noise levels may be moderate, he believes that the relative aircraft noise levels will increase significantly which could have major indirect effects on the County. The report by Beckmann Appraisals of Tappan NY, draws upon that Firm's extensive knowledge and experience with real estate in Rockland County in assessing the impacts of routing hundreds of flights over the County. They conclude that, under the unmitigated scenario, there will be a devaluation of properties within the noise zone of 3% to 7%. Under the mitigated scenario, where flights are at a higher altitude over the County, there will still be a devaluation in the range of 1% to 3%. Under both scenarios, this will cause a shift in taxes to those municipalities that will not experience such a devaluation.

- **The noise impact methodology used by the FAA is unreliable and has been discredited by experts in peer-reviewed studies.** The FAA relies on the fifteen-year-old recommendation of the Federal Interagency Committee on Noise ("FICON") of a particular prediction equation to transform estimated Day-Night Average Sound Levels ("DNLs") into percentages of overflowed populations highly annoyed by aircraft noise. FICON's prediction equation was never peer reviewed prior to its publication, and has been severely criticized by experts as systematically under-predicting the annoyance of aircraft noise, particularly at noise exposure levels that FAA considers thresholds of significant impacts. Experts such as Dr. Sanford Fidell, who has been retained by the County, have demonstrated that source-specific dosage-effect equations are technically superior to FICON's obsolete "one size fits all" predictive equation. The FAA's reliance on FICON's recommendation violates NEPA and the Data Quality Act.
- **The EIS does not adequately address environmental justice concerns.** The FAA has not adequately assessed the numerous environmental justice communities in the region, including portions of Rockland County with pockets of poor, minority and unassimilated minorities that will be in the flight path of the FAA's preferred alternative. The EIS fails to conduct an adequate analysis of specific effects of noise impacts on these populations including cumulative and indirect impacts from other sources of noise.
- **The EIS does not adequately assess secondary and cumulative effects.** The redesigned airspace will increase capacity, which will lead to growth. The EIS did not adequately examine how all the foreseeable projects would impact Rockland County. The growth of Stewart International Airport is of special concern.
- **Noise impacts on sensitive public parkland, recreational areas, wildlife and waterfowl refuges and significant historic sites have not been adequately addressed.** Section 4(f) of the Department of Transportation Act requires special analysis of noise impacts on these resources and requires a determination of prudent and feasible alternatives and minimization of harm. Here, even the National Park Service has criticized the FAA for using the DNL methodology and not using a more site-specific approach. The FAA even admits that it continues to assess noise impacts on ten such

D-42

sites in the area and will include that analysis in the ROD without making it available for public comment. That is a blatant violation of NEPA and section 4(f).

- **The FAA's use of out-of-date and incomplete information requires supplemental NEPA documentation with public comment.** The FAA's use of out of date and incomplete information requires supplemental NEPA documentation with Public Comment. The FAA uses models or data that are either old, incomplete or just plain wrong. The FAA's flight projections were all made before the tragic events of September 11, 2001—nearly six years ago—and did not take into account the huge prices increase in aviation fuel and the now imminent expansion of the Stewart International Airport. Further, the DNL methodology is out of date and was never peer reviewed as noted by the County's noise expert, Dr. Sanford Fidel. The use of this old and non-peer-reviewed data violates OMB's guidelines under the Data Quality Act. This clearly requires the FAA to prepare a supplemental NEPA document for public review and comment.

ANALYSIS

(A) The EIS's Purpose and Need Statement is Too Narrow and Ignores Congressional Action Making Aircraft Noise Reduction a Fundamental Part of FAA's Mission.

The FAA asserts that noise reduction was not part of the purpose and need of the redesign project because the FAA's "mission" was "to increase efficiency and reliability of the air traffic system through the adjustment of traffic flows in the New York/New Jersey and Philadelphia ("NY/NJ/PHL") areas while accommodating new technologies and reducing delays." Response #7 to Comment 4100 by New Jersey Citizens Against Aircraft Noise ("NJCAAN"), EIS at Appendix N. Thus, the FAA relegates noise reduction as merely a "consideration" in the NEPA process, stating that "*Noise reduction was never part of the purpose and need of the NY/NJ/PHL Airspace Redesign Project.*" *Id.* at #25. This unduly narrow interpretation flies in the face of repeated Congressional action that has made noise reduction a primary mission of the agency, especially regarding the redesign project.

To begin with, the FAA's definition of purpose and need fundamentally conflicts with the requirements of NEPA, the Council on Environmental Quality ("CEQ") regulations, and FAA's own NEPA regulations. It has been held that the purpose and need in an EIS will provide direction on identifying and evaluating the range of alternatives and that an agency's purpose and need may not be inappropriately narrowed so as to eliminate otherwise reasonable alternatives. *City of Alexandria v. Slater*, 198 F.3d. 862 (D.C. Cir. 1999). Indeed, Congress can define the scope of an agency's statement of purpose and need or direct federal agencies to do so pursuant to statutory guidance as it recently did in enacting the "Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users."² Thus, an agency must look at its underlying

² See, Mandelker, NEPA Law and Litigation, sec. 9: 24, 2007 ed.

D-43

statutory mandates in defining Purpose and Need. As the Second Circuit held in City of New York v. Dep't of Transportation, 715 F.2d. 732, 743 (2d Cir. 1983)("Statutory objectives provide a sensible compromise between unduly narrow objectives an agency might choose to identify to limit consideration of alternatives and hopelessly broad societal objectives that would unduly expand the range of relevant alternatives"). Here, the FAA has failed to heed its mandate to integrate noise reduction with its other laws, regulations, and polices for the redesign plan. See FAA Order 1050.1E.

Without a doubt, Congress has repeatedly directed that aircraft noise reduction be a fundamental part of FAA's mission.³ Congress has also specifically relied on the annual federal appropriations process to direct that aircraft noise be considered during the NY/NJ/PHL airspace redesign planning process. Indeed, numerous Members of Congress have expressed personal frustration due to FAA's lack of responsiveness on aircraft noise issues. In light of the significant legislative history on this issue, it is unthinkable that the FAA would marginalize aircraft noise in the final EIS and only consider aircraft noise reduction "where feasible."⁴

Congress's noise reduction mandate was made unequivocally clear when it passed the Airport Noise and Capacity Act of 1990 ("ANCA"). Congress made aircraft noise reduction a basic part of FAA's mission because it recognized the need for a national aviation noise policy.⁵ This mission is reflected in the findings of the ANCA stating that:

- (1) aviation noise management is crucial to the continued increase in airport capacity
- (2) community noise concerns have led to uncoordinated and inconsistent restrictions on aviation that could impede the national air transportation system;
- (3) a noise policy must be implemented at the national level;
- (4) local interest in aviation noise management shall be considered in determining the national interest.

Congress has reaffirmed this directive on numerous occasions through the federal appropriations process by insisting that the FAA address aircraft noise specifically with respect to the NY/NJ/PHL airspace redesign. This direction is seen in the Transportation Appropriations bills for Fiscal Years 97,⁶ 04,⁷ and 06.⁸

³ See also, Aircraft Noise Abatement Act of 1968, (P.L. 90-411); Noise Control Act of 1972 (P.L. 92-574); Aviation Safety and Noise Abatement Act of 1979, (P.L. 96-143); Airport and Airway Improvement Act of 1982 (P.L. 97-248); Airport and Airway Safety and Capacity Expansion Act of 1987 (P.L. 100-223).

⁴ Response to Comment 4100: NJCAAN, by Rutgers Environmental Law Clinic, at #28, EIS at Appendix N.

⁵ Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508), Sec. 9301 et. seq.

⁶ FY97 House Transportation Appropriations Report:

Expanded East Coast Plan--The Committee directs the FAA to work with affected representatives from the New York-New Jersey region, including appropriate citizens groups, to develop the most feasible and cost-effective noise mitigation solution for the expanded East Coast plan. Although the FAA promulgated a final environmental impact statement in 1995 for the expanded East Coast plan, this has not satisfactorily addressed the concerns of citizens in the State of New Jersey, and further analysis of noise mitigation remedies seems appropriate. [H.Rept. 104-631, Department of Transportation and Related Agencies Appropriations bill, 1997, at 43 (June 19, 1996).]

⁷ FY04 Senate Transportation Appropriations Report:

Most recently, the House FY 07 Transportation Appropriation Report even directed the FAA to inform the Congress on noise reduction mitigation measures that "minimize, rectify, reduce, eliminate or compensate for noise impacts in the FEIS":

New York/New Jersey airspace redesign.--The Committee notes that the executive summary of the FAA's Draft Environmental Impact Statement (DEIS) for the redesign of the New York/New Jersey/Philadelphia regional airspace states, 'Mitigation measures to avoid, minimize, rectify, reduce, eliminate, or compensate for these (noise) impacts will be considered in the Final EIS.' The Committee directs the FAA to provide a letter report to the House and Senate Committees on Appropriations by January 7, 2007 on

The Committee also directs FAA to submit, not later than April 1, 2004 a report to the House and Senate Committees on Appropriations on the New York/New Jersey airspace redesign effort. This report should include details on all planned components and elements of the redesign project, including details on aircraft noise reduction and any ocean routing modeling that has been conducted. [S. Rept. 108-146, TRANSPORTATION, TREASURY, AND GENERAL GOVERNMENT APPROPRIATIONS BILL, 2004, at 22 (Sept. 8, 2003).]

FY04 House Transportation Appropriations Report

National airspace redesign. The Committee directs that, of the funds provided for national airspace redesign, not less than \$6,500,000 shall be allocated to airspace redesign activities in the New York/New Jersey metropolitan area. The Committee also directs FAA to submit, not later than April 1, 2004 a report to the House and Senate Committees on Appropriations on the New York/New Jersey airspace redesign effort. This report should include details on all planned components and elements of the redesign project, including details on aircraft noise reduction and any ocean routing modeling that has been conducted. H. Rept. 108-243 – DEPARTMENTS OF TRANSPORTATION AND TREASURY AND INDEPENDENT AGENCIES APPROPRIATIONS BILL, 2004, at 21 (July 30, 2003).

⁸ FY06 House Transportation Appropriation Report:

New York/New Jersey airspace redesign.--No funds made available for national airspace redesign may be used to prepare the environmental impact statement for the redesign of the New York/New Jersey/Philadelphia regional airspace, or to conduct any work as part of the review of the redesign project conducted under the National Environmental Policy Act and related laws, as long as the FAA fails to consider noise mitigation. [House Report 109-153 - DEPARTMENTS OF TRANSPORTATION, TREASURY AND HOUSING AND URBAN DEVELOPMENT, THE JUDICIARY, DISTRICT OF COLUMBIA AND INDEPENDENT AGENCIES Appropriations Bill, 2006, at 16 (June 24, 2005)].

FY06 Transportation Appropriations Conference Report:

National airspace redesign.--The conference agreement includes \$2,000,000 and language proposed by the Senate regarding the use of funds for the national airspace redesign project in the New York/New Jersey metropolitan area. The conferees agree to House language that no funds made available under this appropriation may be used to prepare the Environmental Impact Statement for the redesign of the New York/New Jersey/Philadelphia regional airspace, or to conduct any work as part of the review of the redesign project conducted under the National Environmental Policy Act and related laws, as long as the FAA fails to consider noise mitigation. Further, none of the funds made available for this purpose shall be reprogrammed by the FAA to other activities, including airspace redesign not directly related to New York, New Jersey, and Philadelphia airspace redesign. [H. Rept. 109-307, Conference Report for MAKING APPROPRIATIONS FOR THE DEPARTMENTS OF TRANSPORTATION, TREASURY AND HOUSING AND URBAN DEVELOPMENT, THE JUDICIARY, DISTRICT OF COLUMBIA AND INDEPENDENT AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2006, at 136 (Nov. 17, 2005)].

D-45

the specific mitigation measures that will be considered to address noise impacts of the redesign.⁹

In fact, the FAA initially recognized noise reduction as a basic mission in defining the purpose and need for the redesign. The FAA's 2000 pre-scoping document's purpose and need section listed "reducing adverse environmental impacts such as noise and air emissions" as a "benefit."¹⁰ Yet, the FAA's 2001 scoping document reverses this policy position and downplayed noise reduction as a goal of the redesign in favor of improving efficiency and reliability. FAA's continuing disregard for aircraft noise as a project goal for the NY/NJ/PHL airspace redesign plan has drawn frequent criticism from Members of Congress.¹¹

The FAA's unsupported shift away from noise reduction and toward "efficiency" also is in direct conflict with 1996 Congressional direction that promotion of civil aviation was no longer a fundamental part of its mission.¹² The legislative history is clear on this point. As part of the 1996 FAA Reauthorization Bill, Congress eliminated the so-called "dual mandate" by

⁹ H. Rept. 109-495, DEPARTMENTS OF TRANSPORTATION, TREASURY, AND HOUSING AND URBAN DEVELOPMENT, THE JUDICIARY, DISTRICT OF COLUMBIA, AND INDEPENDENT AGENCIES APPROPRIATIONS BILL, 2007, at 16 (June 9, 2006).

¹⁰ That document stated that:

1.1 Purpose and Need for Airspace Redesign Program

The purpose of the New York/New Jersey Airspace Redesign Project is to increase the efficiency of air traffic services that are currently in place.

In response to the airspace issue, the Federal Aviation Administration (FAA) is undertaking a complete redesign of the airspace in the metropolitan area. Some of the benefits of a major redesign include:

- Reduced delays at major airports
- Reduced pilot/controller workload
- Enhanced safety
- *Reduced adverse environmental impacts such as noise and air emissions*
- Enhanced productivity

(DEIS, Appendix M. Section M.2, pp. 1-2) (emphasis added).

¹¹ For example:

Congressman Rodney Frelinghuysen (NJ-11):

Quite honestly, the FAA, if you will pardon the expression, has been blowing us off for a long time.

They've been dismissive. [153 Cong. Record H8346 (daily ed. July 24, 2007).]

Congressman Christopher Shays (CT-4):

They don't care. They don't listen. They don't give us an opportunity to speak.

I have constituents who have attended hearings, but are told. Listen to us. You can't testify.

If we want the FAA to come and allow testimony, they say we'll come to Danbury (where the planes are at 8,000 feet), but we won't come in to Stamford where they're 4,000 feet. [153 Cong. Record H8346 (daily ed. July 24, 2007).]

Congressman Steve Rothman (NJ-9):

The Congress directed the FAA to consider both noise abatement and ocean routing in their plan for the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign. Instead of taking the Congress and New Jerseyans seriously, the FAA decided to make the lives of an estimated 500,000 people more difficult by significantly increasing the amount of noise that already erodes the quality of life for those of us who hear planes flying over our homes and places of work around the clock. Press Release, Congressman Steve Rothman, Congressman Steve Rothman's Statement on the FAA Airspace Redesign Project, (Apr. 6, 2006), available at, http://rothman.house.gov/news_releases/2006/apr6_airspace redesign.htm.

¹² P.L. 104-264, 110 Stat. 3213, (Oct. 9, 1996).

D-46

specifically deleting "promotion" of civil aeronautics from the FAA mission (replacing it with "encouraging"), and re-emphasizing FAA's priorities in ensuring safety and security in air travel.¹³ While Congress stressed that safety and security are the highest priorities, it did not in any way de-emphasize reduction of noise impacts as a fundamental part of its overall mandate.¹⁴ The explanatory language in the Conference Report further clarifies this intent.¹⁵

As a result, the EIS's narrow focus on "efficiency" and "reliability" over safety and noise reduction in the EIS conflicts with long-standing Congressional directives and has resulted in an EIS that improperly "skews" the FAA's approach toward consideration of alternatives.¹⁶

(B) The FAA's Treatment of Alternatives and Presentation of Mitigation Measures Violates NEPA.

The FAA's treatment of alternatives and development of mitigation violates the letter and spirit of NEPA. The law requires that agencies "rigorously explore and objectively evaluate all

¹³ P.L. 104-264, 110 Stat. 3213, (Oct. 9, 1996).

¹⁴ The relevant legislative provision reads:

TITLE IV—AVIATION SAFETY

SEC. 401. ELIMINATION OF DUAL MANDATE.

(a) SAFETY CONSIDERATIONS IN PUBLIC INTEREST.—

(1) SAFETY AS HIGHEST PRIORITY.—Section 40101(d) is amended—

(A) by redesignating paragraphs (1) through (6) as paragraphs (2) through (7), respectively; and
(B) by inserting before paragraph (2), as so redesignated, the following: "(1) assigning, maintaining, and enhancing safety and security as the highest priorities in air commerce." (2)

ELIMINATION OF PROMOTION.—Section 40101(d) is further amended—

(A) in paragraph (2), as redesignated by paragraph (1)(A) of this subsection, by striking "its development and"; and

(B) in paragraph (3), as so redesignated—

(i) by striking "promoting, encouraging," and inserting "encouraging"; and

(ii) by inserting before the period at the end ", including new aviation technology".

(b) FAA SAFETY MISSION.—

(1) IN GENERAL.—Section 40104 is amended—

(A) by inserting "safety of" before "air commerce" in the section heading;

(B) by inserting "SAFETY OF" before "AIR COMMERCE" in the heading of subsection (a); and

(C) by inserting "safety of" before "air commerce" in subsection (a).

(2) CLERICAL AMENDMENT.—The table of sections for chapter 401 is amended by striking the item relating to section 40104 and inserting the following: "40104. Promotion of civil aeronautics and safety of air commerce."

¹⁵ Conference substitute

Section 401: House changes to section 40101(d) and Senate changes to section 40104(a). The Managers have adopted provisions from both the House and Senate bills to clarify that the FAA's highest priority is safety and security. The managers do not intend for enactment of this provision to require any changes in the FAA's current organization or functions. Instead, the provision is intended to address any public perceptions that might exist that the promotion of air commerce by the FAA could create a conflict with its safety regulatory mandate

¹⁶ H. Rept. 104-848, FEDERAL AVIATION AUTHORIZATION ACT OF 1996, at 92 (Sept. 26, 1996).

D-47

reasonable alternatives," 40 C.F.R. § 1502.14(a), and must "devote substantial treatment to each alternative considered in detail including the proposed actions that reviewers may evaluate their comparative merits." Id. at 1502.14(b). The selection and evaluation of alternatives must ensure "informed public participation" for the decision makers. Citizens Concerned About Jet Noise Inc. v. Dalton, 48 F. Supp. 2d. 582, 607 (E.D.Va. 1999), aff'd 217 F. 3d. 838 (4th Cir. 2000). The alternatives analysis is the "heart of the environmental impacts statement." 40 C.F.R. § 1502.14. Here, because the FAA refused to include aircraft noise reduction as part of its fundamental purpose and need, it unduly constrained and piecemealed the range of alternatives considered, especially the ocean routing alternative. In doing so, the FAA downplays the serious environmental and social impacts of the redesign in favor of efficiency and so skews the alternatives analysis as to make selection of its preferred alternative—the one with the most severe impacts—inevitable.

While the FAA may take the position that it adequately considered the Ocean Routing alternative, the record shows otherwise. According to the FAA, the Ocean Routing alternative is not worthy of serious consideration because it would not reduce delay and promote efficiency and that "any refinements can at best limit its harm to efficiency. They cannot make it an efficient alternative." FAA Response to comment 4100 from NJCAAN, #43. As noted in the detailed comments from NJCAAN (which the County hereby adopts), FAA's narrow efficiency focus excluded fair consideration of such criteria as noise, community impacts and community support. NJCAAN May 10, 2007 comments. As NJCAAN notes, "it appears that this alternative is retained only to forestall public outcry and to provide any further consideration of the NJ recommendation." Id. at 24.

Further, the FAA's failure to look "holistically" at the overall impacts of the entire NY/NJ/PHL system resulted in a failure to seriously consider other alternatives such as efficient use of existing facilities by larger jets, peak hour demand control and the use of alternative transportation modes for short and intermediate trips. See NJCAAN's May 24, 2006 comments at pp. 28-30). Market-based approaches such as congestion pricing and gate controls are viable alternatives in the mix and should have been seriously explored. Market-based approaches, which include congestion-based landing fees to encourage system users to schedule their operations efficiently, have in fact been previously adopted within the study region, provide available capacity, may be instituted either by the FAA or by an airport proprietor to manage airport congestion. One approach that may be implemented by an airport proprietor could include a properly structured peak-period pricing program where the objective is to align the number of aircraft operations with airport capacity during severely congested periods of peak airfield usage.

The EIS noise mitigation report even introduces alternatives without adequate treatment. As noted in NJCAAN's May 10, 2007, comments, some of the mitigation alternatives in areas immediately surrounding Liberty Newark International Airport ("EWR"), such as route changes, were only first introduced at the April 6, 2007 meeting and lacked any scoping and any public comment but could have profound operational effects. NJCAAN comments at 16 (May 10, 2007).

D-48

Clearly, the FAA's failure to seriously explore such options with sufficient public input as part of overall solution to system problems reflects a "single minded focus" not to undermine the growth objectives of the airlines in order to truly mitigate noise and other adverse environmental impacts on affected communities. The FAA's refusal to "return to the drawing board to develop alternatives" where minimizing noise is part of the purpose because "any plan that extensively addressed the airspace limitations of the region cannot simultaneously extensively improve noise situation." Response to NJCAAN comments 4100 # 148. This shortsighted approach conflicts with NEPA's mandate in section 101 that federal agencies use "all practicable means" to achieve six broad goals of environmental policy, including "achieving a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities." 42 U.S.C. § 4331(b)(5).

The FAA's failures also extend to its comparison of alternatives under its proposed mitigation plan. The Supreme Court has considered the duty of federal agencies to mitigate under NEPA in Robertson v. Methow Valley, 490 US 332, 352 (1989). The Court held that the "omission of a reasonably complete discussion of mitigation measures would undermine action forcing functions of NEPA. Without such discussion, neither the agency nor other interested groups and individuals could properly evaluate the severity of the adverse effects of the action." **The FAA's mitigation analysis fails this test.** Most significantly, it does not compare the mitigated preferred alternative to the No Action alternative. The result is that the true impacts to the citizens of Rockland County and many other communities throughout the region are seriously distorted. The No Action alternative must be used as the baseline to measure present day noise impacts. As noted in the detailed comments submitted by Harris, Miller & Hanson Inc. on behalf of Westchester County (June 22, 2007), this comparison is a serious defect and directly conflicts with FAA Order 1050.1 E, "Environmental Impacts: Policies and Procedures" which states that noise exposure should be "compared to the No Action alternative for the same time frame." As the Harris study notes, while "the mitigated preferred alternative reduces noise exposure compared to the unmitigated preferred alternative, the noise increases compared to the No Action alternative as still likely to be detectable." Tellingly, that study notes that "both the mitigated and unmitigated versions of the preferred alternative result in large areas around Westchester Airport (HPN) where noise exposure will increase from three to eight (or more) decibels . . . which is equivalent to more than a six-fold increase . . ." *Id.* at 4. This impact will most certainly be felt by residents that have been used to much lower noise level impacts. What is most significant is that the FAA's failure to provide a true comparison of such impacts misleads the public and violates a cardinal tenant of NEPA—that the process must involve a full and complete presentation of environmental impacts and alternatives to facilitate public comment so as to fully inform the decision makers.

Further, as noted in the attached Fidell Report, the FAA's mitigation analysis never attempted to do a systems-based analysis. Fidell notes that some potential mitigation options such as flow constraints on operations at small airports, were rejected based on operational evaluations described in Appendix O of the report. He also notes that "at no point was a truly systems based analysis attempted in which, for example, busy period flow constraints on operations at small airports might enable adoption of procedures that could mitigate noise impacts of heavy air traffic flows on large populations in airspace remote from a small airport."

D-49

See Fidell. He further notes that "such failures call into question FAA's entire approach to optimizing region wide airspace redesign." Id.

Finally, Rockland County has just commissioned a land value appraisal of impacts of the preferred alternative on County residents. As the attached reports of Beckmann and Lane discuss, the preferred alternative will route hundreds of flights over Rockland County every day and will have a direct and measurable impact on property values even under the mitigation proposal (see Lane and Beckmann Reports). While this report was completed after the close of the comment period, it does present significant new information that magnifies the importance of reopening the comment period to ensure that the FAA fully considers all impacts and reassesses all reasonable alternative mitigation measures.

(C) The Preferred Alternative's Impact on Real Property Values is, by itself, Reason for Reconsidering all Options.

We include two reports by experts in the field of assessing aircraft noise impacts on real estate property values and related effects on the tax base. Dr. Theodore Lane of Thomas/Lane and Associates (Seattle, Washington area) has extensive experience nationally in assessing these impacts. William Beckmann of Beckmann Appraisals (Tappan, New York) has detailed knowledge of the Rockland County properties and has done a careful assessment of the impact of additional overflights on affected parcels.

Dr. Lane notes that airport approach and departure corridors generate a range of socio-economic impacts that are induced by aircraft noise. See Lane Report at 5. In the case of Rockland County, he estimates that 16,138 persons living in the south central part of the County will experience an increase in aircraft noise of about 7 DNL and will perceive that aircraft noise over their homes has roughly doubled. Id.

Dr. Lane also believes that, while absolute aircraft noise levels will be moderate, relative aircraft noise levels will increase significantly. The fact that relative noise levels are important is evidenced by the FAA's willingness to alter approach/departure flight tracks associated with SeaTac International Airport to reduce them in the City of Mercer Island – a community with most of the same noise, socio-economic and demographic characteristics found in Rockland County. Id.

Further, he has reason to believe that the NY/NJ/PHL airspace redesign EIS underestimates the actual noise impacts that will occur for two reasons:

- 1) In a crowded, high density, high usage area such as the NY/NJ/PHL metropolitan area, additional capacity will almost certainly produce feedback effects and cause corridor use patterns to increase; and
- 2) The aircraft activity forecast contained in the EIS is that it gives no recognition to the potential development of additional major regional airports once additional airspace capacity has been added to the region.

D-50

Further, Dr. Lane feels that in addition to direct noise impacts, such noise-induced impacts as the blighting of residential areas, the downscaling of the socio-economic characteristics of impacted businesses and population, increasing the cost of delivering community services necessary to maintain a constant quality of life in the impacted areas, and protecting the ability of school children to learn are all omitted in the EIS. This is particularly egregious since FAA Advisory Circulars specifically direct airport authorities to address such issues. Id.

The Beckmann Report evaluated whether the change in the flight patterns in the FAA's preferred alternative that will route hundreds of flights over Rockland county can reasonably be expected to affect the value of real property, both vacant and improved, within the impacted County flight path. Beckmann conducted this analysis based on the unmitigated and mitigated scenarios, the latter involving routing flights at a higher altitude in order to ameliorate the degree of noise exposure at ground level.

Beckmann concludes that, in the unmitigated scenario, there will be a devaluation of the properties within the noise zone of 3% to 7%. Beckmann Report at 17. The consequences will result in a devaluation of the affected properties and a decrease in their tax assessment. The resulting consequence will be a shift in the real property taxes throughout the entire town, school districts and County, increasing the tax rates and increasing the absolute amounts of real property taxes paid by the affected properties. Id. Under the mitigated scenario, the absolute impact may be less but it will be more extensive since it will cover a larger land area. Beckmann estimates that there will be a devaluation impact of 1% to 3%. That will likewise cause a shift in taxes to those municipalities that do not experience the likely devaluation of their property. Id.

Thus, it is readily apparent that the FAA's preferred alternative could have very significant impacts on property values and tax assessments. These critical issues need to be carefully assessed through an open and public process before the FAA can issue its ROD.

(D) The Noise Impact Studies Use an Unreliable Methodology, are Biased, and are so Speculative that More Studies are Necessary.

Rockland County, like every county across the region, is concerned that the additional overflights of its homes and parks which the airspace redesign enables and encourages will diminish the quality of its citizens' lives. The County's comments submitted today speak to common issues: that exclusive reliance on the Day-Night Average Sound Level ("DNL") metric as a predictor of community annoyance, and on the supposed precision of FAA's noise modeling assumptions, is unfounded. In reality, the FAA's obsolete methods and mistaken confidence in its noise impact predictions are so uncertain that more accurate, credible, and broader-based assessments are required to inform decision makers about the likely consequences of the proposed action.

Reliance on FAA's obsolete dosage-effect relationship to predict noise impacts is a central problem because there is little reason to believe that FAA's prospective noise modeling

D-51

has meaningfully estimated future aircraft noise exposure levels, nor that FAA has properly interpreted the consequences of its dubious estimates. See Fidell Report, Exhibit A. The prediction equation that FAA relies on to interpret DNL estimates systematically under-predicts the annoyance of aircraft noise exposure over a wide range of critical values. *Id.* Scientists have demonstrated that the use of DNL to predict annoyance with aircraft noise is "demonstrably biased, inaccurate, and unreliable." *Id.* Disclosing noise exposure values that are known to actually annoy more people than FAA's obsolete and discredited dosage-effect relationship predicts is at best an exercise in malicious compliance with NEPA.

The EIS also unjustifiably presents the results of FAA's noise modeling as precise engineering calculations. In fact, they are no more than speculative predictions—a house of cards built one assumption on top of another.¹⁷ Fidell has critiqued this practice, noting the fundamental implausibility of asserting that guesses made a decade in advance about a myriad of operational variables (types and numbers of aircraft, flight paths, times of day, etc.) command respect as exact "data." The FAA even carries out its model calculations to the nearest millionth of a decibel¹⁸ (when in reality, the underlying uncertainty is about six orders of magnitude greater¹⁹)—a practice that insults the intelligence of the citizens who must live with the results of the airspace redesign.

The County's indignation worsened when it read that the FAA tried to take over some local functions. In the EIS's Executive Summary, the Agency mentioned that it used noise analysis "to determine whether the existing and planned land use is compatible with the change in noise exposure." EIS at ES.6.1. Land use zoning and planning are still reserved to the local government, not to the FAA. It is not the purpose of NEPA or within the scope of FAA's responsibilities to infringe on local authority. With that kind of statement, the County wonders whether the airports in the study region exist to serve the many public interests of the region, or whether the region exists to serve aviation-related interests.

(E) Environmental Justice Concerns are Still Present and Unacceptable.

Rockland County believes that the EIS's treatment of environmental justice issues is arbitrary and capricious.²⁰ The County is concerned that without properly addressing these

¹⁷ Indeed, Rockland County notes that the FAA did not even have an on-the-ground monitoring station in Rockland County to measure ambient or aircraft noise levels. See EIS Figure 3.14.

¹⁸ See, e.g., EIS Appendix E at E-46 ("The original computations in the DEIS are based on using the computed noise values out to six decimal places.")

¹⁹ See Fidell, note k.

²⁰ Courts will review an agency's environmental justice analysis included in an EIS under the "arbitrary and capricious" standard of the Administrative Procedure Act. Communities Against Runway Expansion, Inc. v. Fed. Aviation Admin., 355 F.3d 678 at 685 (D.C. Cir. 2004). In Communities Against Runway Expansion, the D.C. Circuit found that "an 'environmental justice' analysis [is] intended to evaluate whether the project would have disproportionately high and adverse human health or environmental effects on low-income and minority populations." *Id.* It reasoned that, notwithstanding bar against claims by third parties under the Environmental Justice Executive Order 12898, "FAA exercised its discretion to include the environmental justice analysis in its NEPA evaluation, and that analysis therefore is properly subject to the 'arbitrary and capricious' review under the

D-52

issues, an excessive number of people will be hurt by very real impacts. This concern was echoed by EPA in its comments on the draft EIS in which the agency requested information on outreach to environmental justice communities impacted by noise and mitigation/minimization of noise exposure to those communities. The Public Involvement Program, for example, fails to describe outreach and consultation with Tribes, including government-to-government consultation required by Executive Order and meaningful consultation with tribal communities. See EIS at 4-41 through 42.

NJCAAN also raised environmental justice issues on behalf of the 954 people who will be introduced into the DNL 65 contour who were not there previously. These people constitute an impacted environmental justice group. See NJCAAN Comments on the Mitigation Reports (May 10, 2007), EIS Appendix Q at 543. Rockland County has areas of subsidized housing and wants to make sure they, like the residents near EWR, are treated with dignity, respect, and fairness. For example, the Beckmann Report identified the East Ramapo Central School District—which is located under the projected flight path—as being made up having nearly 80% minority students.

Several executive branch documents provide guidance and direction to federal agencies on conducting environmental justice analysis under NEPA. Among others, these include Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population (Feb. 11, 1994), CEQ, Environmental Justice: Guidance under the National Environmental Policy Act (Dec. 10, 1997), DOT Order 5610.2 (Apr. 15, 1997); and FAA Order 1050.1E §16.1 & 2 (June 8, 2004). While the EIS identifies that it has followed DOT ORDER 5610.2, it does not cite or describe the procedures followed to comply with the FAA specific environmental justice requirements. For example, the EIS fails to discuss alternatives that would reduce the effects on the environmental justice population, and also fails to identify and "provid[e] offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by DOT programs, policies, and activities" as required by DOT Order 5610.2(c)(2).

In addition, the EIS fails to follow DOT and FAA environmental justice procedures. According to the EIS, the Preferred Alternative "would result in disproportionate impacts to minority populations and, therefore, would result in significant environmental justice impacts." EIS at 4-46. Near EWR, for example, the effect was particularly acute with 50 percent of relevant census blocks being significantly impacted. EIS at 4-44. Nonetheless, the EIS fails to provide analysis of the specific effects caused by the noise impacts, including those that may especially affect, or amplify the effects of noise impacts on, minority or low-income populations. Frequent causes of synergistic effects from noise impacts include: (1) cumulative impacts from other sources of ambient noise; (2) noise-susceptible housing/school due to type, age, and standard of construction; and (3) adverse effects on already constrained outdoor recreation opportunities.

APA." Id. at 26. See also, Mid States Coalition for Progress v. Surface Transportation Board, 345 F.3d 520, 541 (8th Cir. 2003); Senville v. Peters, 327 F. Supp. 2d 335, 345 (D. Vt. 2006).

Moreover, as with other areas, the EIS fails to consider secondary and induced impacts on minority and low-income communities, which tend to be more sensitive to environmental, land use, and economic changes and impacts. Further, while the EIS lacks depth and breadth of analysis of effects, it entirely neglects to specifically identify and address mitigation applicable to disproportionately and adversely impacted minority and low-income populations, as required under the Executive Order 12898, and FAA, *Environmental Impacts; Policies and Procedures*, Environmental Justice, 16.2(a)(1)(F) (providing that the EIS should "describe possible mitigation to reduce the effect on the disproportionately affected low income and minority populations").

Given the strong federal policies promoting environmental justice and the FAA's clear failure to follow those mandates, the FAA needs to reassess the Environmental Justice implications of its preferred alternative.

(F) The Inevitable Secondary and Cumulative Effects Require Additional Discussion.

Rockland County disputes the FAA's conclusion that none of the Airspace Redesign alternatives are expected to result in shifts in population or growth, increased demand for public services, or changes in business and economic activity. EIS at 4-48. Instead, by its very nature, the airspace redesign will lead to growth and economic activity that FAA should have considered under the EIS.²¹

One of the key purposes of the airspace redesign is to "accommodate growth" and increase the carrying capacity of the airspace serving local airports. EIS at ES-1. New runways, more warehouses, and other growth-related effects are a foreseeable and "but for" result of the airspace redesign. Indeed, readily foreseeable growth at Stewart International Airport ("SWF"), will be encouraged and facilitated by the increased airspace capacity, but has apparently not been considered in the EIS. The Port Authority of New York and New Jersey ("PANYNJ"), which has recently agreed to sign a 93-year lease for the operation of this airport, plans an initial investment of \$150,000,000 to expand commercial air service and develop SWF into a resource for the greater Hudson Valley. See *Stewart International Airport News Letter* (August 2007), available at http://www.swfny.com/pdfs/STEWART_NL_optimized_singlePage.pdf.

However, the effects of the airspace redesign have only been considered with respect to noise impacts caused by the reconfiguration and not secondary impacts such as those at SWF. Consistent with NEPA requirements, the EIS should have considered the induced growth effects caused by increased capacity, including impacts to, among other things: air traffic, noise, vibrations, air quality, land use, traffic circulation, congestion, sprawl, water quality, noise, and safety.

²¹ The proposed action is intended to increase the efficiency and reliability of the airspace structure and air traffic control system in the study area. "Efficiency" of airspace use in this context can hardly mean anything other than permitting greater numbers of IFR flight operations to traverse the study area airspace per unit time. Absent the proposed action, such increases could not occur; if they could, there would be little purpose or need for the proposed action.

D-54

The County's concern over secondary impacts was not lessened by the FAA's response—or lack thereof—when the Agency was asked about the noise impacts from future expansion at SWF. The Agency avoided the noise issue and instead mentioned how the airport is "50 miles north of LGA as the crow flies. That is enough distance to isolate it from the biggest changes to the airspace in the Preferred Alternative . . . it can expand greatly without putting stress on the Preferred Alternative." The County is not sure what that response means and would like the FAA to clarify how the expected growth at SWF will affect noise levels in Rockland County.²²

Non-responses like the one above fail to live up to the FAA's own guidance which recommends that the Agency use the NEPA process to "Rigorously analyz[e] the reasonably foreseeable direct, indirect, and cumulative environmental impacts of the proposed action and alternatives." DOT FAA Order 1050.1E CHG 1, Section 200d.3 (Mar. 20, 2006), *available at* http://www.faa.gov/regulations_policies/orders_notices/media/10501ECHG.pdf. In any case, the FAA can hardly claim that a two paragraph treatment of such an important topic is "rigorous." See EIS at 4-48. At the very least, as EPA mentioned in its comments on the DEIS, the FAA "should make it clear that while this redesign does not in itself increase any airport capacity, it does facilitate future airport expansions." EPA comments on DEIS (June 8, 2006).

Further, Rockland County expects secondary effects as a result of the new noise "shadow" over a large swath of the County. As explored in detail in the attached Beckmann and Lane Reports, the County expects to take a big hit in its property values. Rental units will rent for less; homes will be worth slightly less; stigma will attach to those properties unlucky enough to fall underneath the flight path. Even a "small" three percent property devaluation under the main flight path would lead to a large loss. See Beckmann's report.

The County also expects cumulative effects—those small, incremental impacts that collectively become significant—and requests that the FAA improve its NEPA-required discussion in this regard.²³ EPA, evidently, felt the same way because it expressed concern about cumulative impacts in the draft EIS.²⁴ Any move by FAA to make the skies safer and more efficient will eventually lead to a thousand small changes on the ground.

²² The growth appears to be phenomenal. Based on numbers and comments on the SWF website, 2007 passenger traffic is expected to be 900,000 (compared to 26,917 in 2006). The year-over-year increase is 3243%—huge growth by anyone's definition. See <http://www.swfny.com/passcargoooperations.html>.

²³ NEPA requires agencies to consider the effects of both cumulative actions and cumulative impacts. 40 C.F.R. §§ 1508.25, 1508.7. A cumulative action is one "which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. § 1508.25(a)(2). A cumulative impact is defined as follows:

The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

²⁴ "Furthermore, the cumulative impacts of any planned airport expansion should be discussed in the DEIS. For example, the Philadelphia Airport is well into a Capacity Enhancement Program which will take advantage of

Indeed, NEPA case law on the treatment of cumulative impacts supports Rockland County's position. See Fritiofson v. Alexander, 772 F.2d 1225 (5th Cir. 1985)(citing Cabinet Mountains Wilderness/Scotchman's Peak Grizzly Bears v. Peterson, 685 F.2d 678, 683-84 (D.C. Cir. 1982)), overruled on other grounds, Sabine River Authority v. U.S. Dep't of Interior, 951 F.3d 669 (5th Cir. 1992). In Fritiofson, the court stated that a "meaningful" cumulative impact analysis must identify the following:

- The area in which the effects of the proposed project will be felt;
- The impacts that are expected in that area from the proposed project;
- Other past, present, and reasonably foreseeable actions that have or are expected to have impacts in the area;
- The impacts or expected impacts from these other actions; and
- The overall impact that can be expected if the individual impacts are allowed to accumulate.

Fritiofson, 772 F.2d at 1245. To be adequate, then, the EIS should address the five points identified by the Fifth Circuit.²⁵

The FAA's cumulative impact analysis falls far short of this criteria. The Agency determined, for example, that airline operations at SWF were "not reasonably foreseeable," EIS at 4-83, despite that airport's 3243% growth in passenger traffic. Inexplicably, the EIS reviews 34 other airport projects that have a potential for noise impacts but finds that not one has the potential for significant cumulative noise impacts. See Table 4.25, EIS 4-75. In effect, the table seems to examine each project one by one. Thus, rather than assessing how all these reasonably foreseeable projects together with all past and present projects will be impacted by the airspace redesign, the FAA chose simply to segment one project from another. This approach runs counter to the very essence of an appropriate cumulative impact analysis. See Grand Canyon Trust v. F.A.A., 290 F.3d 339, 342 (D.C. Cir. 2002) ("While the factual settings differ in some respects from the instant case, the consistent position in the case law is that, depending on the environmental concern at issue, the agency's EA must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum").

This topic should be further researched to verify whether the FAA followed a reasonable method of calculating cumulative impacts. Cumulative impact must be studied, not "swept under the rug," as the FAA did here.

increased airspace capacity. Also . . . the FAA has commissioned a study to determine if one of six airports located near New York City could be expanded. That expansion would also take advantage of any increase in airspace capacity. The outcome of these projects will be changed by the presence of a more efficient airspace in the NY/NJ/PHL region. EPA Comment Letter (June 8, 2006).

²⁵ Note, however, that the Supreme Court has recognized that the responsible agency has discretion to determine "the extent and effect" of cumulative impact factors. Kleppe, 427 U.S. at 413-414.

D-56

(G) The Impacts on Section 4(f) Resources Require, at a Minimum, Additional Comment Period Before the ROD can be Released.

The Secretary of Transportation may approve a project that requires the "use" of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from a historic site of national, state, or local significance only when two conditions are met: 1) when there is no prudent and feasible alternative to the use of such land; and 2) when the project includes all possible planning to minimize harm resulting from the use. 49 U.S.C. § 303(c)(1)-(2). Indirect adverse impacts, such as noise and light, constitute a constructive use that prevents the use of these so-called "4(f)" resources for their intended purpose.²⁶ EIS at 5-42.

The EIS indicates that the FAA is still studying the effect of noise increases and light pollution on 4(f) resources, and would include that evaluation in the ROD. In fact, the agency lists twelve "4(f)" areas which it is still studying—an admission that a substantial amount of work is not yet done. Treasures like the Appalachian National Scenic Trail and the Delaware Water Gap National Recreation Area are two of the parks whose future will be decided with essentially no public participation. See, e.g., EIS at 5-46, 59, 64, 77, 79, 95, 99, 101, 117, 120, 122, and 124.

Even the National Park Service ("NPS") seems concerned. Despite NPS's environmental resources and visitor enjoyment being at risk, the FAA did not address NPS's concerns related to noise analysis methodology. See NPS Comments on Noise Mitigation Report (May 15, 2007) at 2. Like the Park Service, Rockland County believes that DNL is not appropriate as the only metric for determining noise impacts to parks. No technical rationale supports use of DNL to predict noise impacts in outdoor recreational settings. See Fidell Report. "Additional metrics, such as time above ambient and percent time audible, provide a more complete and accurate description of potential noise impacts on national parks and other noise-sensitive receptors." NPS Comments at 3. Indeed, the FAA's NEPA procedures recognize that the agency "will consider use of appropriate supplemental noise analyses in consultation with officials having jurisdiction for national parks, national wildlife refuges and historic sites including traditional cultural properties where a quiet setting is a generally recognized purpose" Park 1050 at A-65 (sec. 14.8). Yet, here the FAA simply decided that using any metric other than DNL was simply "too complex," even for assessing noise impacts to such sensitive resources. FAA response to NJCAAN comments at 43. This cavalier approach stands in marked contrast to the FAA's action in Grand Canyon Trust v. FAA, 290 F. 3d. 339 (D.C. Cir. 2002) where the agency conducted a detailed supplemental noise analysis that addressed the natural quiet of Zion National Park from a proposed construction of a local replacement airport.

Here the County submits that going beyond DNL to evaluate both maximum noise level, and total number of noise intrusions to these resources is a reasonable, scientifically valid

²⁶ The term "4(f)" simply refers to the original section of the Department of Transportation Act. Even though the section has been recodified, the original usage continues as a way to prevent needless confusion. See 23 C.F.R. § 771.107(e), n.2.

approach. The County also maintains it must make its noise impact analyses available for additional public comment so that the impacts to these sensitive resources may be fully evaluated by decision-makers prior to issuing the ROD. While the 4(f) findings may be made outside the EIS process, the analysis of impacts to 4(f) resources is properly part of, and must be considered under, the EIS.

(H) The Out-of-Date or Incomplete Information Require a Supplemental NEPA Document and Public Comment.

In the above arguments, Rockland County has illustrated how the FAA is flying its models on data that are either old, incomplete, or just plain wrong. For example, the FAA's flight projections were all made before the tragic events of September 11, 2001—nearly six years ago. EIS at 68. These projections would therefore not take into account huge price increases in aviation fuel and the now-imminent expansion of Newburgh/Stewart International Airport ("SWF"). FAA's use of an obsolete dosage-effect relationship to estimate noise impacts from DNL values has not been technically defensible for more than a decade. And the noise impacts on many popular parks have not even been released yet.

These shortcomings directly contravene the NEPA implementing regulations that require environmental information to be "of high quality." 40 C.F.R. § 1500.1. High quality information furthers the important policy goals of "[a]ccurate scientific analysis, expert agency comments, and public scrutiny." *Id.* Rockland County encourages those policies and hereby requests the FAA to take whatever steps are necessary to base its decision on high quality information.

One of the Agency's first steps, according to NEPA guidance, could include issuing a supplemental EIS. NEPA regulations are clear on this point: "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement. 40 C.F.R. § 1502.22. Here, the incomplete "4(f)" data do not appear to be exorbitant, yet are essential to a proper decision. Instead of pushing the ROD out the door, the FAA should wait until the parks study is finished and include it in a supplemental EIS.

This same supplemental EIS should use another metric than DNL, or explain why DNL is an appropriate measure of noise impact. The rule is that the FAA "shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24. It is hard to square this unambiguous regulation with expert reports that the FAA is still using noise impact methods that are "demonstrably biased, inaccurate, and unreliable." Fidell Report. Here, the FAA should not be given deference because it is not basing its decision on "generally accepted scientific approaches or research methods." See *Methow Valley Citizens Council*, 490 U.S. at 334 (Agencies are entitled to substantial deference if they rely on the preceding techniques). A supplemental EIS could cure FAA's deficiency in this regard.

D-58

The recent takeover of SWF by the PANYNJ drastically changes the EIS's baseline assumptions. NEPA regulations require a supplemental EIS if there are "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § Section 1502.9(c). With rapid, large-scale changes at SWF, the FAA must rework its models so that it "has the best possible information to make any necessary substantive changes in its decisions regarding the proposal." Id.

Case law supports the County's suggestion that the NEPA process must be reopened because of the insufficiency or quality of the data. In Seattle Audubon Soc. v. Espy, 998 F.2d 699 (9th Cir. 1993), citizen groups filed action to challenge the legality of an EIS and the ROD. Directing its comments at the data used in the EIS, the court found that the Forest Service relied on "stale scientific evidence, incomplete discussion of environmental effects . . . and false assumptions." Id. at 705. The Court then held that the district court did not err in concluding that the Forest Service must re-examine its chosen alternative. Id. In Lands Council v. Powell, 395 F.3d 1019 (9th Cir. 2005), environmental groups challenged the timber harvest approved by the Forest Service as part of a "watershed restoration" project in the Idaho Panhandle National Forest. Here, the court looked at the data and found that they were "too outdated to carry the weight assigned to it. We conclude that the lack of up-to-date evidence on this relevant question prevented the Forest Service from making an accurate cumulative impact assessment of the Project on the habitat and population of the Westslope Cutthroat Trout." Id. at 1021. As a final example of legal support, the County cites to Northwest Ecosystem Alliance v. Rey, 380 F.Supp.2d 1175 (W.D.Wash. 2005). There, environmental and conservation groups challenged certain forest management plan standards on the basis of NEPA and other laws. After repeating the NEPA requirements of complete, high quality information, the court again held that "[r]elying on outdated data or not acknowledging the limitations in a methodology are grounds for setting aside an EIS. These three cases make clear that the FAA's EIS is at risk if not supplemented by additional, better data and methods.

In addition to the above arguments, Rockland County submits that the FAA's rigid reliance on the outdated non-peer-reviewed DNL metric violates the Office of Management and Budget ("OMB") Data Quality Act Guidelines. See Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554; H.R. 5658). That Act requires OMB to "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies." The OMB guidelines, define "quality" as an encompassing term comprising utility, objectivity, and integrity, with the middle term being especially useful here:²⁷

"Objectivity" is a measure of whether disseminated information is accurate, clear, complete, and unbiased and whether that information is presented in an accurate clear, complete and unbiased manner.

²⁷ See Office of Management and Budget Information Quality Guidelines (Oct. 1, 2002), available at http://www.whitehouse.gov/omb/infoereg/iqq_oct2002.pdf

The Data Quality Act also has a presumption favoring peer-reviewed information. As a general matter, in the scientific and research context, OMB regards technical information that has been subjected to formal, independent, external peer review as presumptively objective. The guidelines state in paragraph V.3.b.i: "If data and analytic results have been subjected to formal, independent, external peer review, the information may generally be presumed to be of acceptable objectivity. However, this presumption is rebuttable based on a persuasive showing by the petitioner in a particular instance."

The County has serious reservations that the use of DNL meets these important DQA criteria. As Dr. Fidell notes, the DNL metric relies on the 1992 FICON Report that was never peer reviewed and has been discredited by other experts through detailed peer reviewed studies. Fidell Report at 1-2. If the FAA still believes that the use of this outdated non-peer-reviewed metric still meets the OMB criteria, it must provide "persuasive evidence" and subject that evidence to the light of public comment.

Conclusion

As these comments and analysis clearly demonstrate, it is imperative that the FAA prepare supplemental NEPA documentation and seek public comment before issuing its ROD. The consequences of not doing so are simply too great.

**CRITIQUE OF AIRCRAFT NOISE ANALYSIS OF
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR NEW YORK/NEW JERSEY/ PHILADELPHIA
METROPOLITAN AREA AIRSPACE REDESIGN**

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August 31, 2007

The disclosure and evaluation of aircraft noise impacts in the final EIS (FEIS) does not meet rigorous NEPA requirements for reasons discussed below.

The primary descriptor of aircraft noise, "DNL," adopted in the FEIS is not a reliable predictor of community response to aircraft noise

The principal noise metric on which the FEIS relies for quantifying aircraft noise is Day-Night Average Sound Level, abbreviated as DNL and represented in mathematical expressions as L_{dn} . DNL is a time-weighted 24-hour average index of acoustic energy. Neither DNL nor any other noise metric is a direct measure of noise *impacts* on overflowed populations. The only utility in estimating DNL values for purposes of quantifying aircraft noise impacts is as an indirect predictor of community response.

Per FAA Order 1050.1E and FAR Part 150, the EIS relies on a fifteen-year-old report of the Federal Interagency Committee on Noise (FICON) to technically justify its practice of describing aircraft noise in units of DNL. (FICON was a voluntary grouping of several federal agencies that was formed, without legislative charter, to coordinate administrative and policy positions with respect to environmental noise matters.) FICON's 1992 report^a, which has never been peer reviewed, asserts that DNL is the "appropriate" descriptor of aircraft noise because it "has been found to correlate well with community annoyance, as measured in terms of percentage of exposed persons who are 'Highly Annoyed.'" (FICON, 1992, Section 2-2).

The FAA asserts that it discloses DNL values produced by aircraft operations in NEPA-required documents in order to predict the prevalence of high annoyance in aircraft noise-exposed populations. According to FICON, the percent of a residential population that is highly annoyed ("HA") by any form of transportation (including aircraft) noise is best predicted from DNL values as $100 / (1 + e^{(11.13 - 0.141L_{dn})})$. The data points in Figure 1 (adapted from Fidell and Silvati^b) are empirical measurements of the prevalence of annoyance as measured in social surveys conducted world-wide. The curve shows the dosage-effect relationship that FAA relies on to transform DNL values into estimates of the prevalence of annoyance due to transportation noise.

Figure 1 reveals that FICON's curve systematically under-predicts the annoyance of the bulk of the (red) aircraft noise data points. Furthermore, FICON's prediction equation $[(\%HA) = 100 / (1 + e^{(11.13 - 0.141L_{dn})})]$ accounts for less than 20% of the variance in the data set that has accumulated over four decades of more than 50,000 interviews about aircraft noise impacts in 326 communities in the U.S. and abroad. The overwhelming weight of scientific evidence published in peer-reviewed professional journals subsequent to publication of the 1992 FICON report indicates that the dosage-effect relationship for converting DNL values into estimates of the prevalence of high annoyance with aircraft noise is biased, inaccurate, and unreliable (*cf.*

^a Federal Interagency Committee on Noise (FICON) (1992). "Federal Agency Review of Selected Airport Noise Analysis Issues," Report for the Department of Defense, Washington, D.C.

^b Fidell, S., and Silvati, L. (2004) "Parsimonious alternatives to regression analysis for characterizing prevalence rates of aircraft noise annoyance," *Noise Control Eng. J.*, 52 (2), pp. 56-68

Finegold, Harris and vonGierke, 1994^c; Fidell, 2003^d; Fidell and Silvati, 2004^e; Miedema and Vos, 1998^f; and Schomer, 2002^g, *inter alia*).

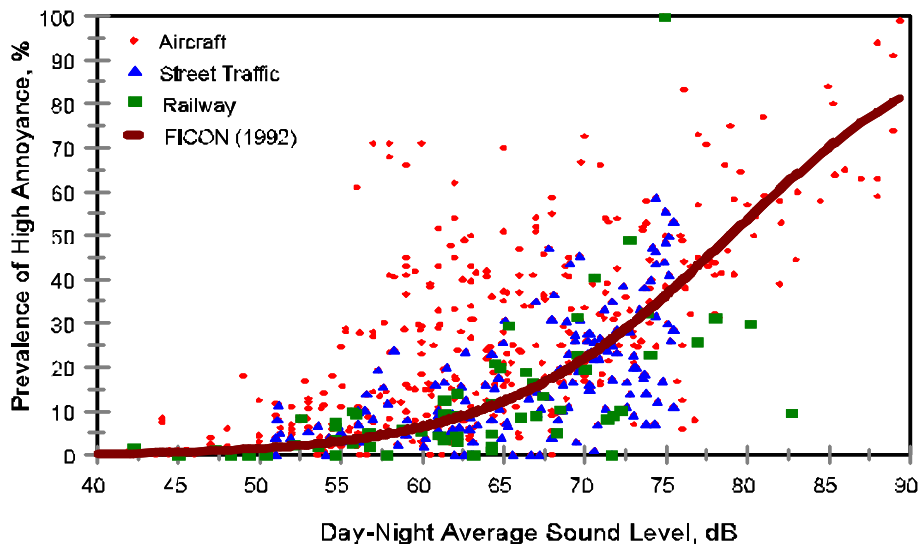


Figure 1: FAA's dosage-effect relationship between transportation noise exposure and annoyance systematically under-estimates the prevalence of aircraft noise-induced annoyance in communities.

For example, Miedema and Vos^h demonstrate that source-specific dosage-effect relationships (that is, predictive equations restricted to particular surface and airborne sources of transportation noise) are technically superior to FICON's obsolete, one-size-fits-all predictive equation. Further, Fidell and Silvatiⁱ show that predictions of the prevalence of annoyance based

^c Finegold, L., Harris, C. S., and von Gierke, H. E. (1994). "Community annoyance and sleep disturbance: Updated criteria for assessing the impacts of general transportation noise on people," *Noise Control Eng. J.*, 42(1), 25-30.

^d Fidell, S. (2003) "The Schultz curve 25 years later: a research perspective", *J. Acoust. Soc. Am.*, 114(6), pp. 3007-3015.

^e Fidell, S., and Silvati, L. (2004) "Parsimonious alternatives to regression analysis for characterizing prevalence rates of aircraft noise annoyance," *Noise Control Eng. J.*, 52 (2), pp. 56-68.

^f Miedema, H., and Vos, H. (1998). "Exposure-response relationships for transportation noise," *J. Acoust. Soc. Am.*, 104(6), 3432-3445.

^g Schomer, P. (2002). "On normalizing DNL to provide better correlation with response", *Sound and Vibration*, pp. 14-23

^h Miedema, H., and Vos, H. (1998). *op. cit.*

ⁱ Fidell, S., and Silvati, L. (2004). *op. cit.*

on weighted averages of the field data on the prevalence of annoyance at specific DNL values support more accurate characterization of community annoyance than prediction equations constrained by the statistical assumptions of regression analyses.

A 2003 study notes that "FICON's doctrine has codified the status quo in understanding of community reaction to noise as of a quarter century ago [and] led to repeated mis-prediction of community reaction to noise exposure . . . A greater proportion of the population than predicted by FICON is demonstrably highly annoyed by aircraft noise at the de facto threshold of federal concern ($L_{dn} = 65$ dB); many airport noise controversies remain inexplicable from the perspective of official recommendations of compatible land use, and vigorous opposition to construction of airport infrastructure is more the rule than the exception."^j

The FAA acknowledges that supplemental noise analyses may be appropriate to "characterize specific noise effects . . . [and that] supplemental noise analyses are most often used to describe aircraft noise impacts for specific noise sensitive locations or situations and to assist in the public's understanding of noise impact." (FAA Part 1050 App. A- 63, 14.5). That the current circumstances constitute just such a situation is clear in the light of the FAA's response to draft EIS (DEIS) comment 4100 (Page 5, Comment Number 12), in which the agency notes that "New Jersey seems to be particularly sensitive to noise."

Community reaction to the Expanded East Coast Plan (a predecessor to the current Airspace Redesign effort) proved to be far more vigorous and sustained than FAA expected from predictions made on the basis of FICON's dosage-effect relationship. Rather than conclude that its DNL-based predictive method is unreliable, however, FAA did not even consider supplementing its inappropriate predictions of community response in the current EIS with more modern, source-specific methods. The agency thus knowingly under-predicts aircraft noise impacts in the FEIS.

FAA's reliance on an outmoded method for predicting community response to aircraft noise ignores a fundamental NEPA requirement that agencies must "insure the professional integrity, including the scientific integrity, of the discussions and analyses in environmental impact statements." (CEQ regulations at 1520.24). FAA's technically unjustifiable practice also defies the provisions of the Data Quality Act, which require that federal agencies "maximize the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal Agencies." (P.L. 106-554). In order to meet this rigorous standard, the agency must apply the most accurate peer-reviewed methods for assessing community response to aircraft noise, and not rely on the outdated policy recommendations of the FICON report.

The FEIS is also deficient in failing to include a sensitivity analysis of the consequences of not adopting a more modern and well-documented dosage-effect relationship than that identified by FICON to transform estimated DNL values into numbers of persons highly annoyed by airspace redesign alternatives.

^j Fidell, S. (2003) "The Schultz curve 25 years later: a research perspective", J. Acoust. Soc. Am., 114(6), pp. 3007-3015.

No technical rationale supports use of DNL to predict noise impacts in outdoor recreational settings

FAA lacks any widely-accepted technical rationale for extending its preference for expressing aircraft noise exposure in units of DNL to assessment of noise impacts in non-residential settings, such as outdoor recreation. Although the FEIS acknowledges that land areas underlying the study area for the airspace redesign contain “numerous city, county, state, and national parks, wildlife refuges, and historic sites”, several of which are located in Rockland County, NY (FEIS, page 3-36), FAA does not disclose or assess aircraft noise impacts on parks that are associated with the proposed action in units other than DNL. Nearly a third of the land area of Rockland County is reserved for outdoor recreation and related uses in public parks.

In the two decades since passage of Public Law 100-91 (the National Park Overflights Act of 1987), FAA has been extensively involved with the U.S. Department of Interior National Park Service and the U.S. Department of Agriculture Forest Service in evaluating aircraft noise impacts in park and wilderness settings. FAA is well aware of the inappropriateness of DNL as a predictor of aircraft noise impacts in such non-residential circumstances. The FAA NEPA procedures even state that “The FAA will consider use of appropriate supplemental noise analysis in consultation with officials having jurisdiction for national parks, national wildlife refuges and historic sites including traditional cultural properties where a quiet setting is a generally recognized purpose” Part 1050 at A- 65 (sec. 14. 8).

Indeed, the FAA has issued special federal aviation regulations for aircraft operations in airspace overlying parks that have been based on evaluations of noise impacts in terms of noise metrics such as the percent of time aircraft noise is audible to park visitors; has modified its primary noise modeling software (INM) to conduct audibility calculations; and has routinely assessed noise impacts other than residential annoyance (*e.g.*, speech interference), and identified alternative units, including Peak Sound Exposure Level (SEL), Time Above (A), Maximum A-Weighted Sound Level (L_{max}) in its Section 4(f) Evaluations (*cf.* FAA’s “Section 4(f) Evaluation for Minneapolis-St. Paul International Airport, May, 1998.) Here, the FAA has refused to heed its own policies and procedures where its preferred alternative would very likely have a significant impact on such resources.

The FEIS arbitrarily excludes consideration of potential noise impact mitigation measures

Appendix P of the FEIS indicates that “the FAA considered [noise mitigation] measures in all areas, not just those areas that experienced a significant impact or a slight to moderate threshold-based noise change as reported in the DEIS.” It further asserts that “Consideration was given to measures that would affect areas of noise increase that did not receive a significant or slight to moderate noise increase.”

Nonetheless, it is readily apparent that the initial screening and evaluation methods used to identify potential mitigation measures were narrowly focused on heading and altitude changes for approaches and departures in proximity to individual runway ends at various airports. The text of Appendix P even states that “the effects of individual mitigation procedures are largely localized and related to specific airports.” Appendix P contains scant evidence that an evaluation

was even attempted of the overall efficacy of region-wide combinations of potential measures to reduce noise exposure in areas remote from runway ends. Table 1 of Appendix P, for example, reveals no evidence that any measures were considered to mitigate overflight noise in parks in Rockland County, NY.

The text of the Appendix also indicates that some potential mitigation measures were rejected following operational evaluations described in Appendix O. The evaluations of Appendix O were conditioned on piecemeal, one constraint-at-a-time analyses. These analyses ignored the possibility of optimizing overall airspace capacity by insisting on preserving all aspects of the current operating environments at existing airports.

Thus, the FAA rejected potential mitigation options for air traffic flows during busy time periods at certain airports as infeasible on the grounds of localized interference with routine operations at other airports. A truly systems-based approach was never attempted, in which, for example, busy period flow constraints on operations at a small airport might enable adoption of procedures that could mitigate noise impacts of heavy air traffic flows on large populations in an area remote from a small airport. Such measures are familiar and widely accepted practice in highway traffic control, where timing cycles of traffic lights at intersections of large and small roads are adjusted to maximize area-wide traffic flows, and access from local entrance ramps to arterial highways are routinely metered in order to accommodate higher flow rates on larger roads.

For example, it is noted on page 5 of Appendix O that “the most important constraining factor on the JFK flow from the Northeast is the position of Long Island MacArthur Airport (ISP) which, for safety reasons, requires aircraft flows to other airports to remain outside of a circle at least three miles in radius.” JFK is a major portal for heavy flows of air traffic on international and transcontinental routes. ISP is a small airport serving relatively small numbers of short haul flights. Failure to consider short-term constraints on operations at ISP in order to permit mitigation of noise impacts created by air traffic flow approaching JFK from the northeast is an unreasonable basis for selecting noise mitigation measures for further evaluation. Such failures to consider system-wide consequences of modifying combinations of local air traffic control practices also call into question how thoroughly the purpose and need of the proposed action were served by FAA’s one-constraint-at-a-time approach to optimizing region-wide airspace redesign.

The FEIS over-interprets results of its noise modeling

All of the aircraft noise exposure estimates in the FEIS that have been computed by NIRS are the product of prospective modeling, based on estimate and assumption. Early in the airspace redesign effort, FAA and its contractors made very detailed predictions about numbers of various types of aircraft that would be flying on thousands of flight paths under IFR conditions at various times of day to and from the many runways of nearly two dozen airports, large and small, throughout the study area, five and ten years hence. FAA then carried out computations of expected noise exposure to the nearest millionth of a decibel, when the underlying precision of its assumptions and available information about community noise impacts does not support meaningful predictions to a precision greater than plus or minus several

decibels.^k

Although there are no facts about the future, the gestation period of the EIS has been so protracted that the future has come and gone for one of the predicted time periods (2006). The FEIS errs not only by treating noise exposure estimates that are the results of assumption piled upon assumption as the product of precise engineering calculations, but also by failing to compare projections based on assumptions made long ago with actual flight path use statistics for 2006.

Further, certain of the noise modeling assumptions made years ago have been overtaken by events. The announcement by the Port Authority of New York and New Jersey, the new operator of Stewart International Airport, for example, that it intends to encourage development and use of its airport for increased commercial operations, raises legitimate concerns about cumulative increases in noise impacts in nearby airspace in Rockland County, NY. Section 1.4.1 of Appendix Q of the FEIS seeks to dismiss such concerns, on the grounds that Stewart Airport is 50 air miles from LGA, and hence isolated “from the biggest changes to the airspace in the Preferred Alternative.” This observation, which focuses on the effects of future development at Stewart on the adequacy of FAA’s airspace redesign efforts, has nothing to do with FAA’s duty to disclose and evaluate noise impacts in Rockland County of growth in air traffic due to circumstances that were not anticipated when the original noise modeling assumptions were made.

Even if the details of the outdated noise modeling assumptions of the FEIS were to be accepted at face value, the FEIS still errs in failing to inform readers of the unreliability of DNL-based noise impact predictions at low exposure levels. According to FICON, “For a variety of reasons, noise predictions and interpretations are frequently less reliable below DNL 65 dB. DNL prediction models tend to degrade in accuracy at large distances from the airport.” Some prominent reasons for this inaccuracy include the inability of FAA to make precise predictions of flight paths of aircraft other than in the immediate vicinity of airports, as well as uncertainties about power settings, aircraft configurations, and pilot technique at times when aircraft are in flight regimes other than take-off and landing.

FICON concludes that “Therefore, predictions of noise exposure and impacts below DNL 65 dB should take the possibility of such inaccuracy into account.” Most of the DNL values due to aircraft noise that the FEIS predicts for Rockland County are at least two orders of magnitude lower than 65 dB. The FEIS fails to inform readers of the inherent imprecision of its noise exposure predictions in Rockland County and elsewhere.

Conclusion

In short, the FEIS is defective (1) in its reliance on outdated noise impact prediction methods; (2) in its failures to supplement FICON’s DNL-based noise impact prediction methods (known from the agency’s prior experience to have under-estimated community response in the

^k Fidell, S., and Schomer, P. (2007). “Uncertainties in measuring aircraft noise exposure and predicting community response to it”, *Noise Control Eng. J.* Vol. 55(1).

study area), and to disclose, consider and evaluate non-residential noise impacts; (3) in its failure to adopt a top-down, system-wide approach to screening noise mitigation measures (resulting in the arbitrary exclusion from detailed consideration of potentially useful combinations of air traffic control and noise mitigation measures at multiple airports); (4) in its failure to update noise modeling assumptions that had been overtaken by events during the lengthy course of the airspace redesign effort; and (5) in failing to inform readers of the unreliability of noise exposure estimates at low exposure levels.

**IMPACT OF AIRCRAFT NOISE
OVER ROCKLAND COUNTY,
NEW YORK**

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IMPACT OF AIRCRAFT NOISE OVER ROCKLAND COUNTY, NEW YORK

Introduction

My name is Dr. Theodore Lane, and I have a PhD in economics. I am a Principal in Thomas/Lane & Associates (TLA), economic & public policy consultants. During the past 20 years assignments I have had include studying the socio-economic impact of aircraft noise on communities surrounding SeaTac International Airport, analyzing the feasibility of developing commercial/industrial parks at general aviation airports in Washington State, identifying the socio-economic consequences of expanding Logan International Airport in Boston, MA, studying the economic feasibility of commercial tilt rotor aircraft in the Chicago region and the Caribbean region, analyzing the potential for developing multi-modal facilities at Montana's commercial airports, and being an expert witness for a consortium of commercial airlines challenging their taxation under the real personal property laws of the states of Washington and Oregon. Clients have included the FAA, the aviation divisions of state transportation agencies, local governments, economic development authorities and port districts. A one page resume is attached at the end of this report. A full resume and a statement of TLA qualifications are available on request.

Background

Rockland County is located 12 miles north-northwest of New York City. It is part of the New York-Northern New Jersey-Long Island-, NY-NJ-PA Metropolitan Area.

The U.S. Census estimated Rockland County's 2006 population as 294,965 persons – an increase of 2.9 percent since the 2000 Decennial Censusⁱ. Its population in 2005 was 80.2 percent white, of which 69.2 percent were white not Hispanic. Black persons made up 11.9 percent of the 2005 population.

The home ownership rate reported in 2000 by the U.S. Census was 71.2 percent, and the percentage of persons five years old and older who lived in the same house in 1995 and 2000 was 64.5 percentⁱⁱ. The median value of owner-occupied housing in 2000 reported in the Census was \$242,500, compared with \$148,700 for the entire State of New York.

Rockland County's population is well educated: 85.3 percent were high school graduates and 37.5 percent had a bachelor's degree or higher in 2000.

According to the 2000 Census, among persons 16 years of age or older living in Rockland County, 65.5 percent were in the labor force and 63.0 percent were employed (the

unemployment rate was 2.4 percent). The Census reported 44.2 percent of employed persons were in management, professional and related occupations, while 39.2 percent were attached to professional, scientific, management, administrative, educational, health or social service industries.

Median household income in 2000 was \$75,306 and median family income was \$78,806. There were 36.2 percent of families with annual incomes in excess of \$100,000.

Overall, Rockland County is an upper income, upper educated, single family residential area whose residents appear to be primarily employed in professional, technical and scientific activities in the New York Metropolitan region.

NY/NJ/PHL Metropolitan Area Airspace Redesign

The Federal Aviation Administration (FAA) has issued a Final Environmental Impact Statement (FEIS) for a proposed airspace redesign for the New York/New Jersey/Philadelphia Metropolitan region. The purpose of the redesign is to improve the efficiency of air traffic control in the region, thereby curbing some of delays now being experienced by travelers using regional airports. As a result of the redesign, 300 to 400 additional flights arriving at Newark Liberty International Airport are expected to travel over Rockland County. These flights would enter the County's airspace from the north at 8,000 to 10,000 feet, descend to a level of 5,000 to 6,000 feet and exit the County to the south.

The FAA identified an area in the south central part of Rockland County where aircraft heading for Newark Liberty International will pass over at low elevations causing noise increases of 5.0 DNL or more.ⁱⁱⁱ The Noise Exposure Tables contained in the FEIS identify 152 Census Blocks in seven Census Tracts containing 16,138 persons where aircraft noise levels will increase on average by 7.0 DNL^{iv}. The absolute aircraft noise levels in these Census Tracts and Blocks will remain modest – in the range of 40 to 45 DNL. However, it is generally accepted that an increase in noise of 7.0-10.0 DNL is perceived by impacted persons as a doubling of the noise level. The noise generated by aircraft passing over the communities in south central Rockland County will be perceived therefore as being twice as high as it would be without the proposed airspace redesign.

Noise Impacts of the NY/NJ/PHL Metropolitan Area Airspace Redesign

Noise impacts are usually considered the primary impact generated by air transportation. This is not because noise is the only impact generated by air transportation activity but rather because noise is a marker for a range of socio-economic impacts. Higher noise levels are associated with a downward shift in land values which then cause changes in land use

patterns. These in turn produce adverse changes in both local economic activity and the characteristic of the impacted resident population. The fiscal consequence of these changes is that community service requirements rise at the same time as the revenues of local governments are depressed below what they otherwise would be.

In Rockland County, the significantly impacted Census Blocks and Tracts will still experience absolutely moderate aircraft noise levels but local residents will perceive that aircraft noise has doubled over what it otherwise would have been. This will lead to a decline in relative property values. In the short run most analysts expect housing market values in the NY/NJ/PHA Metropolitan area will be stable or decline somewhat. In this type of downward market properties falling under the “noise shadow” of the new approach routes to Newark Liberty International airport will be more difficult to sell, remain on the market longer and be particularly vulnerable to downward market pressures. In the long run, absolute property values will likely rise but at a rate of increase measurably less than properties not adversely impacted by the airspace redesign. That is, they will suffer significant relative losses of value even though their absolute values continue to rise.

A concern with such relative changes in areas with moderate absolute noise levels has been experience elsewhere. The City of Mercer Island, Washington, is a case in point. Mercer Island has most of the economic, social and demographic characteristics that exist in Rockland County: it is an upper income, upper educated, single family residential area whose residents are primarily employed in professional, technical and scientific activities in a surrounding metropolitan region. The air traffic control pattern of Seattle Tacoma International Airport (SeaTac) routed aircraft over Mercer Island at altitudes of about 5,000 feet. Mercer Island residents felt the relative noise impacts they experienced compared to adjacent upper income, upper educated, single family residential communities were so serious that they petitioned the FAA to change the air traffic control patterns to route aircraft away from their City. The FAA recognized Mercer Island’s concerns and several years ago changed SeaTac’s air traffic control patterns to give Mercer Island relief. Yet, in the case of Rockland County, these types of concerns with relative noise impacts were completely ignored in the FEIS.

Ignoring relative noise impacts is particularly egregious in the case of Rockland County because of the likelihood that the aircraft activity forecast contained in the NY/NJ/PHA Airspace Redesign FEIS underestimates the actual impacts that will occur for two reasons. First, air transportation corridors are like other transportation corridor – they tend experience feedback, i.e., when additional capacity is added, additional traffic is attracted. Obviously this doesn’t happen everywhere and adding capacity to a low used air corridor will not attract additional aircraft any more than adding additional freeway lanes will cause more

automobile traffic in a low population/employment density, low vehicle usage rural area. But in a crowded, high density, high usage area such as the NY/NJ/PHA Metropolitan area, additional capacity will almost certainly produce feedback effects and cause corridor use patterns to increase. The way in which air traffic will increase as a result of the additional air corridor capacity created by the Airspace Redesign is unknown and hence its impact on noise levels in Rockland County's impacted areas cannot be gauged from the data available in the FEIS. It could involve changes in the fleet mix and well as changes in the frequency of aircraft over flights. But there will be changes, there will be feedback, and there is no recognition of such changes in the FEIS.

The second problem with the aircraft activity forecast contained in the FEIS is that it gives no recognition to the potential development of additional major regional airports once additional airspace capacity has been added to the region. Several airports in the region (most notably Stewart and Teterboro) could originate/expand scheduled commercial air service with the addition of regional airspace capacity. Airport expansion plans since the initiation of the EIS process over five years ago appear not to have been included in the FEIS. At a minimum, such expansion plans should be identified and analyzed for their noise impact implications.

Other Impacts of the NY/NJ/PHL Metropolitan Area Airspace Redesign

It is widely recognized that airport approach and departure corridors generate a range of socio-economic impacts.^v These include, but are not limited to:

- Blighting of residential sites which leads to conversion from home ownership properties to rental properties and decreases in per square foot land values.
- Downscaling of the socio-economic characteristics of both businesses and population in the impacted areas.
- Increases in the cost of delivering community services such as public safety, schools, nuisance abatement, parks and community centers necessary to maintain a constant quality of life in the impacted areas.

In addition, several studies have found evidence supporting the significant adverse impact of airplane noise on the ability of school children to learn. A study conducted by the Highline School District at a junior high school located under SeaTac International Airport's approach/departure flight path compared the math test scores of students in classrooms that were and were not insulated to attenuate aircraft noise. Test scores on average were 25 percent lower in the non-insulated classrooms.^{vi} A study published this year by the Federal Interagency Committee on Aviation Noise (FICAN) found that there was some interesting,

but not conclusive, evidence that learning by school children might be impaired by noise levels as low as 40-45 DNL.

The Beth Rochel school for girls is located in Census Block 2012, Census Tract 121.04, which is one of the noise impact areas in Rockland County the FAA identified. Yet the NY/NJ/PHA Airspace Redesign FEIS contains no analysis (or even reference) to potential school impacts in Rockland County.

Finally, if residents living in the impacted areas perceive a doubling of the noise generated by aircraft approaching Newark International Airport they will experience a disruption of normal family functioning. Parents and children will find themselves reluctant to participate in normal outdoor activities such as playing games or sports, enjoying park lands or having outdoor barbecues. Although there is no straight forward way to quantify the adverse psychological impacts such as stress that result from the disruption of normal family functioning, it is probable that they will occur and they warrant acknowledgement, at a minimum, within the structure of the FEIS.

Conclusion

Airport approach and departure corridors generate a range of socio-economic impacts that are induced by aircraft noise. In the case of Rockland County, NY, an estimated 16,138 persons living in the south central part of the County will experience an increase in aircraft noise of about 7 DNL and will perceive that aircraft noise over their homes has roughly doubled.

Although absolute aircraft noise levels will be moderate, relative aircraft noise levels will increase significantly. The fact that relative noise levels are important is evidenced by the FAA's willingness to alter approach/departure flight tracks associated with SeaTac International Airport to reduce them in the City of Mercer Island – a community with most of the same noise, socio-economic and demographic characteristics found in Rockland County.

Further, there is reason to believe that the NY/NJ/PHA Airspace Redesign FEIS underestimates the actual noise impacts that will occur for two reasons:

- in a crowded, high density, high usage area such as the NY/NJ/PHA Metropolitan area, additional capacity will almost certainly produce feedback effects and cause corridor use patterns to increase, and

-
- the aircraft activity forecast contained in the FEIS is that it gives no recognition to the potential development of additional major regional airports once additional airspace capacity has been added to the region.

In addition to direct noise impacts, such noise-induced impacts as the blighting of residential areas, the downscaling of the socio-economic characteristics of impacted businesses and population, increasing the cost of delivering community services necessary to maintain a constant quality of life in the impacted areas, and protecting the ability of school children to learn are all omitted in the FEIS. This is particularly egregious since FAA Advisory Circulars specifically direct airport authorities to address such issues.

Noise Exposure Table

State	County	Census Tract ID	Census Block ID	Population (2000)	Integrated Variation with ICC with Mitigation LDN level	Integrated Variation with ICC with Mitigation LDN change 2006-2011
New York	Rockland	101.01	2001	26	31.8	6.8
New York	Rockland	101.01	2002	163	31.8	6.7
New York	Rockland	101.01	2003	19	31.5	7.2
New York	Rockland	101.01	2004	11	31.6	7.4
New York	Rockland	101.01	2006	12	31.7	7.1
New York	Rockland	101.01	2007	72	31.9	6.8
New York	Rockland	101.01	2034	4	31.6	6.9
New York	Rockland	116.02	3009	7	39.8	6.6
New York	Rockland	116.02	3010	131	40.0	6.8
New York	Rockland	116.02	3011	8	39.9	6.7
New York	Rockland	116.02	3015	37	39.6	6.5
New York	Rockland	116.02	3016	57	39.6	6.5
New York	Rockland	116.02	3017	24	39.8	6.7
New York	Rockland	121.01	1018	54	40.7	6.5
New York	Rockland	121.01	2000	90	40.6	6.6
New York	Rockland	121.01	2001	295	40.7	6.6
New York	Rockland	121.01	2002	80	40.6	6.7
New York	Rockland	121.01	2003	55	40.7	6.8
New York	Rockland	121.01	2004	44	40.6	6.8
New York	Rockland	121.01	2005	13	40.6	6.7
New York	Rockland	121.01	2006	32	40.5	6.5
New York	Rockland	121.01	2007	50	40.4	6.6
New York	Rockland	121.01	2008	116	40.6	6.8
New York	Rockland	121.01	2009	80	40.6	6.8
New York	Rockland	121.01	2010	32	40.6	6.8
New York	Rockland	121.01	2011	139	40.6	6.9
New York	Rockland	121.01	2012	194	40.5	6.8
New York	Rockland	121.01	2013	86	40.4	6.8
New York	Rockland	121.01	2014	228	40.5	7.0
New York	Rockland	121.01	2015	227	40.3	6.9
New York	Rockland	121.01	2016	162	40.0	6.7
New York	Rockland	121.03	1006	46	40.6	6.6
New York	Rockland	121.03	1007	43	40.6	6.6
New York	Rockland	121.03	1008	103	40.5	6.6
New York	Rockland	121.03	1009	418	40.3	6.5
New York	Rockland	121.03	1010	286	40.4	6.5
New York	Rockland	121.03	1016	45	40.2	6.4
New York	Rockland	121.03	1017	72	40.3	6.5
New York	Rockland	121.03	1018	164	40.3	6.5

State	County	Census Tract ID	Census Block ID	Population (2000)	Integrated Variation with ICC with Mitigation LDN level	Integrated Variation with ICC with Mitigation LDN change 2006-2011
New York	Rockland	121.03	1019	299	40.6	6.8
New York	Rockland	121.03	1021	62	40.5	6.7
New York	Rockland	121.03	1022	132	40.5	6.7
New York	Rockland	121.03	1023	129	40.5	6.6
New York	Rockland	121.03	1024	107	40.6	6.8
New York	Rockland	121.03	1025	129	40.5	6.7
New York	Rockland	121.03	1026	160	40.4	6.6
New York	Rockland	121.03	1027	21	40.4	6.5
New York	Rockland	121.03	1028	37	40.4	6.6
New York	Rockland	121.03	1029	47	40.5	6.6
New York	Rockland	121.03	2000	108	40.5	6.6
New York	Rockland	121.03	2002	126	40.5	6.6
New York	Rockland	121.03	2003	294	40.6	6.8
New York	Rockland	121.03	2005	72	40.4	6.5
New York	Rockland	121.03	2006	103	40.5	6.6
New York	Rockland	121.03	2007	123	40.5	6.6
New York	Rockland	121.03	2008	519	40.6	6.9
New York	Rockland	121.03	2009	103	40.6	6.9
New York	Rockland	121.03	2010	171	40.7	7.0
New York	Rockland	121.03	2011	169	40.6	6.7
New York	Rockland	121.03	2012	2	40.7	6.8
New York	Rockland	121.03	2013	31	40.7	6.7
New York	Rockland	121.03	2014	19	40.6	6.6
New York	Rockland	121.03	2015	89	40.6	6.6
New York	Rockland	121.03	2016	84	40.5	6.5
New York	Rockland	121.03	2017	13	40.6	6.5
New York	Rockland	121.03	2019	42	40.6	6.9
New York	Rockland	121.04	2006	36	39.6	6.6
New York	Rockland	121.04	2007	21	39.7	6.7
New York	Rockland	121.04	2008	112	40.0	6.8
New York	Rockland	121.04	2012	630	40.5	6.5
New York	Rockland	121.04	2013	60	40.6	6.6
New York	Rockland	121.04	2014	241	40.5	6.6
New York	Rockland	121.04	2015	149	40.6	6.8
New York	Rockland	121.04	2017	87	40.7	6.7
New York	Rockland	121.04	2018	141	40.7	6.7
New York	Rockland	121.04	2019	289	40.7	7.0
New York	Rockland	121.04	2021	61	40.6	7.0
New York	Rockland	121.04	2022	97	40.6	7.1
New York	Rockland	121.04	2023	51	40.4	7.0
New York	Rockland	124	3003	141	39.7	6.6

State	County	Census Tract ID	Census Block ID	Population (2000)	Integrated Variation with ICC with Mitigation LDN level	Integrated Variation with ICC with Mitigation LDN change 2006-2011
New York	Rockland	124	3004	185	40.2	6.7
New York	Rockland	125.01	1000	11	40.0	6.8
New York	Rockland	125.01	1001	182	40.1	6.7
New York	Rockland	125.01	1013	3	40.0	6.6
New York	Rockland	125.01	2006	125	40.0	6.8
New York	Rockland	125.01	2007	21	39.8	6.7
New York	Rockland	125.01	2008	46	40.3	7.0
New York	Rockland	125.01	2009	286	40.2	6.9
New York	Rockland	125.01	2010	37	40.5	7.0
New York	Rockland	125.01	2011	91	40.4	7.0
New York	Rockland	125.01	2012	92	40.6	7.0
New York	Rockland	125.01	2013	263	40.7	6.9
New York	Rockland	125.01	2014	91	40.7	6.9
New York	Rockland	125.01	2015	232	40.8	7.2
New York	Rockland	125.01	2016	246	40.7	7.1
New York	Rockland	125.01	2017	24	40.6	7.0
New York	Rockland	125.01	2018	47	40.5	7.0
New York	Rockland	125.01	2019	262	40.3	6.9
New York	Rockland	125.01	2020	88	40.3	6.8
New York	Rockland	125.01	2021	52	40.5	7.1
New York	Rockland	125.01	2022	22	40.4	7.1
New York	Rockland	125.01	3000	177	40.7	7.0
New York	Rockland	125.01	3001	3	40.7	6.8
New York	Rockland	125.01	3002	25	40.7	7.0
New York	Rockland	125.01	3003	203	40.8	7.3
New York	Rockland	125.01	3004	76	40.7	7.3
New York	Rockland	125.01	3005	58	40.8	7.4
New York	Rockland	125.01	3006	94	40.7	7.5
New York	Rockland	125.01	3007	630	40.8	7.9
New York	Rockland	125.01	3008	83	40.5	7.3
New York	Rockland	125.01	3009	82	40.8	7.8
New York	Rockland	125.01	3010	28	40.5	7.0
New York	Rockland	125.01	4000	74	40.9	7.8
New York	Rockland	125.01	4002	39	40.8	7.8
New York	Rockland	125.01	4003	27	40.8	7.8
New York	Rockland	125.01	4004	55	40.7	7.7
New York	Rockland	125.01	4005	110	40.3	7.1
New York	Rockland	125.01	4006	61	40.2	6.9
New York	Rockland	125.01	4007	85	40.3	7.0
New York	Rockland	125.01	4008	32	40.6	7.4
New York	Rockland	125.01	4009	27	40.8	7.7

State	County	Census Tract ID	Census Block ID	Population (2000)	Integrated Variation with ICC with Mitigation LDN level	Integrated Variation with ICC with Mitigation LDN change 2006-2011
New York	Rockland	125.01	4010	112	40.8	7.6
New York	Rockland	125.01	4011	10	40.7	7.5
New York	Rockland	125.01	4012	22	40.8	7.6
New York	Rockland	125.01	4013	31	40.9	7.7
New York	Rockland	125.02	1006	561	40.4	7.3
New York	Rockland	125.02	1007	66	40.5	7.5
New York	Rockland	125.02	1008	175	40.6	7.5
New York	Rockland	125.02	1009	50	40.7	7.7
New York	Rockland	125.02	1010	67	40.6	7.6
New York	Rockland	125.02	1011	75	40.1	6.9
New York	Rockland	125.02	1013	30	40.1	6.6
New York	Rockland	125.02	1014	27	40.3	6.9
New York	Rockland	125.02	3000	225	40.8	7.5
New York	Rockland	125.02	3001	101	41.0	7.7
New York	Rockland	125.02	3002	147	41.1	7.6
New York	Rockland	125.02	3003	34	41.1	7.7
New York	Rockland	125.02	3004	24	41.2	7.8
New York	Rockland	125.02	3005	50	41.1	7.7
New York	Rockland	125.02	3006	44	41.0	7.7
New York	Rockland	125.02	3007	177	41.1	7.7
New York	Rockland	125.02	3008	32	41.1	7.6
New York	Rockland	125.02	3009	40	41.1	7.6
New York	Rockland	125.02	3010	20	41.0	7.4
New York	Rockland	125.02	3011	107	40.8	7.1
New York	Rockland	125.02	4006	135	40.5	6.7
New York	Rockland	125.02	4007	63	40.5	6.8
New York	Rockland	125.02	4008	99	40.7	6.9
New York	Rockland	125.02	4009	2	41.1	7.5
New York	Rockland	126	4009	50	40.9	7.1
New York	Rockland	126	4010	117	40.6	6.7
New York	Rockland	126	4011	38	40.4	6.5

Total 16,138 Average 7.0

Source: "Noise Exposure Tables," 2011 Integrated Airspace Alternative Variation with ICC Change in Noise Exposure: Figure ES .5, NY/NJ/PHA Metropolitan Airspace redesign, FEIS. Changes in noise levels calculated by TLA

END NOTES

ⁱ U.S. Bureau of the Census, *State & County Quick Facts*

ⁱⁱ U.S. Bureau of the Census, *Census 2000*

ⁱⁱⁱ FAA, “2011 Integrated Airspace Alternative Variation with ICC Change in Noise Exposure: Figure ES .5, *NY/NJ/PHA Metropolitan Airspace redesign, FEIS*”

^{iv} Noise level estimates contained in “Noise Exposure Tables,” 2011 Integrated Airspace Alternative Variation with ICC Change in Noise Exposure: Figure ES .5, *NY/NJ/PHA Metropolitan Airspace redesign, FEIS*. Changes in noise levels calculated by TLA

^v FAA Advisory Circular AC 150/5020-1, *Noise Control & Compatibility Planning for Airports* states “many [environmental assessments] contain analyses of airport noise, compatible land use, social impacts and induced socioeconomic impacts” (pg 6). Section 6, Analysis of Costs and Benefits and Selection of an Alternative, states “Evaluation of the social costs and benefits of alternatives is of equal importance with those of economics and the environment” (pg 42).

^{vi} Highline Public School District, *Aircraft Noise Study: Remedial Construction/Schools*.

THEODORE LANE, Ph.D.

Employment History

Principal, Thomas/Lane & Associates, San Juan, Puerto Rico and Seattle, Washington, 1986 to present

Consultant to Director, Office of Economic Research, The Economic Development Administration of Puerto Rico, San Juan, Puerto Rico, 1984-1985

Professor, Economics, University of Alaska, Institute of Social and Economic Research, Anchorage, Alaska, 1981-1984

Partner, Lane/Langley & Associates, Economic Consultants, Seattle, Washington, 1979-1981

Senior Economist/Policy Analyst, The White House Conference on Balanced National Growth and Economic Development, Washington, DC, 1978

President, Human Resources Planning Institute, Inc. Seattle, Washington, 1969-1977

Vice-President, Consulting Services Corporation, Seattle, Washington, 1967-1968

Assistant Professor, Economics, University of Wisconsin, Milwaukee, Wisconsin, 1967-1968

Education

Ph.D., Economics, University of Washington

MA, Economics, University of Illinois

BA, Economics, Temple University

Awards and Honors

Board of Directors, Western Regional Science Association

President, Western Regional Science Association

Trustee, Pacific Regional Science Coordinating Organization

Who's Who in America: Finance & Industry

Professional Affiliations

The American Economic Association

Pacific Regional Science Coordinating Organization

Western Regional Science Association

Representative Assignments

- ◆ Project Director for a two-year assignment from the Puerto Rico Economic Development Company/Economic Development Administration, funded by the FAA, to determine the economic and commercial feasibility of civil Tiltrotor aircraft for moving passengers and cargo between Puerto Rico and the island nations of the Caribbean.
- ◆ Directed creation of a vector auto-regressive econometric model to simulate 20 years of operations and enplanments at San Juan International Airport and Mayaguez International Airport, and use of the model to forecast future activity levels. Assignment from the San Juan Ports Authority, as part of the airport's Master Plan Update.
- ◆ Worked with an advisory committee of stakeholders, city/county staff and city/county elected officials to create an economic development action plan for the Winlock-Toledo Airport in SW

-
- Lewis County, Washington; including the facilitation of open, public meetings every two weeks over a six months period, providing the stakeholder committee with technical and research support, and producing an airport economic development action plan.
- ◆ Directed 22 economic inventories/benefit studies of airports in Washington State for the AD/WSDOT. These studies included an assessment of local market conditions and the identification of activities at and around each airport, including services/products provided and jobs created.
 - ◆ Under assignment with AD/WSDOT, Dr. Lane assisted in the creation of strategic economic development plans for airports in Westport, Port Townsend, Ellensburg, Chelan and Ephrata. This work included assessing local market conditions, identifying opportunities and potentials, and recommending action plans for commercial/industrial activity and future airport developments.
 - ◆ Managed a two-year EDA funded analysis of how FAA sponsored airport planning and EDA sponsored economic development planning can be integrated to use rural general aviation airports as the locus of local community based economic development. Upon completion of this assignment, wrote an Washington State's *Economic Development-Airport Planning Manual*.
 - ◆ Directed studies of airport economic benefits at Kittitas County Airport (Bowers Field) and Arlington Municipal Airport as part of Washington State's Continuous Aviation System Plan.
 - ◆ Consultant to the five cities to assess the socio-economic impacts of the proposed third runway at Seattle-Tacoma International Airport and recommend warranted mitigation policies. Assignment assumed airport benefits were greater than costs and investigated equity disparities in the distribution of beneficial impacts over the entire region compared with adverse impact localized in communities surrounding the airport.

FAA FLIGHT PATTERN REDESIGN PROJECT
Preliminary Real Property Impact Analysis
on
Tax Assessments & Tax Rates in Rockland County

Prepared For

Holland & Knight LLP
on behalf of Rockland County, NY

August 31, 2007

BECKMANN APPRAISALS, Inc.

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Real estate values are affected by a host of factors. The appraisal literature recognizes many locational attributes that influence value. The locational attributes of real estate are highly significant, since, by definition real estate is immobile so that to a large extent it is unable to be insulated from that which happens in its surrounding environment.¹

We have been asked to estimate whether a change in certain flight patterns with respect to take-off and more particularly landing at Newark Airport can be reasonably expected to affect the value of real property, both vacant and improved, by reason of their general location within the flight path of two runways at Newark Airport, as more fully described at the “NY-NJ-PHL Metropolitan Area Airspace Redesign” Rockland County Town Hall meeting on July 30, 2007; “NY-NJ-PHL Metropolitan Area Airspace Redesign” dated July 2007; and other underlying documents and studies made by the Federal Aviation Administration (FAA). Several variations with respect to the flight patterns have been provided which have been described by the FAA as “Preferred Alternative” “Prior to Mitigation” and “After Mitigation”. It is our understanding that under both scenarios the number and direction of flight patterns will remain the same insofar as they affect Rockland County. However, we understand that “after mitigation” flight patterns will be at a higher altitude in order to ameliorate the degree of noise exposure at ground level.

¹ The Appraisal of Real Estate, 12th Edition, Pgs. 42 – 47; 168-177

The appraisal literature is replete with studies both employing hedonic models and surveys of market participants wherein it has uniformly been concluded that airplane noise level negatively impacts the value of real property, particularly residential real property.² Most of these studies deal with noise impact on real estate values of properties that are generally in the immediate vicinity of an airport and thereby suffer huge impacts from high volumes of noise, typically in a range greater than 65 DNL. We understand that a report by Dr. Sanford Fidell to be submitted at the same time as this report criticizes the use of DNL methodology employed by the FAA. However, we will not discuss that critique as it is beyond our area of expertise as real estate appraisers, consultants and real property tax consultants. Rather, our analysis uses the FAA's DNL data from the FEIS.

We shall first address prospective impacts with respect to the preferred alternative prior to mitigation. The tables provided in the FAA study indicate that there is an area in southern Rockland County, particularly centered about the Village of Chestnut Ridge within the Town of Ramapo that is expected to incur an increase in the DNL of 5.0 or greater, generally an increase in the magnitude of 7 DNL. Although this decibel noise level is anticipated by certain computer models (but not on the ground noise readings) with a noise level of 45 – 60 DNL, we are informed that such an increase in DNL can be described as approximately doubling the experienced noise level in this area which the FAA considers a significant change to those experiencing the noise on the ground. This area of Rockland County consists of a bedroom community to suburban New York City and is the home of many who previously lived and often worked in New York City who seek a retreat from the noise and congestion associated with urban life. We have not had sufficient time to undertake studies of areas who experience such a dramatic increase of noise level that do not reach the 65 DNL point. However, according to the report of Dr.

² Articles:

Adjusting House Prices for Intra-Neighborhood Traffic Differences, William T. Hughs, Jr. and C.F. Sirmans, SRPA, PhD, The Appraisal Journal, October 1993;

Aircraft Noise and Residential Property Values: Results of a Survey Study, Marvin Frankel, The Appraisal Journal, January 1991;

Noise, We Have Heard it Before, William F. Cantrell, Eddie D. Crook and Lewis S. Pipkin The Real Estate Appraiser and Analyst, Fall 1983;

The Impact of Airport Operations on Land Values, A Case Study of Seattle Tacoma International Airport, prepared by Theodore Lane, PhD of Thomas / Lane & Associates, May 1998

Theodore Lane of Thomas Lane and Associates, a national expert in the impact of aircraft noise and property values, the preferred alternative with mitigation will result in an average DNL increase of 7.0³. As appraisers and participants in the Rockland County marketplace we consider that these changes of flight pattern with a resulting increase in noise level will make properties so affected less desirable than similar competing properties not subject to this externally imposed adverse condition. Residents in our area tend to place a premium on enjoying a quiet suburban lifestyle.

Our review of the literature and our consultation with Dr. Lane support the proposition that properties affected by this externality will become less competitive in the marketplace, particularly under current market conditions which have resulted from the downturn in the general real estate market further compounded by the “crisis” in the mortgage financing. Accordingly, in order to illustrate the adverse economic impact on real property values, we consider it fair and reasonable in this effected area to hypothesize that properties will be affected so that their values will decrease between 3% and 7% without mitigation and 1% to 3% with mitigation. Our estimates though are not made to show the individual impact on individual property owners, but to show the results of the overall devaluation of these properties on the real property tax structure in the community.

A brief description of the real property tax structure in Rockland County, typical of all New York counties, will put the real property tax impact in perspective. The County of Rockland has a County Real Property Tax. Additionally, the Town of Ramapo, one of five towns within the county, as typical of all towns in New York State, also has a Real Property Tax. Within the Town of Ramapo there are two school districts: the East Ramapo CSD and the Ramapo CSD, which serve the Town of Ramapo and small portions of other areas. Each of these entities levy a sum to be raised by its real property tax. Real property tax is determined by the taxing entity estimating all their expenses and thereafter deducting all sources of income other than the real property tax. These sources

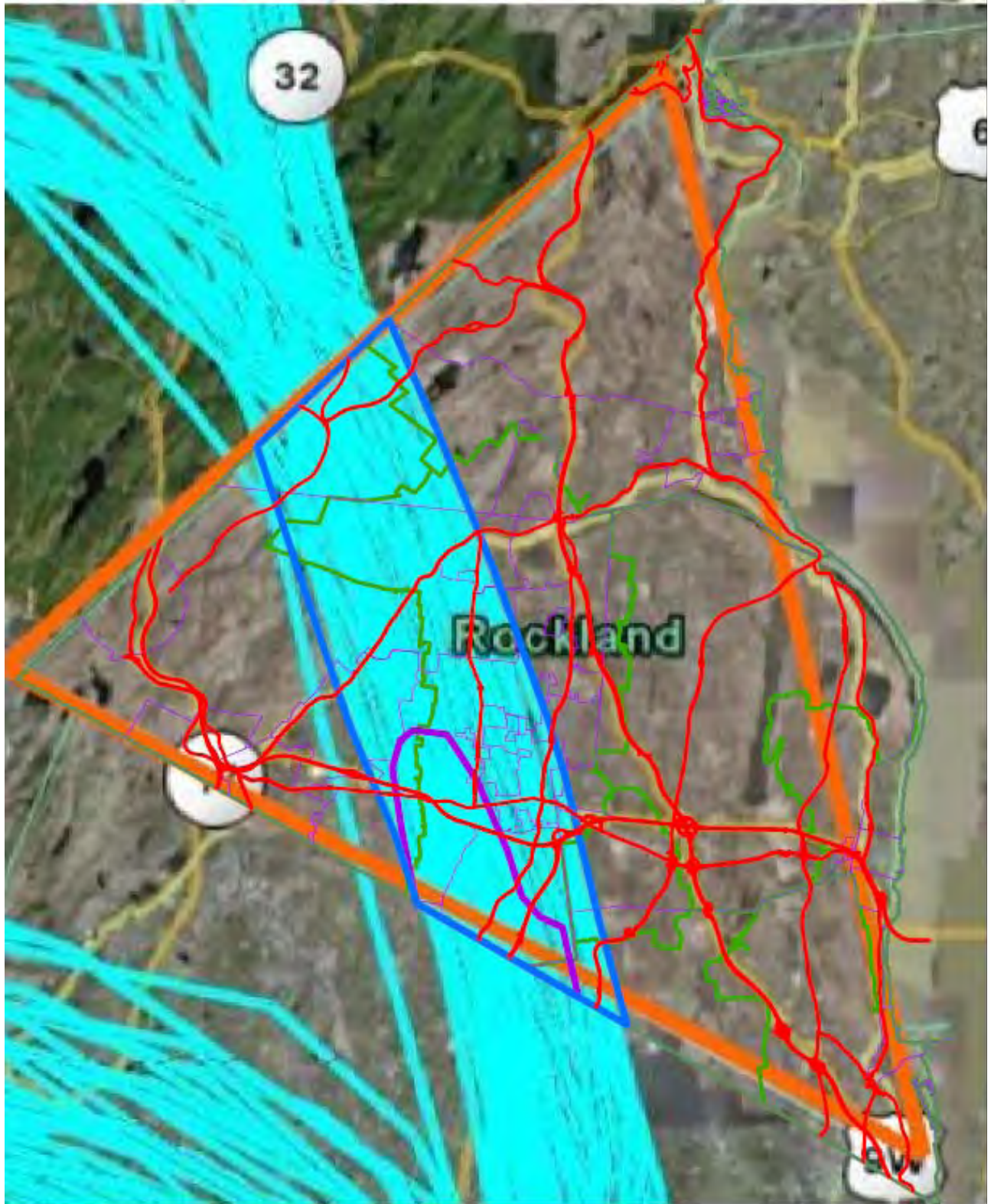
³ Noise Level estimates contained in "Noise Exposure Tables," 2011 Integrated Airspace Alternative Variation with ICC Change in Noise Exposure: Figures ES .5, NY/NJ/PHA Metropolitan Airspace redesign, FEIS. Changes in noise levels calculated by TLA.

of income can be state aid, federal aid, revenues from municipal properties and the like. All of these anticipated revenues are deducted from the anticipated expenses and after such deductions there is always a shortfall in revenue. This shortfall is made up by the real property tax and results in the real property tax levy. The amount of the levy is divided by the assessed values of the real property within the boundaries of the taxing district which result in the calculation of the tax rate.

The tax assessment of each property is a function of its market value and each property within each taxing entity is assessed at a uniform percentage of value. All things being equal, when assessments go up as a result of values increasing the tax rate goes down, while if values and assessments decrease the tax rate will increase. However, the amount of taxes that must be collected does not change when there is a change in the values/assessments, since the amount of the levy is a function of income and expenses extraneous to the assessment and property value function. Further, if one were to assume that all property value influences were to remain the same in the Town, County and School District, except that in one portion thereof there is a reduction in property values and thereby property assessments, not only would there be an increase in the general tax rate, but there would be a shift in the taxes that are collected from the unaffected properties, since although their tax rate might have increased, their values and thereby their assessments would remain unaffected while the values and assessments of the affected areas would decrease.

We have employed geographic information system technology in order to identify the affected parcels on a tax lot by tax lot basis. In Figure 1 we depict on an overlay of the Rockland County Map the entire flight path over Rockland County and outline in purple that area of Rockland County wherein the computerized program anticipates a substantial increase of 5.0 DNL or greater over current levels.

FIGURE 1



In Figure 2 we provide the general census tract overlay of the entire county and in Figure 3 we overlay in blue the flight path, and in yellow, the anticipated change in noise level area.

FIGURE 2

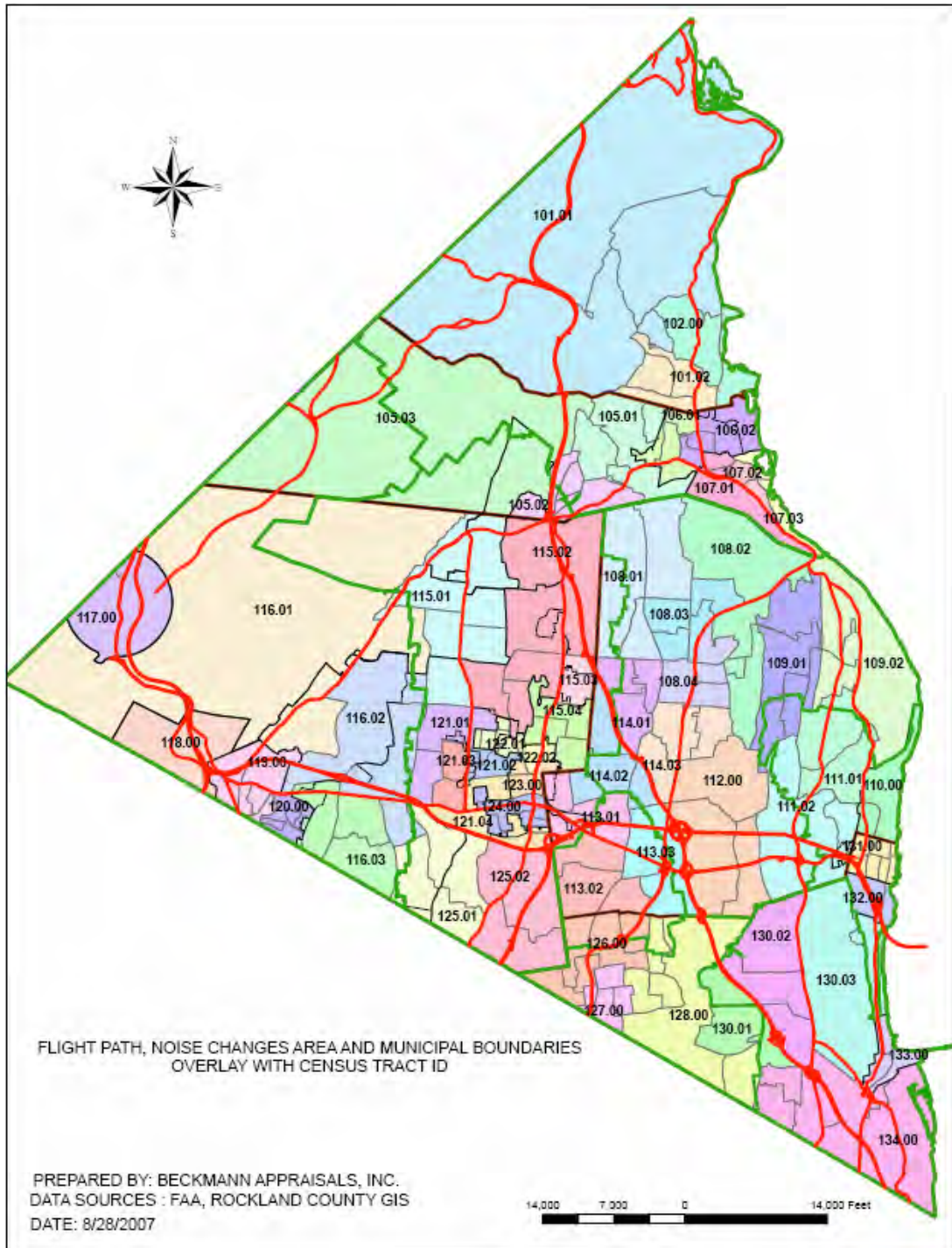
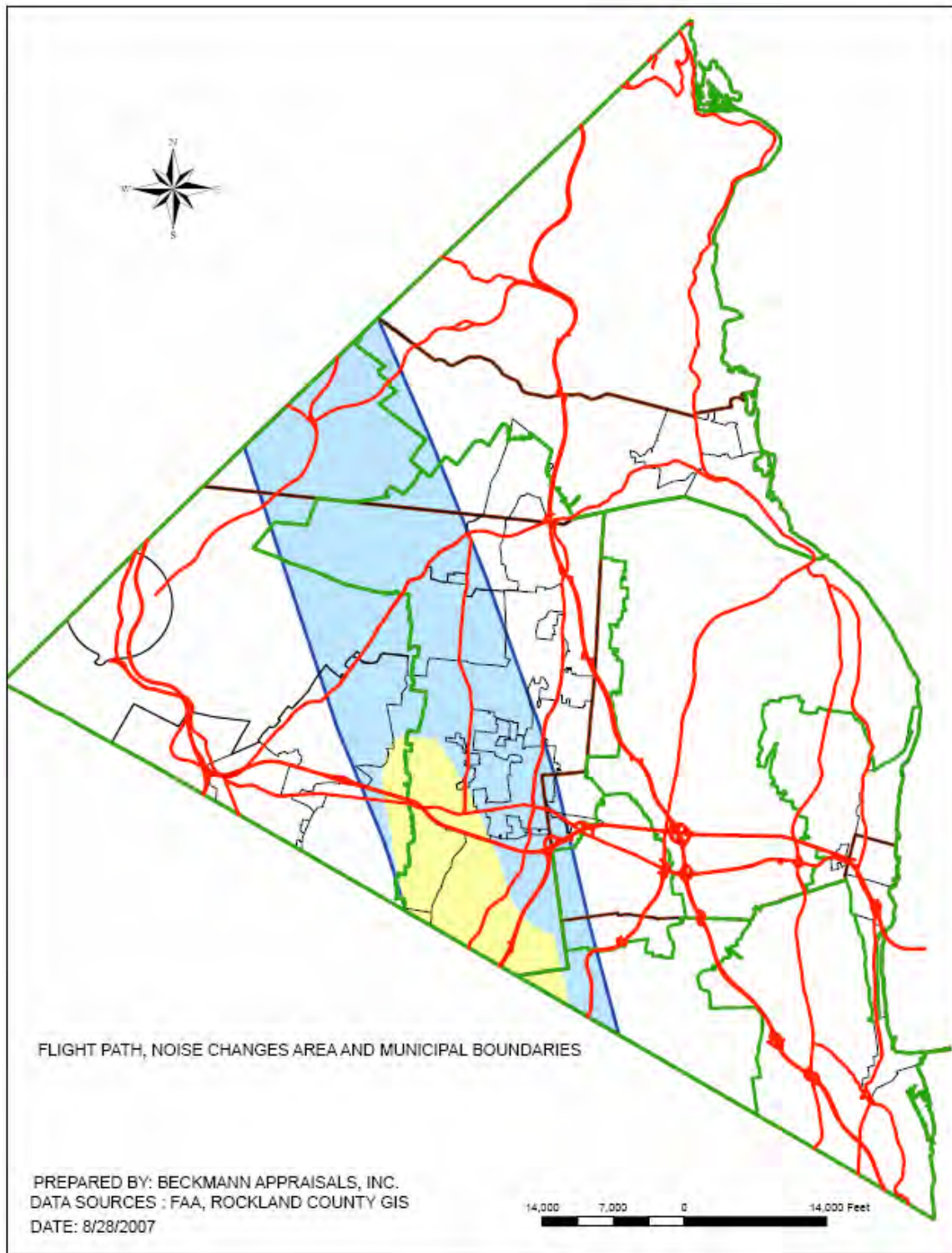


FIGURE 3



In Figure 4 we overlay the flight path (outlined in blue) and the increased noise level area (outlined in yellow) over a parcel by parcel tax map.

FIGURE 4

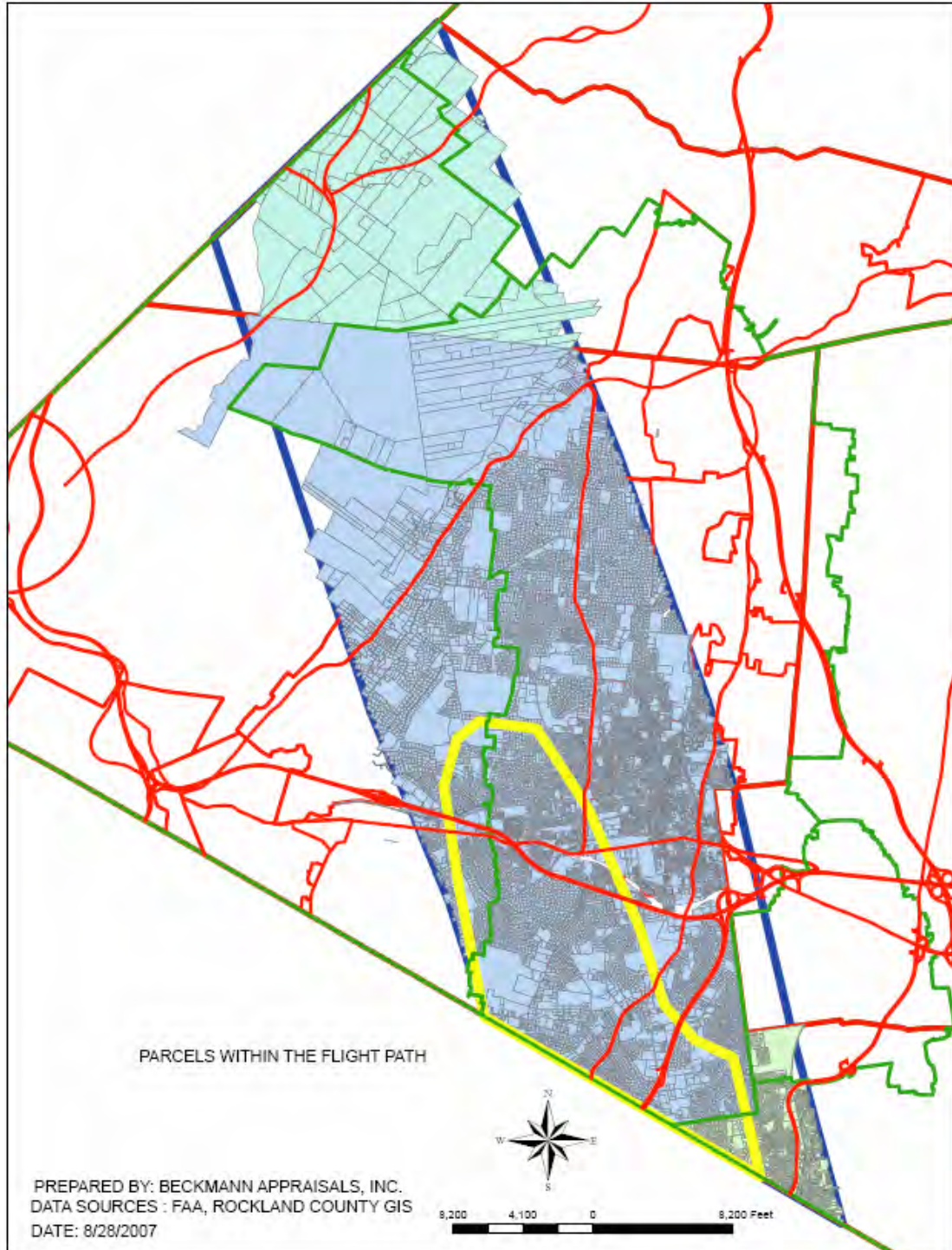


Figure 5 overlays the increased noise level area on the parcel tax map, while Figure 6 combines both the tax parcel map and the census tract areas in the noise affected area.

FIGURE 5

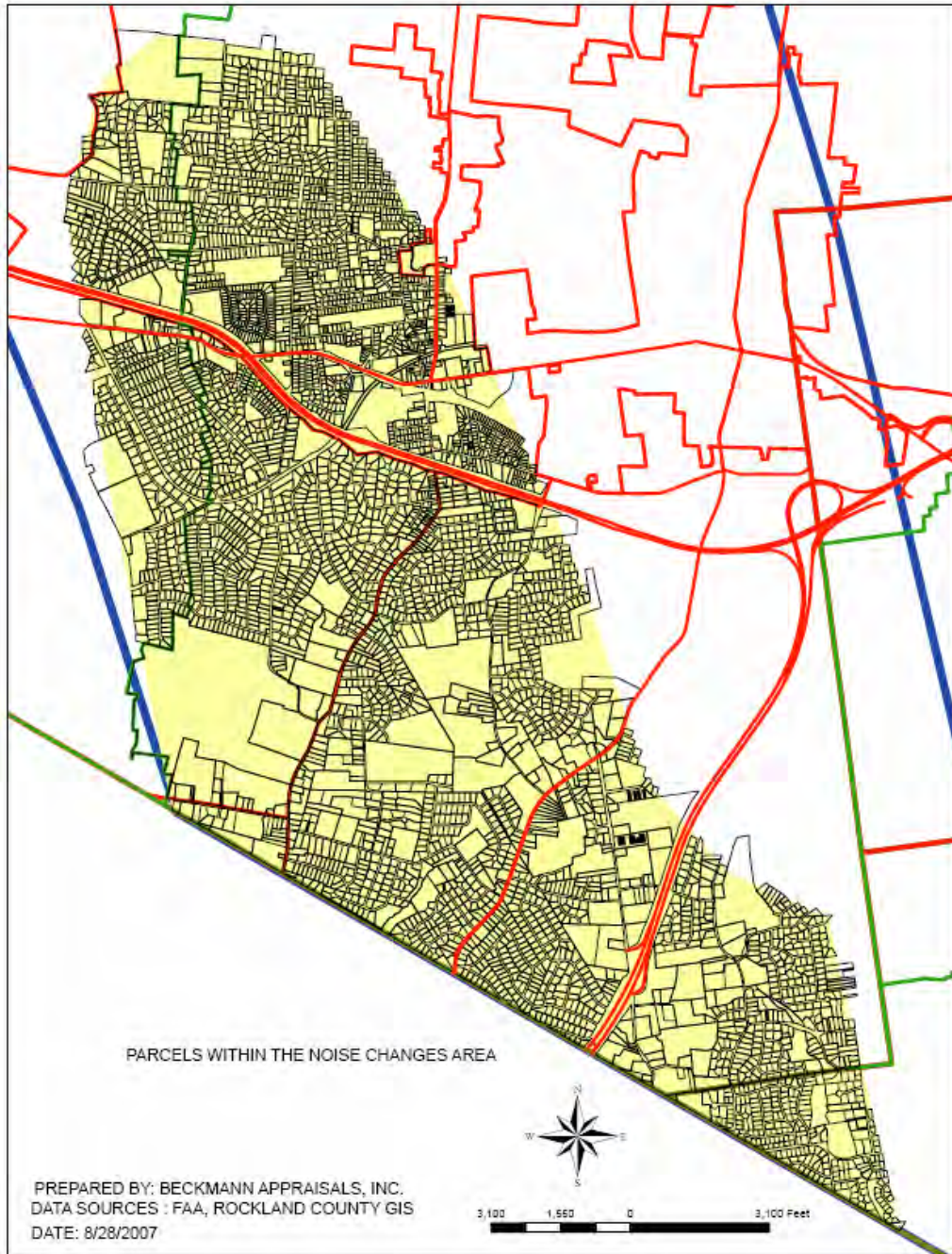
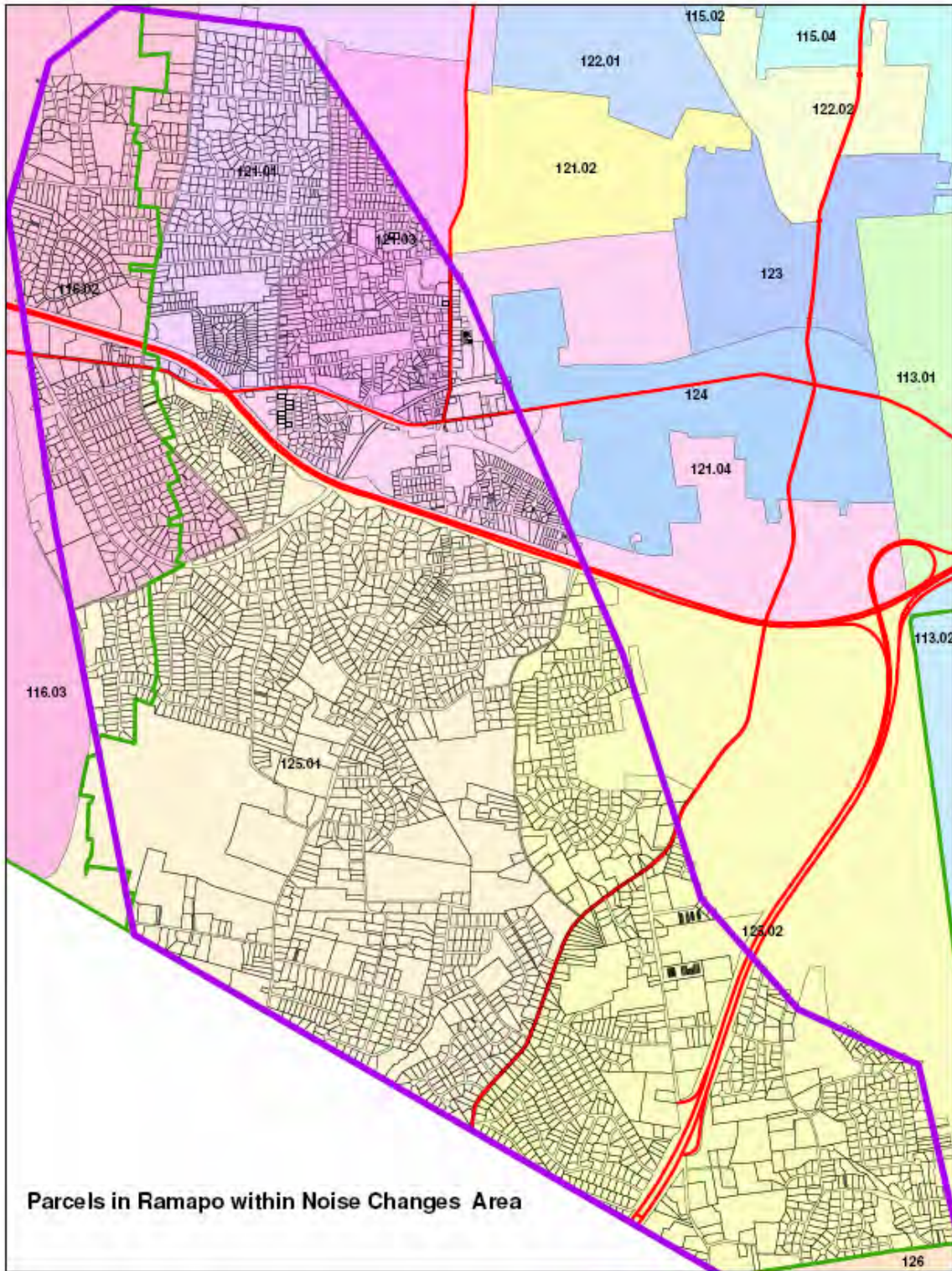


FIGURE 6



We then linked the tax parcel maps both for the noise affected area within the flight path, and those areas not projected to be affected by increased noise, with the underlying tax assessment information for each parcel.

Having established the assessment data for our areas of interest, we then sought to estimate first the value/assessment changes that are anticipated to affect those parcels situated within the increased noise level areas as well as those parcels that are within the flight plan that will be subject to increased flight traffic only. We first present the detailed calculation of Real Property County and Town tax currently applicable to each of the affected municipalities, as currently provided and published by the municipalities in Schedules A and B, annexed. Thereafter, we isolate the assessment of those properties that are anticipated to have a significant increase in the ground noise level and assume for purposes of our calculations a value and thereby concomitant reduction in the assessment of these properties at 3%, 5% and 7%. We have also considered separately, but not cumulatively, those parcels that were affected only by the change in flight patterns (but not subject to increased noise) reducing their assessments at a rate of 1, 2 and 3%.

We next reduce the existing assessments affected by the FAA Flight Pattern Redesign Project and revise the apportionment of the county tax levy to each of the five towns within Rockland County to estimate the resultant tax rate for each of the town municipalities. A similar analysis is undertaken with respect to the Town of Ramapo, although we have only considered the change in the primary components of the town tax level, General & Highway Expenses and Police Expenses, and reduce their applicable assessment bases by the above percentages. Within the time constraints of our retention we were unable to calculate the tax shift of all the special taxing districts within the Town of Ramapo. By reason of the multiplicity of sub-benefit districts within the town that affect various geographic and sub-political units within the town it is not practical, meaningful or illustrative of the total tax rate change in the town. However, each of the two main components General & Highway, and Police had rate increases associated with the assessment decreases as set forth in Figure 7 below. Accordingly, with certainty there

will be an intra-town shift and a “change in flight pattern tax” to all those properties that are outside the flight pattern and/or the increased noise area.

FIGURE 7

COUNTY OF ROCKLAND		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions		ASSESSED VALUE	COUNTY TAX LEVY	COUNTY TAX RATE/THOU	COUNTY TAX RATE / THOU					
Town	USED FOR APPORTIONMENT				FP	\$ CHANGE	FP	\$ CHANGE	FP	\$ CHANGE
					1.0%	PER THOU	2.0%	PER THOU	3.0%	PER THOU
Clarkstown	\$ 4,275,133,811	\$ 15,912,861	\$ 3.9214	\$ 3.9274	\$ 0.0059	\$ 3.9274	\$ 0.0059	\$ 3.9274	\$ 0.0059	\$ 0.0059
Haverstraw	\$ 4,921,283,657	\$ 4,280,977	\$ 0.9207	\$ 0.9221	\$ 0.0014	\$ 0.9222	\$ 0.0014	\$ 0.9222	\$ 0.0014	\$ 0.0014
Orangetown	\$ 4,139,379,869	\$ 9,554,408	\$ 2.4088	\$ 2.4125	\$ 0.0037	\$ 2.4126	\$ 0.0038	\$ 2.4126	\$ 0.0039	\$ 0.0039
Ramapo	\$ 1,781,530,877	\$ 13,530,567	\$ 8.1408	\$ 8.1558	\$ 0.0150	\$ 8.1585	\$ 0.0177	\$ 8.1612	\$ 0.0204	\$ 0.0204
Stony Point	\$ 359,065,070	\$ 2,974,187	\$ 8.5359	\$ 8.5488	\$ 0.0129	\$ 8.5488	\$ 0.0129	\$ 8.5488	\$ 0.0129	\$ 0.0129
Total	\$ 15,476,393,284	\$ 46,253,000	\$ 3.1498	\$ 3.1525	\$ 0.0027	\$ 3.1504	\$ 0.0006	\$ 3.1483	\$ (0.0015)	\$ (0.0015)

COUNTY OF ROCKLAND		ORIGINAL DATA			REVISED DATA					
Summary AV of properties within Increased Noise Area		ASSESSED VALUE	COUNTY TAX LEVY	COUNTY TAX RATE/THOU	COUNTY TAX RATE / THOU					
Town	USED FOR APPORTIONMENT				IncNoise	\$ CHANGE	IncNoise	\$ CHANGE	IncNoise	\$ CHANGE
					3.0%	PER THOU	5.0%	PER THOU	7.0%	PER THOU
Clarkstown	\$ 4,275,133,811	\$ 15,912,861	\$ 3.9214	\$ 3.9281	\$ 0.0066	\$ 3.9281	\$ 0.0066	\$ 3.9281	\$ 0.0066	\$ 0.0066
Haverstraw	\$ 4,921,283,657	\$ 4,280,977	\$ 0.9207	\$ 0.9223	\$ 0.0016	\$ 0.9223	\$ 0.0016	\$ 0.9223	\$ 0.0016	\$ 0.0016
Orangetown	\$ 4,139,379,869	\$ 9,554,408	\$ 2.4088	\$ 2.4129	\$ 0.0041	\$ 2.4129	\$ 0.0041	\$ 2.4129	\$ 0.0042	\$ 0.0042
Ramapo	\$ 1,781,530,877	\$ 13,530,567	\$ 8.1408	\$ 8.1578	\$ 0.0170	\$ 8.1600	\$ 0.0192	\$ 8.1622	\$ 0.0214	\$ 0.0214
Stony Point	\$ 359,065,070	\$ 2,974,187	\$ 8.5359	\$ 8.5503	\$ 0.0144	\$ 8.5503	\$ 0.0144	\$ 8.5503	\$ 0.0144	\$ 0.0144
Total	\$ 15,476,393,284	\$ 46,253,000	\$ 3.1498	\$ 3.1522	\$ 0.0024	\$ 3.1503	\$ 0.0005	\$ 3.1484	\$ (0.0014)	\$ (0.0014)

TOWN OF RAMAPO		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions		ASSESSED VALUE	TAX LEVY (BUDGET)	TAX RATE/THOU	TOWN TAX RATE / THOU					
FUNDS					FP	\$ CHANGE	FP	\$ CHANGE	FP	\$ CHANGE
					1.0%	PER THOU	2.0%	PER THOU	3.0%	PER THOU
Gen & Hwy	\$ 1,655,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6673	\$ 0.0424	\$ 8.7101	\$ 0.0852	\$ 8.7534	\$ 0.1285	\$ 0.1285
Police	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.7491	\$ 0.1129	\$ 18.8633	\$ 0.2271	\$ 18.9789	\$ 0.3427	\$ 0.3427

TOWN OF RAMAPO		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ IncNoise Area Reductions		ORIGINAL DATA	TAX LEVY (BUDGET)	TAX RATE/THOU	TOWN TAX RATE / THOU					
FUNDS					IncNoise	\$ CHANGE	IncNoise	\$ CHANGE	IncNoise	\$ CHANGE
					3.0%	PER THOU	5.0%	PER THOU	7.0%	PER THOU
Gen & Hwy	\$ 1,655,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6763	\$ 0.0514	\$ 8.7109	\$ 0.0860	\$ 8.7458	\$ 0.1209	\$ 0.1209
Police	\$ 355,575,487	\$ 25,088,762	\$ 70.5582	\$ 18.7730	\$ (51.7852)	\$ 18.8653	\$ (51.6929)	\$ 18.9585	\$ (51.5997)	\$ (51.5997)

The East Ramapo Central School District (ERCSD), predominantly serves the Town of Ramapo and several portions of the towns of Clarkstown and Haverstraw which for school tax purposes are unaffected by the change in flight patterns (a small portion of the Town of Haverstraw is subject to the change in flight patterns and is reflected in the reduced assessment value when calculating the revised county tax rate). Further, the school tax scheme apportions the taxes substantially based on the pro-rata full value of the assessments within each of the respective towns. Approximately 15,000 parcels within the Town of Ramapo are anticipated to be affected by the FAA Flight Pattern Redesign Project; the majority of these parcels, approximately 13,100 are situated within the East Ramapo CSD, see annexed municipality assessment summary and parcel count of affected parcels. School census data indicates that this district generally serves a minority and disadvantaged community, reportedly 60% African-Americans, and 18% Hispanic.

For purposes of illustration we reduced the assessments of those parcels in the Town of Ramapo that were affected by the change in flight patterns at a rate of 1, 2 and 3% and separately, but not cumulatively, those parcels within the increased noise area by 3, 5, & 7% reductions and reallocated the taxes attributable to each of the town school district segments based upon their new pro-rata shares of value and recalculated the applicable tax rates. The results are summarized in the annexed Schedule C for both the school district and the school district library, Finklestein Memorial Library, also a separate taxing entity. The upshot is that the tax rate for all taxpayers in the school district and the school district library increased, while the amount of tax collected within that portion of the school district and library district within the Town of Ramapo decreased and the share of taxes paid by the unaffected parcels increased. This tax shift can be directly attributable to the new flight patterns and amounts to a “change in flight pattern real property tax”.

The Ramapo Central School District (Ramapo CSD), predominantly serves the Town of Ramapo and several portions of the towns of Haverstraw and Tuxedo. Similar to the ERCSD analysis above, we have reduced the assessments of those parcels affected by

the change in flight patterns and those parcels within the increased noise area using the same percentages. The results are summarized in the annexed Schedule D for both the school district and the school district library, Suffern Free Library, also a separate taxing entity.

A summary of the resultant changes within each of the two school districts, East Ramapo CSD and Ramapo CSD is provided in Figures 8 and 9, below.

FIGURE 8

EAST RAMAPO CSD ORIGINAL DATA				REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions				SCHOOL TAX RATE / THOU					
	ASSESSED VALUE	SCHOOL TAX LEVY	SCHOOL TAX RATE/THOU	FP 1.0%	\$ CHANGE PER THOU	FP 2.0%	\$ CHANGE PER THOU	FP 3.0%	\$ CHANGE PER THOU
RAMAPO	\$ 1,043,308,693	\$ 99,188,687	\$ 95.0713	\$ 95.5544	\$ 0.4832	\$ 96.0425	\$ 0.9712	\$ 96.5356	\$ 1.4643
CLARKSTOWN	\$ 314,821,265	\$ 14,389,867	\$ 45.7081	\$ 45.9403	\$ 0.2323	\$ 46.1750	\$ 0.4669	\$ 46.4121	\$ 0.7040
HAVERSTRAW	\$ 631,776,639	\$ 7,488,318	\$ 11.8528	\$ 11.9130	\$ 0.0602	\$ 11.9739	\$ 0.1211	\$ 12.0354	\$ 0.1826
TOTAL	\$ 1,989,906,597	\$ 121,066,872	\$ 60.8405	\$ 61.0380	\$ 0.1975	\$ 61.2368	\$ 0.3963	\$ 61.4369	\$ 0.5964

EAST RAMAPO CSD ORIGINAL DATA				REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions				LIBRARY TAX RATE / THOU					
	ASSESSED VALUE	LIBRARY TAX LEVY	LIBRARY TAX RATE/THOU	FP 1.0%	\$ CHANGE PER THOU	FP 2.0%	\$ CHANGE PER THOU	FP 3.0%	\$ CHANGE PER THOU
RAMAPO	\$ 1,043,308,693	\$ 4,983,043	\$ 4.7762	\$ 4.8005	\$ 0.0243	\$ 4.8250	\$ 0.0488	\$ 4.8498	\$ 0.0736
CLARKSTOWN	\$ 314,821,265	\$ 722,918	\$ 2.2963	\$ 2.3080	\$ 0.0117	\$ 2.3197	\$ 0.0235	\$ 2.3317	\$ 0.0354
HAVERSTRAW	\$ 631,776,639	\$ 376,198	\$ 0.5955	\$ 0.5985	\$ 0.0030	\$ 0.6015	\$ 0.0061	\$ 0.6046	\$ 0.0092
TOTAL	\$ 1,989,906,597	\$ 6,082,160	\$ 3.0565	\$ 3.0646	\$ 0.0081	\$ 3.0727	\$ 0.0162	\$ 3.0808	\$ 0.0243

EAST RAMAPO CSD ORIGINAL DATA				REVISED DATA					
Comparison of Original Data w/ IncNoise Area Reductions				SCHOOL TAX RATE / THOU					
	ASSESSED VALUE	SCHOOL TAX LEVY	SCHOOL TAX RATE/THOU	IncNoise 3.0%	\$ CHANGE PER THOU	IncNoise 5.0%	\$ CHANGE PER THOU	IncNoise 7.0%	\$ CHANGE PER THOU
RAMAPO	\$ 1,043,308,693	\$ 99,188,687	\$ 95.0713	\$ 95.6989	\$ 0.6276	\$ 96.1219	\$ 1.0507	\$ 96.5487	\$ 1.4775
CLARKSTOWN	\$ 314,821,265	\$ 14,389,867	\$ 45.7081	\$ 46.0098	\$ 0.3017	\$ 46.2132	\$ 0.5051	\$ 46.4184	\$ 0.7103
HAVERSTRAW	\$ 631,776,639	\$ 7,488,318	\$ 11.8528	\$ 11.9310	\$ 0.0782	\$ 11.9838	\$ 0.1310	\$ 12.0370	\$ 0.1842
TOTAL	\$ 1,989,906,597	\$ 121,066,872	\$ 60.8405	\$ 61.0969	\$ 0.2564	\$ 61.2691	\$ 0.4286	\$ 61.4422	\$ 0.6017

EAST RAMAPO CSD ORIGINAL DATA				REVISED DATA					
Comparison of Original Data w/ IncNoise Area Reductions				LIBRARY TAX RATE / THOU					
	ASSESSED VALUE	LIBRARY TAX LEVY	LIBRARY TAX RATE/THOU	IncNoise 3.0%	\$ CHANGE PER THOU	IncNoise 5.0%	\$ CHANGE PER THOU	IncNoise 7.0%	\$ CHANGE PER THOU
RAMAPO	\$ 1,043,308,693	\$ 4,983,043	\$ 4.7762	\$ 4.8077	\$ 0.0315	\$ 4.8290	\$ 0.0528	\$ 4.8504	\$ 0.0742
CLARKSTOWN	\$ 314,821,265	\$ 722,918	\$ 2.2963	\$ 2.3114	\$ 0.0152	\$ 2.3217	\$ 0.0254	\$ 2.3320	\$ 0.0357
HAVERSTRAW	\$ 631,776,639	\$ 376,198	\$ 0.5955	\$ 0.5994	\$ 0.0039	\$ 0.6020	\$ 0.0066	\$ 0.6047	\$ 0.0093
TOTAL	\$ 1,989,906,597	\$ 6,082,160	\$ 3.0565	\$ 3.0670	\$ 0.0105	\$ 3.0740	\$ 0.0175	\$ 3.0810	\$ 0.0245

FIGURE 9

RAMAPO CSD		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions				SCHOOL TAX RATE / THOU						
	ASSESSED VALUE	SCHOOL TAX LEVY	SCHOOL TAX RATE/THOU	FP 1.0%	\$ CHANGE PER THOU	FP 2.0%	\$ CHANGE PER THOU	FP 3.0%	\$ CHANGE PER THOU	
RAMAPO	\$ 615,755,663	\$ 84,112,916	\$ 136.6011	\$ 136.9542	\$ 0.3531	\$ 137.3092	\$ 0.7081	\$ 137.6660	\$ 1.0649	
HAVERSTRAW	\$ 178,880,590	\$ 3,046,414	\$ 17.0304	\$ 17.0745	\$ 0.0440	\$ 17.1187	\$ 0.0883	\$ 17.1632	\$ 0.1328	
TUXEDO	\$ 7,921,269	\$ 1,024,930	\$ 129.3896	\$ 129.7241	\$ 0.3345	\$ 130.0603	\$ 0.6707	\$ 130.3982	\$ 1.0086	
TOTAL	\$ 802,557,522	\$ 88,184,260	\$ 109.8791	\$ 110.1074	\$ 0.2284	\$ 110.3367	\$ 0.4577	\$ 110.5670	\$ 0.6879	
RAMAPO CSD		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ Flight Path Reductions				LIBRARY TAX RATE / THOU						
	ASSESSED VALUE	LIBRARY TAX LEVY	LIBRARY TAX RATE/THOU	FP 1.0%	\$ CHANGE PER THOU	FP 2.0%	\$ CHANGE PER THOU	FP 3.0%	\$ CHANGE PER THOU	
RAMAPO	\$ 615,755,663	\$ 2,683,229	\$ 4.3576	\$ 4.3689	\$ 0.0113	\$ 4.3802	\$ 0.0226	\$ 4.3916	\$ 0.0340	
HAVERSTRAW	\$ 178,880,590	\$ 97,182	\$ 0.5433	\$ 0.5447	\$ 0.0014	\$ 0.5461	\$ 0.0028	\$ 0.5475	\$ 0.0042	
TUXEDO	\$ 7,921,269	\$ 32,696	\$ 4.1276	\$ 4.1382	\$ 0.0107	\$ 4.1490	\$ 0.0214	\$ 4.1597	\$ 0.0322	
TOTAL	\$ 802,557,522	\$ 2,813,106	\$ 3.5052	\$ 3.5121	\$ 0.0070	\$ 3.5191	\$ 0.0140	\$ 3.5262	\$ 0.0210	
RAMAPO CSD		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ IncNoise Area Reductions				SCHOOL TAX RATE / THOU						
	ASSESSED VALUE	SCHOOL TAX LEVY	SCHOOL TAX RATE/THOU	IncNoise 3.0%	\$ CHANGE PER THOU	IncNoise 5.0%	\$ CHANGE PER THOU	IncNoise 7.0%	\$ CHANGE PER THOU	
RAMAPO	\$ 615,755,663	\$ 84,112,916	\$ 136.6011	\$ 136.9100	\$ 0.3089	\$ 137.1167	\$ 0.5156	\$ 137.3240	\$ 0.7229	
HAVERSTRAW	\$ 178,880,590	\$ 3,046,414	\$ 17.0304	\$ 17.0689	\$ 0.0385	\$ 17.0947	\$ 0.0643	\$ 17.1206	\$ 0.0901	
TUXEDO	\$ 7,921,269	\$ 1,024,930	\$ 129.3896	\$ 129.6822	\$ 0.2926	\$ 129.8779	\$ 0.4883	\$ 130.0743	\$ 0.6847	
TOTAL	\$ 802,557,522	\$ 88,184,260	\$ 109.8791	\$ 110.0788	\$ 0.1998	\$ 110.2124	\$ 0.3333	\$ 110.3463	\$ 0.4672	
RAMAPO CSD		ORIGINAL DATA			REVISED DATA					
Comparison of Original Data w/ IncNoise Area Reductions				LIBRARY TAX RATE / THOU						
	ASSESSED VALUE	LIBRARY TAX LEVY	LIBRARY TAX RATE/THOU	IncNoise 3.0%	\$ CHANGE PER THOU	IncNoise 5.0%	\$ CHANGE PER THOU	IncNoise 7.0%	\$ CHANGE PER THOU	
RAMAPO	\$ 615,755,663	\$ 2,683,229	\$ 4.3576	\$ 4.3675	\$ 0.0099	\$ 4.3741	\$ 0.0164	\$ 4.3807	\$ 0.0231	
HAVERSTRAW	\$ 178,880,590	\$ 97,182	\$ 0.5433	\$ 0.5445	\$ 0.0012	\$ 0.5453	\$ 0.0021	\$ 0.5462	\$ 0.0029	
TUXEDO	\$ 7,921,269	\$ 32,696	\$ 4.1276	\$ 4.1369	\$ 0.0093	\$ 4.1431	\$ 0.0156	\$ 4.1494	\$ 0.0218	
TOTAL	\$ 802,557,522	\$ 2,813,106	\$ 3.5052	\$ 3.5113	\$ 0.0061	\$ 3.5154	\$ 0.0102	\$ 3.5194	\$ 0.0143	

CONCLUSION

We have made minimally reasonable assumptions as to the effect of the change in the flight paths both under the unmitigated and thereafter mitigated area. In the unmitigated scenario, where there will be a significant change in noise level in the so called affected area, we have employed reasonable assumptions to bracket the consequences of the increased noise level. The results will be a devaluation of the properties within the noise zone of 3% to 7%. The consequence results in the devaluation in the property and thereafter results in a decrease in their tax assessment. Where a significant area of Rockland County has a reduction in value assessments, the resultant consequence will be a shift in Real Property Taxes throughout the entire town, school district(s) and county, increasing the tax rates and increasing the absolute amounts of real property taxes paid by those properties that are not so affected. Thus there is a double-edged effect, a reduction in value of the assessed properties and increased taxes to the unaffected properties.

We have similarly made reasonable assumptions as to the devaluation of those properties with mitigation in the range of 1 to 3%. Although the absolute noise impacts are lower, the impact is more extensive since they cover a greater land area. They likewise result in a devaluation of properties in the shadow of the flight path and cause a shift in taxes to those municipalities that do not experience the likely devaluation of their properties.

We are very cautious in our estimate as we understand that they do not take into account the vast reported air traffic so that, we hypothecate, that the number of flights and perhaps their elevation above ground may be changed to reflect this increased demand. Overall, the consequences in the future are likely to be greater than those that we considered and analyzed.

ADDENDUM

WILLIAM R. BECKMANN, MAI, CRE

Resident and native of Rockland County, New York
bill@beckmannappraisals.com

PROFESSIONAL DESIGNATIONS

IAO 1989 Member, Institute of Assessing Officers
MAI 1990 Member, Appraisal Institute
CRE 2000 Member, Counselors of Real Estate

LICENSED

Certified General Real Estate Appraiser, New York State
Certified General Real Estate Appraiser, New Jersey
Approved Real Estate Appraiser Instructor, New York State
Approved Real Estate Instructor, New York State
Real Estate Broker, New York State
Real Estate Broker, New Jersey
Notary Public, New York State

NEW YORK STATE ASSESSOR (Office of Real Property Tax Services)

State Certified Assessor (7-17-89)
State Certified Assessor (Advanced) (9-15-89)
State Certified Assessor (Professional) (9-15-89)
State Certified Assessor (National) (3-28-90)

EMPLOYMENT

1996 to Present Beckmann Appraisals, Inc., Tappan, New York
1982 to 2001 Assessor - Village of Spring Valley, New York
1979 to 1995 Beckmann Realty, Inc., Tappan, New York
1976 to 1979 Real Estate Salesman, Pearl River, New York

AREAS OF EXPERTISE

- Real Property Assessments and Taxation
- Approved Fee Appraiser, New York State Department of Transportation
- All aspects of General Appraising including:

Right-of-way	Condemnation	Estate
Commercial and Industrial	Residential	Mortgage
Hotels and Motels	Certiorari	Feasibility
- Geographic Information Systems
 Developed GIS system for:

Suffolk County:	Half Hollows Central School District
	Middle Country Central School District

(Geographic Information Systems, cont.)

Rockland County: Town of Clarkstown
South Orangetown Central School District
Town of Orangetown
Town of Orangetown Highway Department
Rockland County Solid Waste Management Authority
Rockland County Sewer District No. 1

EDUCATION

- Pace University, BBA Finance, 1980
- Appraisal Institute (American Institute of Real Estate Appraisers):
 - Standards of Professional Practice
 - Real Estate Appraisal Principles
 - Basic Valuation
 - Residential Valuation
 - Capitalization, Theory & Techniques
 - Case Studies in Real Estate Valuation
 - Valuation Analysis & Report Writing
 - Rates, Ratios & Relationships
 - Hotels/Motels Appraisals
 - Regression Analysis in Appraisal Practice
 - Appraisal Issues...in the Millennium
 - What's it Worth? Valuation of Real Property in Litigation
 - Case Studies in Commercial Highest & Best Use
 - Advanced Applications
 - Attacking & Defending an Appraisal Litigation
 - HUD Rent Comparability Studies
 - Case Studies in Ltd. Partnership & Common Tenancy Valuation
 - Appraisal Consulting: A solutions Approach for Professionals
 - Subdivision Valuation: A Comprehensive Guide to Valuing Improved Subdivisions
 - Analyzing Commercial Lease Clauses – Implications for
Property Value and Marketability
 - Supporting Capitalization Rates
- New York State Department of Equalization and Assessment:
 - Assessor's Basic Phase I
 - Assessor's Basic Phase II
 - Forestry Appraisal
 - Fundamentals of Equalization
 - Income Approach I
 - Income Approach II
 - Industrial Valuation
 - Mass Appraisal
- Other: Business, Faith & Ethics, CRE
 - Electric Asset Valuation, CBI
 - Taxation in the Deregulated Electric Industry, CBI
 - Annual Legal Seminar, IAAO
 - Advanced Income Approach, NYS Assessor's Association
 - FIRREA Overview and Practical Application
 - Passport I & II, Orange County Association of Realtors
 - Northeast Arc Users Group Conference, NEARC
 - NYS Geographic Information Systems Conference SUNY College of ESF

TEACHING

Taxes and Assessments
Ethics and Standards (E & S)
Appraisal Methods (G1)
Appraisal Applications (G3)
Taxes and Assessments
Real Property Taxes and Assessments
Real Estate Appraisal, Cornell University, Dominican College
Rockland County Board of Realtors, Rockland Community College
Real Estate Fundamentals, Principals and Practices of Real Estate
Income Approach to Valuation, New York State Association of Towns
Elementary Income and Capitalization Methods & Techniques (R4)
Valuation of Cell Towers & Sites

Construction Home Inspection
Appraisal Report Writing (R3)
Income Capitalization (G2)
Appraisal Basics (R1)
Single Family Appraisal (R2)

EXPERT TESTIMONY

United States District Court for Southern District of New York

Supreme Court State of New York:

Counties of Orange, Rockland, Westchester, Dutchess, Putnam, Schoharie,
Columbia, Putnam, Sullivan, and Ulster

County Legislature:

County of Rockland

Authorities:

Metropolitan Transit Authority
Metro North Transit
Rockland County Solid Waste Management Authority

United States Bankruptcy Court:

Eastern District of New York
Southern District of New York

Zoning Board of Appeals:

Towns of Clarkstown, Orangetown, Ramapo
Villages of Nyack, Piermont, South Nyack, Spring Valley, Upper Nyack

Planning Boards:

Towns of Clarkstown, Orangetown, Ramapo
Villages of Piermont, South Nyack, Spring Valley, Upper Nyack
Airmont, Montebello

Town Boards:

Towns of Clarkstown, Orangetown, Ramapo, Stony Point

Village Boards:

Villages of Nyack, Piermont, South Nyack, Spring Valley
Airmont, Montebello

BROKERAGE AND APPRAISAL

State of New York:

Albany County	Columbia County
Dutchess County	Delaware County
Erie County	Herkimer County
Madison County	Orange County
Putnam County	Rockland County
Saratoga County	Schoharie County
Schenectady County	Suffolk County
Sullivan County	Ulster County
Westchester County	Nassau County
New York City, all 5 Boroughs	Greene County

State of New Jersey:

Bergen County
Ocean County
Passaic County
Hudson County

State of Connecticut:

Fairfield County

MEMBERSHIPS

International Association of Assessing Officers
The Appraisal Institute
The Counselors of Real Estate
National Association of Realtors
New York State Association of Realtors
New York State Assessors Association
Rockland County Multiple Listing System
United Real Estate Brokers of Rockland
Rockland County Society of Real Estate Appraisers, Inc.
Rockland County Assessors Association - past President
Rockland County Board of Realtors - past President
Greater Hudson Valley MLS

SAMPLE REFERENCE SUBSCRIPTIONS

Valuation Insights and Perspectives	Assessment Journal
Westchester County Business Journal	Fairfield County Business Journal
Hudson Valley Business Source	National Economic Trends
Monetary Trends	The Appraiser News
Bureau of Labor Statistics	The Federal Reserve Bank of New York
The Federal Reserve Bank of St. Louis	Marshall Valuation Service
Real Property Tax Administration Reporter	Korpacz Real Estate Investor Survey
PKF Consulting Trends in the Hotel Industry	BOMA Experience Exchange Report
The ULI Dollars & Cents of Shopping Centers	US Census
Uniform Standards of Professional Appraisal Practice	

**MUNICIPALITY ASSESSMENT SUMMARY OF PARCELS
WITHIN THE FAA FLIGHT PLAN REDESIGN PROJECT**

ASSESSMENT SUMMARY

Town of Ramapo:	Parcel Count	Assessment	
Flight Path (T):	14,999	\$ 1,137,264,772	All Parcels (inclusive of Inc Noise Change Area)
Noise Change Area:	4,374	\$ 326,931,875	
Flight Path:	<u>10,625</u>	<u>\$ 810,332,897</u>	Excluding parcels within Inc Noise Change Area

East Ramapo CSD:	Parcel Count	Assessment	
Flight Path (T):	13,111	\$ 922,270,723	All Parcels (inclusive of Inc Noise Change Area)
Noise Change Area:	3,815	\$ 278,385,775	
Flight Path:	<u>9,296</u>	<u>\$ 643,884,948</u>	Excluding parcels within Inc Noise Change Area

Ramapo CSD:	Parcel Count	Assessment	
Flight Path (T):	1,888	\$ 214,994,049	All Parcels (inclusive of Inc Noise Change Area)
Noise Change Area:	559	\$ 48,546,100	
Flight Path:	<u>1,329</u>	<u>\$ 166,447,949</u>	Excluding parcels within Inc Noise Change Area

Town of Orangetown:	Parcel Count	Assessment	
Flight Path (T):	1,766	\$ 358,593,174	All Parcels (inclusive of Inc Noise Change Area)
Noise Change Area:	249	\$ 49,160,700	
Flight Path:	<u>1,517</u>	<u>\$ 309,432,474</u>	Excluding parcels within Inc Noise Change Area

Town of Haverstraw:	Parcel Count	Assessment	
Flight Path (T):	97	\$ 120,705,200	All Parcels (inclusive of Inc Noise Change Area)
Noise Change Area:	<u>N/A</u>	<u>N/A</u>	

SCHEDULE A
 County of Rockland – Calculation of Real Property Tax
 and
 Revised Calculation of Real Property Tax
 Flight Path Area - Page 1

County of Rockland
 2007 Tax Rate Calc (Flight Path Reductions)

County Of Rockland Calculation of Real Property Tax (form 6094) 2007											
Summary AV of properties within Flight Path:											
Ramapo		\$	810,332,897								
Orangetown		\$	309,432,474								
Haverstraw		\$	120,705,200								
Tax Levy Per Budget			\$46,253,000								
Taxable											
Assessed Value	Certified	Full Valuation	Net								
Upon Which	County	Of Taxable	Amounts								
Used For	Equalization	Real Property	Of Credits &	County Tax	Explanation						
SWIS	The Tax Is	Used For	Adjustment	Levy	Of	Formula					
Code	Town	Apportionment	Rate	After Credits &	Adjustments	Rate					
		Actually Levied		Adjustments	Adjustments						
				+ or (-)							
392000	Clarkstown	4,275,133,811	4,057,913,829	27.75	15,405,887,607	34.40%	15,912,861	15,912,861			3.92144
392200	Haverstraw	4,921,283,657	4,649,475,215	118.74	4,144,587,887	9.26%	4,280,977	4,280,977			0.92074
392400	Orangetown	4,139,379,859	3,966,510,623	44.75	9,250,010,880	20.66%	9,554,408	9,554,408			2.40877
392500	Ramapo	1,781,530,877	1,662,066,883	13.60	13,099,491,743	29.25%	13,530,567	13,530,567			8.14081
392800	Stony Point	359,065,070	348,432,491	12.47	2,879,431,195	6.43%	2,974,187	2,974,187			8.53591
	Total	15,476,393,284	14,684,389,041		44,779,409,312		46,253,000	46,253,000			3.14981
							\$0				
REVISED:											
	Assessment Reduction @ %		1.0%								
	Ramapo Assessment Reduction:		\$8,103,329								
	Orangetown Assessment Reduction:		\$3,034,325								
	Haverstraw Assessment Reduction:		\$1,207,052								
Tax Levy Per Budget			\$46,253,000								
Taxable											
Assessed Value	Certified	Full Valuation	Net								
Upon Which	County	Of Taxable	Amounts	County Tax	Explanation						
Used For	Equalization	Real Property	Of Credits &	Levy	Of	Formula					
SWIS	The Tax Is	Used For	Adjustment	After Credits &	Adjustments	Tax					
Code	Town	Apportionment	Rate	Adjustments	Adjustments	Rate					
		Actually Levied		+ or (-)							

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 Flight Path

SCHEDULE B

Town of Ramapo – Calculation of Real Property Tax

Town of Ramapo
2007 Tax Rate Calc (Original Data)

Town Of Ramapo							
Calculation of Real Property Tax							
2007							
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy	\$ 1,655,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,611.27	
Part Town Hwy Item 1	\$ 514,649,955	\$ 2,456,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,578.41	
Police*	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,565.69	
Fire District							
Moleston	\$ 400,243,467	\$ 1,456,840	\$ 3.6399	\$ 3.6403	\$ 1,457,006	\$ 166.29	
Spring Valley	\$ 16,020,689	\$ 63,295	\$ 3.9508	\$ 3.9520	\$ 63,314	\$ 18.76	
Monsey	\$ 355,575,487	\$ 1,271,000	\$ 3.5745	\$ 3.5753	\$ 1,271,289	\$ 289.04	
Tallman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,997	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,765	\$ 7.30	
South SV	\$ 136,386,639	\$ 668,000	\$ 4.8978	\$ 4.8987	\$ 668,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,076	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,805	\$ 2,710,827	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.6074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 15,301,616	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,256,681,431	\$ 1,486,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,910.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,789,185	\$ 3,053,077	\$ 2.2063	\$ 2.2084	\$ 3,055,960	\$ 2,883.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6885	\$ 361,678	\$ 1,678.39	
*Police Assessed							
Gen Town	\$ 1,655,877,014						
Less: Suffern	\$ (152,354,419)						
Less: Spring Valley	\$ (157,285,162)						
	\$ 1,346,237,433						

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2007 (Ramapo - OrigTaxCalc)

SCHEDULE B
Town of Ramapo – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 1

Town of Ramapo
2007 Revised Tax Rate Calc (Flight Path Assessments 1% Reduction)

Town Of Ramapo												
Calculation of Real Property Tax												
2007												
Summary AV of properties within Flight Path	\$	810,332,897										
Assessment Reduction @ %		1.0%										
Assessment Reduction of:	\$	8,103,329										
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE						
Gen & Hwy (Original)	\$	1,656,877,014	\$	14,281,760	\$	8.6249	\$	8.6313	\$	14,292,371	\$	10,611.27
Gen & Hwy (Revised)	\$	1,647,773,685	\$	14,281,760	\$	8.6673						
Part Town	\$	514,649,955	\$	2,456,522	\$	4.7732	\$	4.7782	\$	2,459,100	\$	2,578.41
Hwy Item 1												
Police* (Original)	\$	1,346,237,433	\$	25,088,762	\$	18.6362	\$	18.6448	\$	25,100,328	\$	11,565.69
Police* (Revised)	\$	1,338,134,104	\$	25,088,762	\$	18.7491						
Fire District												
Moleston	\$	400,243,467	\$	1,456,840	\$	3.6399	\$	3.6403	\$	1,457,006	\$	166.29
Spring Valley	\$	16,020,889	\$	63,295	\$	3.9508	\$	3.9520	\$	63,314	\$	18.76
Monsey	\$	356,675,487	\$	1,271,000	\$	3.5745	\$	3.5753	\$	1,271,289	\$	289.04
Tallman	\$	398,491,912	\$	803,774	\$	2.0170	\$	2.0176	\$	803,997	\$	223.28
East SV	\$	6,239,740	\$	23,758	\$	3.8075	\$	3.8087	\$	23,765	\$	7.30
South SV	\$	136,386,839	\$	668,000	\$	4.8978	\$	4.8987	\$	668,117	\$	117.23
West SV	\$	7,331,323	\$	21,070	\$	2.8740	\$	2.8748	\$	21,076	\$	6.09
			\$	4,307,737					\$	4,308,565	\$	827.99
Ambulance												
District 1	\$	1,727,362,805	\$	2,710,827	\$	1.5693	\$	1.5697	\$	2,711,441	\$	614.40
Fire Protection												
Park Crest	\$	1,300,347	\$	16,009	\$	12.3113	\$	12.3136	\$	16,012	\$	2.95
Ramapo 1	\$	4,334,327	\$	150,000	\$	34.6074	\$	34.6099	\$	150,011	\$	10.62
Ramapo 2	\$	15,301,616	\$	219,575	\$	14.3498	\$	14.3502	\$	219,581	\$	6.25
Johnsontown Rd	\$	1,934,103	\$	8,000	\$	4.1363	\$	4.1379	\$	8,003	\$	3.12
			\$	393,584					\$	393,607	\$	22.95
Water	\$	1,256,661,431	\$	1,486,000	\$	1.1825	\$	1.1840	\$	1,487,911	\$	1,910.81
Sewers												
Operations (User)	\$	23,821	\$	1,607,719	\$	67.4917	\$	67.5091	\$	1,608,134	\$	415.27
Debt Service (AdVal)	\$	1,383,789,185	\$	3,053,077	\$	2.2083	\$	2.2084	\$	3,055,960	\$	2,883.04
Lighting District	\$	525,313,559	\$	360,000	\$	0.6883	\$	0.6885	\$	361,678	\$	1,678.39
*Police Assessed	Original		Revised									
Gen Town	\$	1,656,877,014	\$	1,647,773,685								
Less: Suffern	\$	(152,354,419)	\$	(152,354,419)								
Less: Spring Valley	\$	(157,285,162)	\$	(157,285,162)								
	\$	1,346,237,433	\$	1,338,134,104								

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FP 1%

SCHEDULE B
 Town of Ramapo –Calculation of Real Property Tax
 and
 Revised Calculation of Real Property Tax
 Flight Path Area - Page 2

Town of Ramapo
 2007 Revised Tax Rate Calc (Flight Path Assessments 2% Reduction)

Town Of Ramapo							
Calculation of Real Property Tax							
2007							
Summary AV of properties within Flight Path	\$	810,332,897					
Assessment Reduction @ %		2.0%					
Assessment Reduction of:	\$	16,206,658					
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy (Original)	\$ 1,656,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,611.27	
Gen & Hwy (Revised)	\$ 1,639,670,356	\$ 14,281,760	\$ 8.7101				
Part Town	\$ 514,649,956	\$ 2,456,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,578.41	
Hwy Item 1							
Police* (Original)	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,565.69	
Police* (Revised)	\$ 1,330,030,775	\$ 25,088,762	\$ 18.8633				
Fire District							
Moleston	\$ 400,243,467	\$ 1,456,640	\$ 3.6399	\$ 3.6403	\$ 1,457,006	\$ 166.29	
Spring Valley	\$ 16,020,689	\$ 63,295	\$ 3.9508	\$ 3.9520	\$ 63,314	\$ 18.76	
Monsey	\$ 356,575,487	\$ 1,271,000	\$ 3.5745	\$ 3.5753	\$ 1,271,289	\$ 289.04	
Talman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,997	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,765	\$ 7.30	
South SV	\$ 136,386,639	\$ 668,000	\$ 4.8978	\$ 4.8987	\$ 668,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,076	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,606	\$ 2,710,627	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.6074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 16,301,616	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,256,681,431	\$ 1,486,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,910.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,789,185	\$ 3,053,077	\$ 2.2083	\$ 2.2084	\$ 3,055,960	\$ 2,883.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6885	\$ 361,678	\$ 1,678.39	
*Police Assessed	Original	Revised					
Gen Town	\$ 1,656,877,014	\$ 1,639,670,356					
Less: Suffern	\$ (152,354,419)	\$ (152,354,419)					
Less: Spring Valley	\$ (157,285,182)	\$ (157,285,182)					
	\$ 1,346,237,433	\$ 1,330,030,775					

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 FP 2%

SCHEDULE B
Town of Ramapo – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 3

Town of Ramapo
2007 Revised Tax Rate Calc (Flight Path Assessments 3% Reduction)

Town Of Ramapo							
Calculation of Real Property Tax							
2007							
Summary AV of properties within Flight Path	\$	810,332,897					
Assessment Reduction @ %		3.0%					
Assessment Reduction of:	\$	24,309,987					
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy (Original)	\$ 1,656,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,611.27	
Gen & Hwy (Revised)	\$ 1,631,567,027	\$ 14,281,760	\$ 8.7534				
Part Town	\$ 514,649,955	\$ 2,456,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,578.41	
Hwy Item 1							
Police* (Original)	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,565.69	
Police* (Revised)	\$ 1,321,927,446	\$ 25,088,762	\$ 18.9789				
Fire District							
Moleston	\$ 400,243,467	\$ 1,456,840	\$ 3.6399	\$ 3.6403	\$ 1,457,006	\$ 166.29	
Spring Valley	\$ 16,020,889	\$ 63,295	\$ 3.9508	\$ 3.9520	\$ 63,314	\$ 18.76	
Monsey	\$ 356,675,487	\$ 1,271,000	\$ 3.5745	\$ 3.5753	\$ 1,271,289	\$ 289.04	
Tallman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,997	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,765	\$ 7.30	
South SV	\$ 136,386,839	\$ 688,000	\$ 4.8978	\$ 4.8987	\$ 688,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,076	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,805	\$ 2,710,827	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.6074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 15,301,816	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,256,681,431	\$ 1,486,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,910.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,789,185	\$ 3,053,077	\$ 2.2063	\$ 2.2084	\$ 3,055,960	\$ 2,883.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6885	\$ 361,678	\$ 1,678.39	
*Police Assessed	Original	Revised					
Gen Town	\$ 1,656,877,014	\$ 1,631,567,027					
Less: Suffern	\$ (152,354,419)	\$ (152,354,419)					
Less: Spring Valley	\$ (157,285,162)	\$ (157,285,162)					
	\$ 1,346,237,433	\$ 1,321,927,446					

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FP 3%

SCHEDULE B
 Town of Ramapo – Calculation of Real Property Tax
 and
 Revised Calculation of Real Property Tax
 Increased Noise Area - Page 1

Town of Ramapo
 2007 Revised Tax Calc (Inc Noise Assessments 3% Reduction)

Town Of Ramapo							
Calculation of Real Property Tax							
2007							
Summary AV of properties within Increased Noise Area	\$	326,931,875					
Assessment Reduction @ %		3.0%					
Assessment Reduction of:	\$	9,807,956					
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy (Original)	\$ 1,655,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,611.27	
Gen & Hwy (Revised)	\$ 1,646,069,058	\$ 14,281,760	\$ 8.6763				
Part Town	\$ 514,649,955	\$ 2,466,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,678.41	
Hwy Item 1							
Police* (Original)	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,565.69	
Police* (Revised)	\$ 1,336,429,477	\$ 25,088,762	\$ 18.7730				
Fire District							
Moleston	\$ 400,243,467	\$ 1,466,840	\$ 3.6399	\$ 3.6403	\$ 1,457,008	\$ 166.29	
Spring Valley	\$ 16,020,669	\$ 63,295	\$ 3.9508	\$ 3.9520	\$ 63,314	\$ 18.76	
Monsey	\$ 365,575,487	\$ 1,271,000	\$ 3.5745	\$ 3.5763	\$ 1,271,289	\$ 289.04	
Tallman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,997	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,765	\$ 7.30	
South SV	\$ 136,386,639	\$ 668,000	\$ 4.8978	\$ 4.8987	\$ 668,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,076	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,905	\$ 2,710,827	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.6074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 15,301,616	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,256,681,431	\$ 1,486,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,010.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,798,185	\$ 3,063,077	\$ 2.2063	\$ 2.2084	\$ 3,065,960	\$ 2,883.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6886	\$ 361,678	\$ 1,678.39	
*Police Assessed	Original	Revised					
Gen Town	\$ 1,655,877,014	\$ 1,646,069,058					
Less: Suffern	\$ (152,354,419)	\$ (152,354,419)					
Less: Spring Valley	\$ (157,285,162)	\$ (157,285,162)					
	\$ 1,346,237,433	\$ 1,336,429,477					

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 IncNoise 3%

SCHEDULE B
 Town of Ramapo – Calculation of Real Property Tax
 and
 Revised Calculation of Real Property Tax
 Increased Noise Area - Page 2

Town of Ramapo
 2007 Revised Tax Rate Calc (Inc Noise Assessments 5%)

Town Of Ramapo							
Calculation of Real Property Tax							
2007							
Summary AV of properties within Increased Noise Area	\$	326,931,875					
Assessment Reduction @ %		5.0%					
Assessment Reduction of:	\$	16,346,594					
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy (Original)	\$ 1,655,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,811.27	
Gen & Hwy (Revised)	\$ 1,639,530,420	\$ 14,281,760	\$ 8.7109				
Part Town	\$ 514,649,955	\$ 2,456,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,578.41	
Hwy Item 1							
Police* (Original)	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,566.69	
Police* (Revised)	\$ 1,329,890,839	\$ 25,088,762	\$ 18.8653				
Fire District							
Moleston	\$ 400,243,487	\$ 1,456,840	\$ 3.6399	\$ 3.6403	\$ 1,457,006	\$ 166.29	
Spring Valley	\$ 16,020,889	\$ 83,295	\$ 3.9508	\$ 3.9520	\$ 83,314	\$ 18.76	
Monsey	\$ 355,575,487	\$ 1,271,000	\$ 3.5745	\$ 3.5753	\$ 1,271,289	\$ 289.04	
Tallman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,967	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,765	\$ 7.30	
South SV	\$ 136,368,839	\$ 688,000	\$ 4.9978	\$ 4.9987	\$ 688,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,076	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,905	\$ 2,710,827	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.8074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 16,301,616	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,256,681,431	\$ 1,488,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,910.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,789,185	\$ 3,053,077	\$ 2.2063	\$ 2.2084	\$ 3,055,960	\$ 2,983.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6885	\$ 361,678	\$ 1,678.39	
*Police Assessed	Original	Revised					
Gen Town	\$ 1,655,877,014	\$ 1,639,530,420					
Less: Suffern	\$ (152,354,419)	\$ (152,354,419)					
Less: Spring Valley	\$ (157,285,162)	\$ (157,285,162)					
	\$ 1,346,237,433	\$ 1,329,890,839					

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 IncNoise 5%

SCHEDULE B
 Town of Ramapo – Calculation of Real Property Tax
 and
 Revised Calculation of Real Property Tax
 Increased Noise Area - Page 3

2007 Town of Ramapo
 Revised Tax Rate Calc (Inc Noise Assessments 7% Reduction)

Town Of Ramapo Calculation of Real Property Tax 2007							
Summary AV of properties within increased Noise Area	\$	326,931,875					
Assessment Reduction @ %		7.0%					
Assessment Reduction of:	\$	22,885,231					
FUNDS	ASSESSED VALUE	TAX LEVY (BUDGET)	BUDGET RATE/THOU	ADOPTED RATE/THOU	ACTUAL TO COLLECT	BREAKAGE	
Gen & Hwy (Original)	\$ 1,665,877,014	\$ 14,281,760	\$ 8.6249	\$ 8.6313	\$ 14,292,371	\$ 10,611.27	
Gen & Hwy (Revised)	\$ 1,632,991,783	\$ 14,281,760	\$ 8.7458				
Part Town Hwy item 1	\$ 514,649,955	\$ 2,466,522	\$ 4.7732	\$ 4.7782	\$ 2,459,100	\$ 2,578.41	
Police* (Original)	\$ 1,346,237,433	\$ 25,088,762	\$ 18.6362	\$ 18.6448	\$ 25,100,328	\$ 11,565.69	
Police* (Revised)	\$ 1,323,352,202	\$ 25,088,762	\$ 18.9585				
Fire District							
Moleston	\$ 400,243,467	\$ 1,456,840	\$ 3.6399	\$ 3.6403	\$ 1,457,006	\$ 166.29	
Spring Valley	\$ 16,020,689	\$ 63,296	\$ 3.9508	\$ 3.9520	\$ 63,314	\$ 18.76	
Monsey	\$ 365,575,487	\$ 1,271,000	\$ 3.5745	\$ 3.5753	\$ 1,271,289	\$ 289.04	
Tallman	\$ 398,491,912	\$ 803,774	\$ 2.0170	\$ 2.0176	\$ 803,997	\$ 223.28	
East SV	\$ 6,239,740	\$ 23,758	\$ 3.8075	\$ 3.8087	\$ 23,785	\$ 7.30	
South SV	\$ 136,386,639	\$ 668,000	\$ 4.8978	\$ 4.8987	\$ 668,117	\$ 117.23	
West SV	\$ 7,331,323	\$ 21,070	\$ 2.8740	\$ 2.8748	\$ 21,078	\$ 6.09	
		\$ 4,307,737			\$ 4,308,565	\$ 827.99	
Ambulance							
District 1	\$ 1,727,362,805	\$ 2,710,527	\$ 1.5693	\$ 1.5697	\$ 2,711,441	\$ 614.40	
Fire Protection							
Park Crest	\$ 1,300,347	\$ 16,009	\$ 12.3113	\$ 12.3136	\$ 16,012	\$ 2.95	
Ramapo 1	\$ 4,334,327	\$ 150,000	\$ 34.6074	\$ 34.6099	\$ 150,011	\$ 10.62	
Ramapo 2	\$ 15,301,616	\$ 219,575	\$ 14.3498	\$ 14.3502	\$ 219,581	\$ 6.25	
Johnsontown Rd	\$ 1,934,103	\$ 8,000	\$ 4.1363	\$ 4.1379	\$ 8,003	\$ 3.12	
		\$ 393,584			\$ 393,607	\$ 22.95	
Water	\$ 1,266,681,431	\$ 1,486,000	\$ 1.1825	\$ 1.1840	\$ 1,487,911	\$ 1,910.81	
Sewers							
Operations (User)	\$ 23,821	\$ 1,607,719	\$ 67.4917	\$ 67.5091	\$ 1,608,134	\$ 415.27	
Debt Service (AdVal)	\$ 1,383,789,185	\$ 3,063,077	\$ 2.2063	\$ 2.2084	\$ 3,055,960	\$ 2,883.04	
Lighting District	\$ 525,313,559	\$ 360,000	\$ 0.6853	\$ 0.6885	\$ 361,678	\$ 1,678.39	
*Police Assessed	Original	Revised					
Gen Town	\$ 1,665,877,014	\$ 1,632,991,783					
Less: Suffern	\$ (152,354,419)	\$ (152,354,419)					
Less: Spring Valley	\$ (157,285,162)	\$ (157,285,162)					
	\$ 1,346,237,433	\$ 1,323,352,202					

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 IncNoise 7%

SCHEDULE C
 East Ramapo CSD – Calculation of Real Property Tax

East Ramapo CSD
 2007-08 Tax Rate Calc (Original Data)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066.872	using 07-08 equalization rates
					East Ramapo CSD	library levy	6,082,160	
						state aid/revenues	65,953,596	
STEP 1: Obtain information from municipalities.								
East Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand		
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value		
	Rate							
RAMAPO	0.1236	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127		
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805		
HAVERSTRAW	0.0930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279		
		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048		
		Levy	\$ 121,066,872					
			\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)				
Finklestein Memorial Library								
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand		
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value		
	Rate							
RAMAPO	0.1236	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619		
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628		
HAVERSTRAW	0.0930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546		
		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651		
		Levy	\$ 6,082,160					
			\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)				

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 2007-08

SCHEDULE C
East Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 1

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 1% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066,872	using 07-08 equalization rates
Summary AV of properties within Flight Path	\$ 922,270.723			East Ramapo CSD	library levy	6,082,160	
Assessment Reduction @ %	1.0%				state aid/revenues	65,953,596	
STEP 1: Obtain information from municipalities.							
East Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127	
Assessment Reduction of:	\$ 9,222,707	\$ 1,034,085,985.77	\$ 8,352,875,491	81.797%	\$ 99,029,080.42	\$ 95.76484	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805	
		\$ 314,821,265.00	\$ 1,222,606,854	11.973%	\$ 14,494,844.64	\$ 46.04150	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.230%	\$ 7,542,946.95	\$ 11.93926	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048	
	Revised (1% reduction)	\$ 1,980,683,889.77	\$ 10,211,712,596.00	100%	\$ 121,066,872.00	\$ 61.12377	
		Levy	\$ 121,066,872				
	Original		\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (1% reduction)		\$ 11.85569	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619	
		\$ 1,034,085,985.77	\$ 8,352,875,491	81.797%	\$ 4,975,024.97	\$ 4.81104	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628	
		\$ 314,821,265.00	\$ 1,222,606,854	11.973%	\$ 728,192.30	\$ 2.31303	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.230%	\$ 378,942.72	\$ 0.59980	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651	
	Revised (1% reduction)	\$ 1,980,683,889.77	\$ 10,211,712,596.00	100%	\$ 6,076,866.14	\$ 3.06807	
		Levy	\$ 6,082,160				
	Original		\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (1% reduction)		\$ 0.59561	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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FP 1%

SCHEDULE C
East Ramapo CSD –Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 2

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 2% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066,872	using 07-08 equalization rates
Summary AV of properties within Flight Path		\$	922,270,723	East Ramapo CSD	library levy	6,082,160	
Assessment Reduction @ %			2.0%		state aid/revenues	65,953,506	
STEP 1: Obtain information from municipalities.							
East Ramapo CSD	Equalization	Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127	
Assessment Reduction of:		\$ 18,445,414	\$ 1,024,863,278.54	81.663%	\$ 98,867,128.10	\$ 96.46860	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805	
		\$ 314,821,265.00	\$ 1,222,606,854	12.061%	\$ 14,601,365.00	\$ 46.37986	
HAYERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.276%	\$ 7,598,378.89	\$ 12.02700	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048	
	Revised (2% reduction)	\$ 1,971,461,182.54	\$ 10,137,215,768.61	100%	\$ 121,066,872.00	\$ 61.40972	
		Levy	\$ 121,066,872				
	Original		\$ 11.76882	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (2% reduction)		\$ 11.94281	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library	Equalization	Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619	
		\$ 1,024,863,278.54	\$ 8,278,378,663	81.663%	\$ 4,966,888.81	\$ 4.84639	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628	
		\$ 314,821,265.00	\$ 1,222,606,854	12.061%	\$ 733,543.67	\$ 2.33003	
HAYERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.276%	\$ 381,727.51	\$ 0.60421	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651	
	Revised (2% reduction)	\$ 1,971,461,182.54	\$ 10,137,215,768.61	100%	\$ 6,071,534.77	\$ 3.07971	
		Levy	\$ 6,082,160				
	Original		\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (2% reduction)		\$ 0.59998	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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SCHEDULE C
East Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 3

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 3% Reduction)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR		2007-08	tax levy	121,066,872	using 07-08 equalization rates
				East Ramapo CSD	library levy	6,082,160	
Summary AV of properties within Flight Path		\$	922,270,723		state aid/revenues	65,953,596	
Assessment Reduction @ %			3.0%				
STEP 1: Obtain information from municipalities.							
East Ramapo CSD	Equalization	Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127	
Assessment Reduction of:	\$ 27,668,122	\$ 1,015,640,571.31	\$ 8,203,881,836	81.527%	\$ 98,702,777.84	\$ 97.18278	
CLARKSTOWN	0.2575	\$ 314,821,266.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805	
		\$ 314,821,266.00	\$ 1,222,606,854	12.150%	\$ 14,709,462.56	\$ 46.72322	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.323%	\$ 7,654,631.59	\$ 12.11604	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048	
	Revised (3% reduction)	\$ 1,962,238,475.31	\$ 10,062,718,941.23	100%	\$ 121,066,872.00	\$ 61.69835	
		Levy	\$ 121,066,872				
	Original		\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 12.03123	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619	
		\$ 1,015,640,571.31	\$ 8,203,881,836	81.527%	\$ 4,958,632.18	\$ 4.88227	
CLARKSTOWN	0.2575	\$ 314,821,266.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628	
		\$ 314,821,266.00	\$ 1,222,606,854	12.150%	\$ 738,974.28	\$ 2.34728	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.323%	\$ 384,553.54	\$ 0.60869	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651	
	Revised (3% reduction)	\$ 1,962,238,475.31	\$ 10,062,718,941.23	100%	\$ 6,068,104.16	\$ 3.09142	
		Levy	\$ 6,082,160				
	Original		\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 0.60443	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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FP 3%

SCHEDULE C
East Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 1

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Inc Noise Assessments 3% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066,872	using 07-08 equalization rates
Summary AV of properties within Increased Noise Area		\$	278,385,775	East Ramapo CSD	library levy	6,082,160	
Assessment Reduction @ %			3.0%		state aid/revenues	65,953,596	
STEP 1: Obtain information from municipalities.							
East Ramapo CSD	Equalization	Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,893.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127	
Assessment Reduction of:	\$ 8,351,573	\$ 1,034,957,119.75	\$ 8,359,912,114	81.810%	\$ 99,044,255.63	\$ 95.69890	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805	
		\$ 314,821,265.00	\$ 1,222,606,854	11.964%	\$ 14,484,863.50	\$ 46.00980	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.226%	\$ 7,537,752.88	\$ 11.93104	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048	
	Revised (3% reduction)	\$ 1,981,555,023.75	\$ 10,218,749,219.42	100%	\$ 121,066,872.00	\$ 61.09690	
		Levy	\$ 121,066,872				
	Original		\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 11.84752	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,893.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619	
		\$ 1,034,957,119.75	\$ 8,359,912,114	81.810%	\$ 4,975,787.35	\$ 4.80772	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628	
		\$ 314,821,265.00	\$ 1,222,606,854	11.964%	\$ 727,690.87	\$ 2.31144	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.226%	\$ 378,681.78	\$ 0.59939	
	Original	\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651	
	Revised (3% reduction)	\$ 1,981,555,023.75	\$ 10,218,749,219.42	100%	\$ 6,077,387.57	\$ 3.06698	
		Levy	\$ 6,082,160				
	Original		\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 0.59520	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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IncNoise 3%

SCHEDULE C
East Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 2

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Inc Noise Assessments 5% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066,872	using 07-08 equalization rates
				East Ramapo CSD	library levy	6,082,160	
Summary AV of properties within Increased Noise Area		\$ 278,385,775			state aid/revenues	66,953,596	
Assessment Reduction @ %		5.0%					
STEP 1: Obtain information from municipalities.							
East Ramapo CSD	Equalization	Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.	Allocation	Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89	\$ 95.07127	
Assessment Reduction of:		\$ 13,919,289	\$ 1,029,389,404.25	\$ 8,314,938,645	81.729%	\$ 98,946,904.02	\$ 96.12194
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20	\$ 45.70805	
		\$ 314,821,265.00	\$ 1,222,606,854	12.017%	\$ 14,548,894.25	\$ 46.21319	
HAYERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92	\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.254%	\$ 7,571,073.73	\$ 11.98378	
Original		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00	\$ 60.84048	
Revised (5% reduction)		\$ 1,975,987,308.25	\$ 10,173,775,750.12	100%	\$ 121,066,872.00	\$ 61.26905	
		Levy	\$ 121,066,872				
		Original	\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)			
		Revised (5% reduction)	\$ 11.89990	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.	Allocation	Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29	\$ 4.77619	
		\$ 1,029,389,404.25	\$ 8,314,938,645	81.729%	\$ 4,970,896.59	\$ 4.82898	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44	\$ 2.29628	
		\$ 314,821,265.00	\$ 1,222,606,854	12.017%	\$ 730,907.65	\$ 2.32166	
HAYERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27	\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.254%	\$ 380,355.76	\$ 0.60204	
Original		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00	\$ 3.05651	
Revised (5% reduction)		\$ 1,975,987,308.25	\$ 10,173,775,750.12	100%	\$ 6,074,170.80	\$ 3.07399	
		Levy	\$ 6,082,160				
		Original	\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)			
		Revised (5% reduction)	\$ 0.59783	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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IncNoise 5%

SCHEDULE C
East Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 3

East Ramapo CSD
2007-08 Revised Tax Rate Calc (Inc Noise Assessments 7% Reduction)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	121,066,872	using 07-08 equalization rates
					East Ramapo CSD	library levy	6,082,160	
Summary AV of properties within Increased Noise Area		\$	278,385,775			state aid/revenues	65,953,596	
Assessment Reduction @ %			7.0%					
STEP 1: Obtain information from municipalities.								
East Ramapo CSD	Equalization	Total Municipal	Full Value	Full Value	Dollar		Tax Rate per Thousand	
Municipal Name	Rate	Tot. Assessed Val.		Allocation	Allocation		On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 99,188,686.89		\$ 95.07127	
Assessment Reduction of:		\$ 19,487,004	\$ 1,023,821,688.75	\$ 8,269,965,176	81.648%	\$ 98,848,687.89	\$ 96.54873	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 14,389,867.20		\$ 45.70805	
		\$ 314,821,265.00	\$ 1,222,606,854	12.071%	\$ 14,613,493.62		\$ 46.41838	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 7,488,317.92		\$ 11.85279	
		\$ 631,776,639.00	\$ 636,230,251	6.281%	\$ 7,604,690.49		\$ 12.03699	
Original		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 121,066,872.00		\$ 60.84048	
Revised (7% reduction)		\$ 1,970,419,592.75	\$ 10,128,802,280.81	100%	\$ 121,066,872.00		\$ 61.44218	
		Levy	\$ 121,066,872					
	Original		\$ 11.76982	TAX RATE PER THOUSAND (ON FULL VALUE)				
	Revised (7% reduction)		\$ 11.95273	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)				
Finklestein Memorial Library								
Municipal Name	Equalization Rate	Total Municipal Tot. Assessed Val.	Full Value	Full Value Allocation	Dollar Allocation		Tax Rate per Thousand On Assessed Value	
RAMAPO	0.1238	\$ 1,043,308,693.00	\$ 8,427,372,318	81.929%	\$ 4,983,043.29		\$ 4.77619	
		\$ 1,023,821,688.75	\$ 8,269,965,176	81.648%	\$ 4,965,962.41		\$ 4.85042	
CLARKSTOWN	0.2575	\$ 314,821,265.00	\$ 1,222,606,854	11.886%	\$ 722,918.44		\$ 2.29628	
		\$ 314,821,265.00	\$ 1,222,606,854	12.071%	\$ 734,152.99		\$ 2.33197	
HAVERSTRAW	0.9930	\$ 631,776,639.00	\$ 636,230,251	6.185%	\$ 376,198.27		\$ 0.59546	
		\$ 631,776,639.00	\$ 636,230,251	6.281%	\$ 382,044.60		\$ 0.60471	
Original		\$ 1,989,906,597.00	\$ 10,286,209,423.38	100%	\$ 6,082,160.00		\$ 3.05651	
Revised (7% reduction)		\$ 1,970,419,592.75	\$ 10,128,802,280.81	100%	\$ 6,070,925.45		\$ 3.08103	
		Levy	\$ 6,082,160					
	Original		\$ 0.59129	TAX RATE PER THOUSAND (ON FULL VALUE)				
	Revised (7% reduction)		\$ 0.60048	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)				

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IncNoise 7%

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax

Ramapo CSD
 2007-08 Tax Rate Calc (Original Data)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	88,184,260	using 07-08 equalization rates
				Ramapo CSD	library levy	2,813,106	
					state aid/revenues		
STEP 1: Obtain information from municipalities.							
Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$ 136.60113	
HAVERSTRAW	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$ 17.03043	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$ 129.38959	
		\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$ 109.87905	
		Levy	\$ 88,184,260				
			\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library							
		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$ 4.35762	
HAVERSTRAW	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$ 0.54328	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$ 4.12757	
		\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$ 3.50518	
		Levy	\$ 2,813,106				
			\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)			

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 2007-08

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 1

Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 1% Reduction)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR				2007-08	tax levy	88,184,260	using 07-08 equalization rates
					Ramapo CSD	library levy	2,813,106		
Summary AV of properties within Flight Path		\$	166,447,949			state aid/revenues			
Assessment Reduction @ %			1.0%						
STEP 1: Obtain information from municipalities.									
Total Municipal		Full Value		Full Value	Dollar	Tax Rate per Thousand			
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value			
	Rate								
RAMAPO	0.1238	\$ 615,755,863.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$	136.60113		
Assessment Reduction of:		\$ 1,664,479	\$ 614,091,183.51	95.371%	\$ 84,102,392.00	\$	136.95424		
HAYERSTRAW	0.0930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$	17.03043		
		\$ 178,880,590.00	\$ 180,141,581	3.464%	\$ 3,054,288.81	\$	17.07446		
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$	129.38959		
		\$ 7,921,269.00	\$ 60,606,496	1.165%	\$ 1,027,579.20	\$	129.72406		
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$	109.87905		
	Revised (1% reduction)	\$ 800,893,042.51	\$ 5,201,096,893.58	100%	\$ 88,184,260.00	\$	110.10741		
		Levy	\$ 88,184,260						
	Original		\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)					
	Revised (1% reduction)		\$ 16.95494	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)					
Finklestein Memorial Library									
Total Municipal		Full Value		Full Value	Dollar	Tax Rate per Thousand			
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value			
	Rate								
RAMAPO	0.1238	\$ 615,755,863.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$	4.35762		
		\$ 614,091,183.51	\$ 4,960,348,817	95.371%	\$ 2,682,893.11	\$	4.36888		
CLARKSTOWN	0.0930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$	0.54328		
		\$ 178,880,590.00	\$ 180,141,581	3.464%	\$ 97,432.79	\$	0.54468		
HAYERSTRAW	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$	4.12757		
		\$ 7,921,269.00	\$ 60,606,496	1.165%	\$ 32,780.10	\$	4.13824		
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$	3.50518		
	Revised (1% reduction)	\$ 800,893,042.51	\$ 5,201,096,893.58	100%	\$ 2,812,854.78	\$	3.51215		
		Levy	\$ 2,813,106						
	Original		\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)					
	Revised (1% reduction)		\$ 0.54087	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)					

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FP 1%

SCHEDULE D
Ramapo CSD –Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 2

Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 2% Reduction)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR		2007-08	tax levy	88,184,260	using 07-08 equalization rates
				Ramapo CSD	library levy	2,813,106	
Summary AV of properties within Flight Path		\$	166,447,949		state aid/revenues		
Assessment Reduction @ %			2.0%				
STEP 1: Obtain information from municipalities.							
Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,766,863.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$ 136.60113	
Assessment Reduction of:		\$ 3,328,959	\$ 612,426,704.02	\$ 4,946,903,910	95.359%	\$ 84,091,812.96	\$ 137.30919
HAVERSTRAW	0.9930	\$ 178,880,560.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$ 17.03043	
		\$ 178,880,560.00	\$ 180,141,581	3.473%	\$ 3,062,204.65	\$ 17.11871	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$ 129.38959	
		\$ 7,921,269.00	\$ 60,606,496	1.168%	\$ 1,030,242.39	\$ 130.06027	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$ 109.87905	
	Revised (2% reduction)	\$ 799,228,563.02	\$ 5,187,651,986.55	100%	\$ 88,184,260.00	\$ 110.33672	
		Levy	\$ 88,184,260				
	Original		\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (2% reduction)		\$ 16.99888	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,766,863.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$ 4.35762	
		\$ 612,426,704.02	\$ 4,946,903,910	95.359%	\$ 2,682,555.64	\$ 4.38021	
CLARKSTOWN	0.9930	\$ 178,880,560.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$ 0.54328	
		\$ 178,880,560.00	\$ 180,141,581	3.473%	\$ 97,685.30	\$ 0.54609	
HAVERSTRAW	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$ 4.12757	
		\$ 7,921,269.00	\$ 60,606,496	1.168%	\$ 32,865.06	\$ 4.14896	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$ 3.50518	
	Revised (2% reduction)	\$ 799,228,563.02	\$ 5,187,651,986.55	100%	\$ 2,812,602.27	\$ 3.51915	
		Levy	\$ 2,813,106				
	Original		\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (2% reduction)		\$ 0.54227	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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FP 2%

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Flight Path Area - Page 3

Ramapo CSD
2007-08 Revised Tax Rate Calc (Flight Path Assessments 3% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	88,184,260	using 07-08 equalization rates
				Ramapo CSD	library levy	2,813,106	
Summary AV of properties within Flight Path		\$ 166,447,949			state aid/revenues		
Assessment Reduction @ %		3.0%					
STEP 1: Obtain information from municipalities.							
Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$ 136.60113	
Assessment Reduction of:		\$ 4,993,438	\$ 610,762,224.53	\$ 4,933,459,003	95.347%	\$ 84,081,178.95	\$ 137.66598
HAVERSTRAW	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$ 17.03043	
		\$ 178,880,590.00	\$ 180,141,581	3.482%	\$ 3,070,161.63	\$ 17.16319	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$ 129.38959	
		\$ 7,921,269.00	\$ 60,606,496	1.171%	\$ 1,032,919.42	\$ 130.39823	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$ 109.87905	
	Revised (3% reduction)	\$ 797,564,083.53	\$ 5,174,207,079.52	100%	\$ 88,184,260.00	\$ 110.56699	
		Levy	\$ 88,184,260				
	Original		\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 17.04305	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$ 4.35762	
		\$ 610,762,224.53	\$ 4,933,459,003	95.347%	\$ 2,682,216.41	\$ 4.39159	
CLARKSTOWN	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$ 0.54328	
		\$ 178,880,590.00	\$ 180,141,581	3.482%	\$ 97,939.13	\$ 0.54751	
HAVERSTRAW	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$ 4.12757	
		\$ 7,921,269.00	\$ 60,606,496	1.171%	\$ 32,950.46	\$ 4.15974	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$ 3.50518	
	Revised (3% reduction)	\$ 797,564,083.53	\$ 5,174,207,079.52	100%	\$ 2,812,348.44	\$ 3.52617	
		Levy	\$ 2,813,106				
	Original		\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 0.54368	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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FP 3%

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 1

Ramapo CSD
2007-08 Revised Tax Rate Calc (Inc Noise Assessments 3% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	88,184,260	using 07-08 equalization rates
				Ramapo CSD	library levy	2,813,106	
Summary AV of properties within Flight Path		\$ 48,546,100			state aid/revenues		
Assessment Reduction @ %		3.0%					
STEP 1: Obtain information from municipalities.							
Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$ 136.60113	
Assessment Reduction of:		\$ 1,456,383	\$ 4,962,029,725	95.373%	\$ 84,103,710.76	\$ 136.90999	
HAVERSTRAW	0.0930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$ 17.03043	
		\$ 178,880,590.00	\$ 180,141,581	3.462%	\$ 3,053,302.03	\$ 17.06894	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$ 129.38959	
		\$ 7,921,269.00	\$ 60,606,496	1.165%	\$ 1,027,247.21	\$ 129.68215	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$ 109.87905	
	Revised (3% reduction)	\$ 801,101,139.00	\$ 5,202,777,802.22	100%	\$ 88,184,260.00	\$ 110.07881	
		Levy	\$ 88,184,260				
	Original		\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 16.94946	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
	Rate						
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$ 4.35762	
		\$ 614,299,280.00	\$ 4,962,029,725	95.373%	\$ 2,682,935.18	\$ 4.36747	
CLARKSTOWN	0.0930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$ 0.54328	
		\$ 178,880,590.00	\$ 180,141,581	3.462%	\$ 97,401.31	\$ 0.54450	
HAVERSTRAW	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$ 4.12757	
		\$ 7,921,269.00	\$ 60,606,496	1.165%	\$ 32,769.51	\$ 4.13690	
	Original	\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$ 3.50518	
	Revised (3% reduction)	\$ 801,101,139.00	\$ 5,202,777,802.22	100%	\$ 2,812,886.26	\$ 3.51127	
		Levy	\$ 2,813,106				
	Original		\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (3% reduction)		\$ 0.54069	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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IncNoise 3%

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 2

Ramapo CSD
2007-08 Revised Tax Rate Calc (Inc Noise Assessments 5% Reduction)

SCHOOL DISTRICT:		SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	88,184,260	using 07-08 equalization rates
Summary AV of properties within Flight Path		\$	48,546,100		Ramapo CSD	library levy	2,813,106	
Assessment Reduction @ %			5.0%			state aid/revenues		
STEP 1: Obtain information from municipalities.								
Ramapo CSD			Total Municipal	Full Value	Full Value	Dollar		Tax Rate per Thousand
Municipal Name	Equalization		Tot. Assessed Val.		Allocation	Allocation		On Assessed Value
	Rate							
RAMAPO	0.1238	\$	615,755,663.00	\$	4,973,793,724	95.383%	\$	84,112,916.48
Assessment Reduction of:		\$	2,427,305	\$	613,328,358.00	95.366%	\$	84,097,550.46
								\$
								136.60113
HAVERSTRAW	0.9930	\$	178,880,590.00	\$	180,141,581	3.455%	\$	3,046,413.78
		\$	178,880,590.00	\$	180,141,581	3.468%	\$	3,057,911.52
								\$
								17.03043
TUXEDO	0.1307	\$	7,921,269.00	\$	60,606,496	1.162%	\$	1,024,929.74
		\$	7,921,269.00	\$	60,606,496	1.167%	\$	1,028,798.02
								\$
								129.38959
								129.87793
			Original	\$	802,557,522.00	\$	5,214,541,800.61	100%
			Revised (5% reduction)	\$	800,130,217.00	\$	5,194,935,136.63	100%
								\$
								88,184,260
			Levy	\$	88,184,260			
			Original	\$	16.91122			TAX RATE PER THOUSAND (ON FULL VALUE)
			Revised (5% reduction)	\$	16.97505			REVISED TAX RATE PER THOUSAND (ON FULL VALUE)
Finklestein Memorial Library								
Municipal Name			Total Municipal	Full Value	Full Value	Dollar		Tax Rate per Thousand
	Equalization		Tot. Assessed Val.		Allocation	Allocation		On Assessed Value
	Rate							
RAMAPO	0.1238	\$	615,755,663.00	\$	4,973,793,724	95.383%	\$	2,683,228.84
		\$	613,328,358.00	\$	4,954,187,060	95.366%	\$	2,682,738.66
								\$
								4.35762
CLARKSTOWN	0.9930	\$	178,880,590.00	\$	180,141,581	3.455%	\$	97,181.57
		\$	178,880,590.00	\$	180,141,581	3.468%	\$	97,548.35
								\$
								0.54328
HAVERSTRAW	0.1307	\$	7,921,269.00	\$	60,606,496	1.162%	\$	32,695.59
		\$	7,921,269.00	\$	60,606,496	1.167%	\$	32,818.98
								\$
								4.12757
								4.14315
			Original	\$	802,557,522.00	\$	5,214,541,800.61	100%
			Revised (5% reduction)	\$	800,130,217.00	\$	5,194,935,136.63	100%
								\$
								2,813,106.00
			Levy	\$	2,813,106			
			Original	\$	0.53947			TAX RATE PER THOUSAND (ON FULL VALUE)
			Revised (5% reduction)	\$	0.54151			REVISED TAX RATE PER THOUSAND (ON FULL VALUE)

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IncNoise 5%

SCHEDULE D
Ramapo CSD – Calculation of Real Property Tax
and
Revised Calculation of Real Property Tax
Increased Noise Area - Page 3

Ramapo CSD
 2007-08 Revised Tax Rate Calc (Inc Noise Assessments 7% Reduction)

SCHOOL DISTRICT:	SCHOOL TAX LEVY COMPUTATION FOR			2007-08	tax levy	88,184,260	using 07-08 equalization rates
				Ramapo CSD	library levy	2,813,106	
Summary AV of properties within Flight Path		\$ 48,546,100			state aid/revenues		
Assessment Reduction @ %		7.0%					
STEP 1: Obtain information from municipalities.							
Ramapo CSD		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 84,112,916.48	\$ 136.60113	
Assessment Reduction of:		\$ 3,398,227	\$ 612,357,436.00	95.359%	\$ 84,091,371.52	\$ 137.32400	
HAVERSTRAW	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 3,046,413.78	\$ 17.03043	
		\$ 178,880,590.00	\$ 180,141,581	3.473%	\$ 3,062,534.96	\$ 17.12055	
TUXEDO	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 1,024,929.74	\$ 129.38959	
		\$ 7,921,269.00	\$ 60,606,496	1.168%	\$ 1,030,353.52	\$ 130.07430	
Original		\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 88,184,260.00	\$ 109.87905	
Revised (7% reduction)		\$ 799,159,295.00	\$ 5,187,092,471.04	100%	\$ 88,184,260.00	\$ 110.34629	
		Levy	\$ 88,184,260				
	Original		\$ 16.91122	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (7% reduction)		\$ 17.00071	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			
Finklestein Memorial Library		Total Municipal	Full Value	Full Value	Dollar	Tax Rate per Thousand	
Municipal Name	Equalization Rate	Tot. Assessed Val.		Allocation	Allocation	On Assessed Value	
RAMAPO	0.1238	\$ 615,755,663.00	\$ 4,973,793,724	95.383%	\$ 2,683,228.84	\$ 4.35762	
		\$ 612,357,436.00	\$ 4,946,344,394	95.359%	\$ 2,682,541.55	\$ 4.38068	
CLARKSTOWN	0.9930	\$ 178,880,590.00	\$ 180,141,581	3.455%	\$ 97,181.57	\$ 0.54328	
		\$ 178,880,590.00	\$ 180,141,581	3.473%	\$ 97,695.84	\$ 0.54615	
HAVERSTRAW	0.1307	\$ 7,921,269.00	\$ 60,606,496	1.162%	\$ 32,695.59	\$ 4.12757	
		\$ 7,921,269.00	\$ 60,606,496	1.168%	\$ 32,868.61	\$ 4.14941	
Original		\$ 802,557,522.00	\$ 5,214,541,800.61	100%	\$ 2,813,106.00	\$ 3.50518	
Revised (7% reduction)		\$ 799,159,295.00	\$ 5,187,092,471.04	100%	\$ 2,812,591.73	\$ 3.51944	
		Levy	\$ 2,813,106				
	Original		\$ 0.53947	TAX RATE PER THOUSAND (ON FULL VALUE)			
	Revised (7% reduction)		\$ 0.54233	REVISED TAX RATE PER THOUSAND (ON FULL VALUE)			

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 IncNoise 7%