



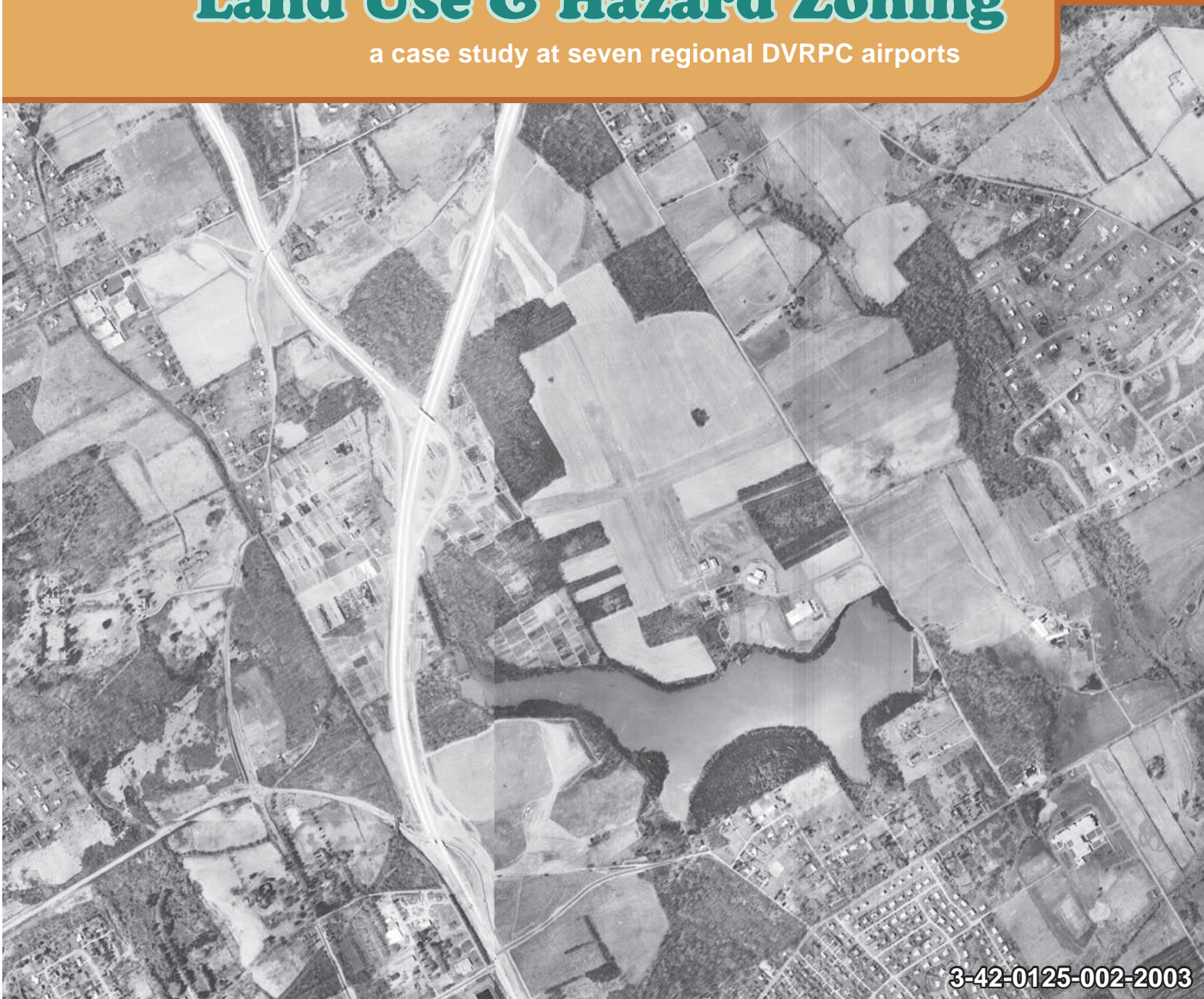
Delaware Valley
Regional Planning
Commission

2006

← 1970

Pennsylvania **Airport Compatible Land Use & Hazard Zoning**

a case study at seven regional DVRPC airports



3-42-0125-002-2003



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Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency that provides continuing, comprehensive and coordinated planning to shape a vision for the future growth of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties, as well as the City of Philadelphia, in Pennsylvania; and Burlington, Camden, Gloucester and Mercer counties in New Jersey. DVRPC provides technical assistance and services; conducts high priority studies that respond to the requests and demands of member state and local governments; fosters cooperation among various constituents to forge a consensus on diverse regional issues; determines and meets the needs of the private sector; and practices public outreach efforts to promote two-way communication and public awareness of regional issues and the Commission.



Our logo is adapted from the official DVRPC seal, and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole, while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. This study is funded by the Federal Aviation Administration (FAA) in conjunction with the Pennsylvania Department of Transportation, Bureau of Aviation. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

Table of Content

a.	List of Figures	i
b.	List of Tables	ii
c.	List of Maps	iii
1.	Introduction	1
2.	Background	1
3.	Search of Other Studies and Results/Guidelines on Airport Compatible Land Use	2
4.	DVRPC Study Airports and Their Surrounding Municipalities under the Part 77 Surfaces	8
5.	Goals, Issues and Roadblocks to Airport Zoning in Pennsylvania	53
6.	Airport Compatible Land Use: Integration Into the Airport Zoning Mechanism	56
7.	The Local Component in the Zoning and Land Use Implementation Process – What was Learned from the Township Managers Questionnaire	58
8.	Suggested Changes to Increase Airport Hazard Zoning Implementation, Including Better Airport Compatible Land Use Management Strategies in Pennsylvania’s Urban Landscape	60
9.	Conclusions	63
10.	References	67
11.	Appendix A - Township Managers Questionnaire	69
12.	Appendix B - Airport area land use in acres	75
13.	Appendix C - Kentucky Legislature, KRS Chapter 183.00, Excerpts: 183.110, 183.120, 183.121, 183.122, 183.123, 183.132.	91

I. List of Figures

1. Exhibit 8, Example Land Use Guidelines 4
2. Aircraft Accident Safety Zone Diagram 7

II. List of Tables

1. Commonwealth of Pennsylvania Compatible Land Use Recommendations 5
2. Basic Types of Avigation and Hazard Easements 6
3. DVRPC Municipalities Impacted by Airport Zoning 8
4. Township Managers Questionnaire - Summary Sheet 69
5. DVRPC 2000 Land Use in Acres under FAR PART 77 Surfaces
 - A. Brandywine Airport (N99) 73
 - B. Chester County Airport (40N) 75
 - C. Doylestown Airport (DYL) 77
 - D. New Garden Flying Field (N57) 79
 - E. Northeast Philadelphia Airport (PNE) 81
 - F. Pottstown Limerick Airport (PTW) 83
 - G. Quakertown Airport (UKT) 85

III. List of Maps

1. FAA Part 77 Surfaces and 2000 Land Use
 - A. Brandywine Airport (N99) 13
 - B. Chester County Airport (40N) 19
 - C. Doylestown Airport (DYL) 25
 - D. New Garden Flying Field (N57) 31
 - E. Northeast Philadelphia Airport (PNE) 37
 - F. Pottstown Limerick Airport (PTW) 43

G. Quakertown Airport (UKT) 49

2. FAA Part 77 Surfaces and Land Compatibility with Parcels

A. Brandywine Airport (N99) 15

B. Chester County Airport (40N) 21

C. Doylestown Airport (DYL) 27

D. New Garden Flying Field (N57) 33

E. Northeast Philadelphia Airport (PNE) 39

F. Pottstown Limerick Airport (PTW) 45

G. Quakertown Airport (UKT) 51

1. Introduction

Airport compatible land use planning is one of the most important tools to help preserve today's, and plan the development of the nation's future airport system. The northeast corridor, with its high population densities, tendency of urbanization over the past 30 years, including the Philadelphia metropolitan areas, and the rising demand on air travel, resulting in a continuously increasing demand on airport capacity, have created immense land use conflicts. Southeastern Pennsylvania is particularly afflicted. In 1984 the Pennsylvania state aviation code requested the mandatory adoption of airport zoning for all municipalities underlying or impacted by federally defined airspace surfaces as regulated in FAR Part 77. Implementation rates have been low, since the law does not impose any penalties or other incentives for municipal conformance.

A total of 22 high and medium risk municipalities within a five county area in southeastern Pennsylvania, meaning larger areas of the municipality that are directly under the horizontal, transitional or approach zones for high risk localities, or under the horizontal and/or conical surface, but not under the transitional surface or approach zones for medium risk localities, were identified. Low risk municipalities may be under the conical surface or extended approach surfaces where municipal zoning codes are usually sufficient to protect the airport from substantial hazards. Each township manager was contacted and sent a questionnaire. Of those, 18 responses were received which helped explain the underlying local resistance to airport zoning obligation. The results were compiled and analyzed to help formulate the final conclusions and recommendations of this study.

Also, the municipalities with non-compliance and/or with land use conflicts were identified and evaluated as they impact future infrastructure preservation and operations. Maps illustrate land uses around each airport and identify parcels of impact where such information was available. These maps are intended to enhance understanding of the impacts land uses and object heights may have on airports. Issues and roadblocks at the municipal level were singled out to achieve higher compliance rates and implement strategies for height disclosure and land use controls through proposed financial, legislative and developmental tools.

This report, in part, has been used as a coordination tool between the Pennsylvania Bureau of Aviation (BOA) and L. Robert Kimball Inc. in the consultant's efforts to achieve higher zoning and land use compliance levels throughout the more rural airports of the Commonwealth.

2. Background

On October 10, 1984 Act 164 Pennsylvania laws relating to aviation were enacted. Act 164

requires "... a municipality which includes an airport hazard area created by the location of a public airport ... to adopt, administer and enforce zoning ordinances pursuant to this sub-chapter (B) if the existing comprehensive zoning ordinance for the municipality does not provide for the land uses permitted and regulate and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow in an airport hazard area." Since the adoption of the law, municipal compliance rates have been low. From 22 townships and boroughs surveyed in this study 12 or 54.5% have adopted the required airport zoning ordinances. It is anticipated that compliance rates based on the entire Commonwealth are significantly lower. On January 7, 2005 Judge Cohn Jubelirer of the Commonwealth Court of Pennsylvania reversed¹ a Court of Common Pleas of York County decision which issued a writ of mandamus to compel the Township of Chanceford "to enact appropriate airport hazard zoning". This latest decision by Judge Jubelirer will have further negative influence on the attempt to increase airport zoning compliance rates for PA townships. However, this ruling should not influence this study recommendation to incorporate airport compatible land use planning into the municipal planning mechanism.

The FAA in consultation with BOA contracted with DVRPC, the Philadelphia Area Metropolitan Planning Organization (MPO), to analyze cause and effect of such municipal non compliance on the urban and suburban airport system, in a pilot study of seven selected DVRPC airports.

3. Search of Other Studies and Results/Guidelines on Airport Compatible Land Use

In the past, numerous states have developed airport land use and zoning guidelines. DVRPC has looked at various reports from different organizations and highlighted the main ideas, strategies and suggestions these reports have raised.

Pennsylvania Airport Land Use Compatibility Guidelines

Pennsylvania has published guidelines in 1996² for airport land use compatibility. DVRPC supports the approach these guidelines suggest, to implement land use compatibility by

¹Commonwealth Court of Pennsylvania, Loretta Baublitz t/a Baublitz Airport v. Chanceford Township Board of Supervisors, No 943 C.D. 2004, Argued: December 7, 2004, Before: Honorable Bonnie Brigance Leadbetter, Judge, Honorable Renee Cohn Jubelirer, Judge, Honorable Jess S. Jiuliante, Senior Judge. Opinion by Judge Cohn Jubelirer, Filed: January 7, 2005.

²Pennsylvania, Airport Land Use Compatibility Guidelines, Research Project No, 93-30, The Airport Technology and Planning Group, Inc. (AirTech), March 1996.

educating the municipalities and coordinating airport land uses on all planning levels. This document is still usable and provides a solid base to influence townships and counties in their land use planning activities. Unfortunately, the education process is long and hard , but needs to be kept up and the findings of the 1996 airport land use compatibility study, DVRPC's, and the latest study prepared by L. Robert Kimball need to be used in this education process. The 1996 PA study does not indicate the economic value airports my have in the future development of a township or county, which DVRPC emphasizes in the promotion of the airports. Following are some of the tables that were used to identify compatible land uses around airports and can still be utilized today in an approach to integrate airport hazard zoning and airport compatible land use into municipal planning doctrines.

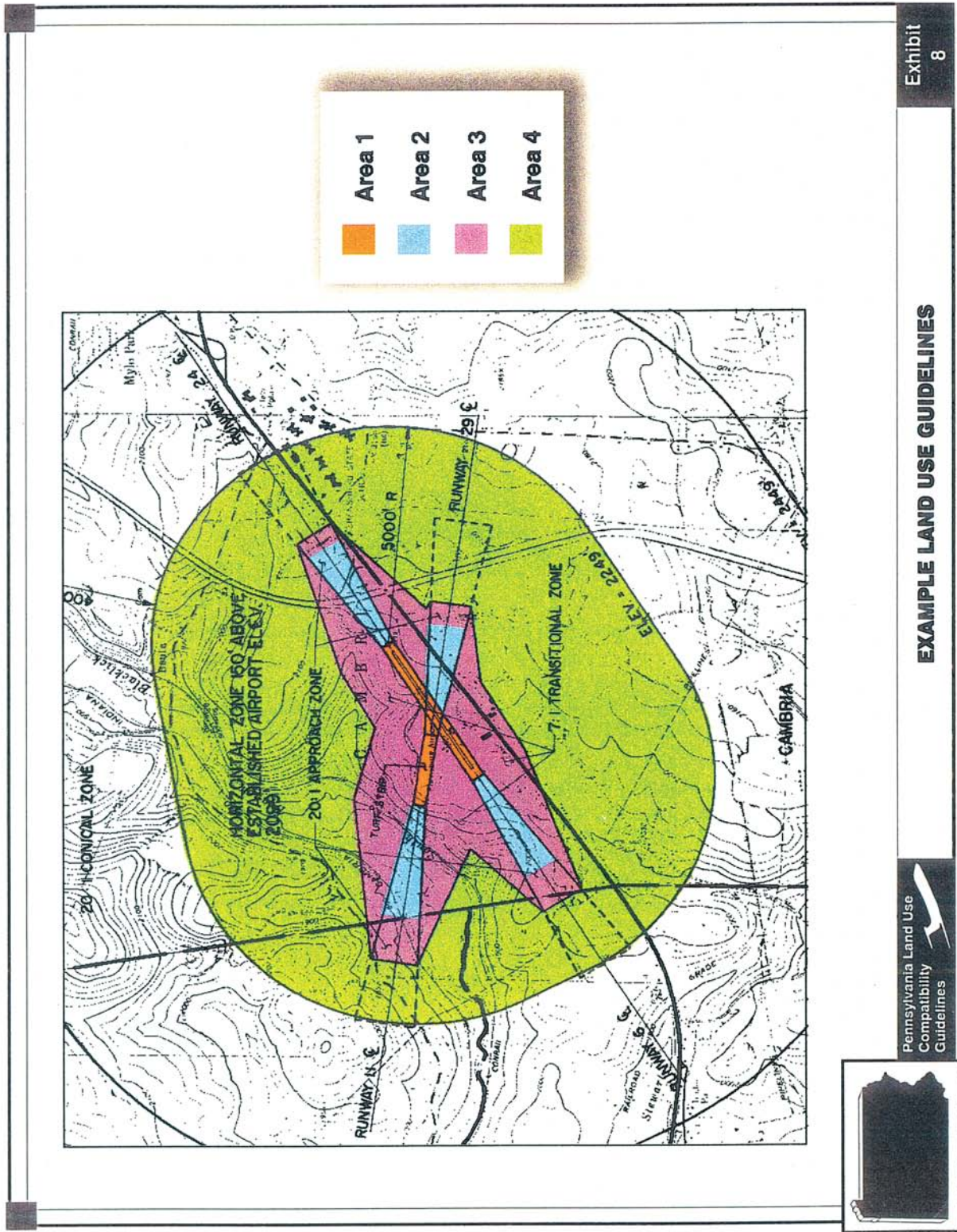


Exhibit
8

EXAMPLE LAND USE GUIDELINES

Pennsylvania Land Use
Compatibility
Guidelines



March 1996

LAND USES	Commonwealth of Pennsylvania Compatible Land Use Recommendations				
	Primary Surface	Transitional Surface	Horizontal Surface	Approach Surface	Runway Protection Zone
	Area 1	Area 3	Area 4	Area 2,3	Area 2
RESIDENTIAL					
Residential - other than mobile homes, transient lodgings	NC	NC	C	NC	NC
Mobile home parks/mobile homes	NC	NC	C	NC	NC
Transient lodgings	NC	NC	C	NC	NC
PUBLIC USE					
Places of public assembly (nursing homes, schools, hospitals, churches, auditoriums)	NC	NC	C	NC	NC
Governmental Buildings	NC	NC	C	NC	NC
Transportation (parking, highways, bus and rail terminals, aviation terminals)	NC	C	C	C ¹	* ¹
COMMERCIAL					
Offices - business and professional	NC	C	C	NC	NC
Wholesale/retail - materials, hardware and farm equipment	NC	C	C	NC	NC
Retail trade - general	NC	C	C	NC	NC
Utilities	NC	C	C	C ¹	* ¹
Communications (telephone exchange stations, relay towers, transmission stations)	NC	*	C	NC	NC
MANUFACTURING					
Manufacturing-general	NC	*	C	NC	NC
Agriculture (except livestock)	NC	C	C	C ¹	* ¹
Livestock farming and breeding	NC	C	C	C ¹	NC
Resource extraction (mining)	NC	NC	C	NC	NC
Forestry	NC	C	C	NC	NC
RECREATIONAL					
Outdoor sports arenas, amphitheaters	NC	NC	C	NC	NC
Nature exhibits, zoos	NC	NC	C	NC	NC
Amusement parks, resorts, camps	NC	NC	C	NC	NC
Golf courses	NC	C	C	C ¹	C ¹
Parks	NC	C	C	C ¹	C ¹

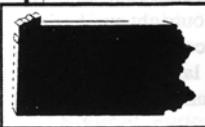
Note: These land uses do not reflect an FAA standard or guideline; compatible planning areas are based on FAR Part 77 and FAA Safety Zones.

¹ These activities should be excluded from the OFA and RSA at all airports

KEY
 C - Generally compatible land use
 NC - Incompatible land use
 * - Not clearly compatible or incompatible, requires specific study

CRITERIA FOR COMPATIBILITY

1. Does not exceed height standards.	4. Does not cause a distracting light/glare.	6. Does not cause an electrical interference.
2. Does not attract large concentrations of people.	5. Does not cause a source of smoke.	7. Does meet compatible DNL sound levels.
3. Does not create a bird attractant.		



Pennsylvania Land Use
Compatibility
Guidelines

**COMPATIBLE LAND USE
RECOMMENDATIONS**

**EXHIBIT
9**

Commonwealth of Pennsylvania
 Department of Transportation
 Bureau of Aviation

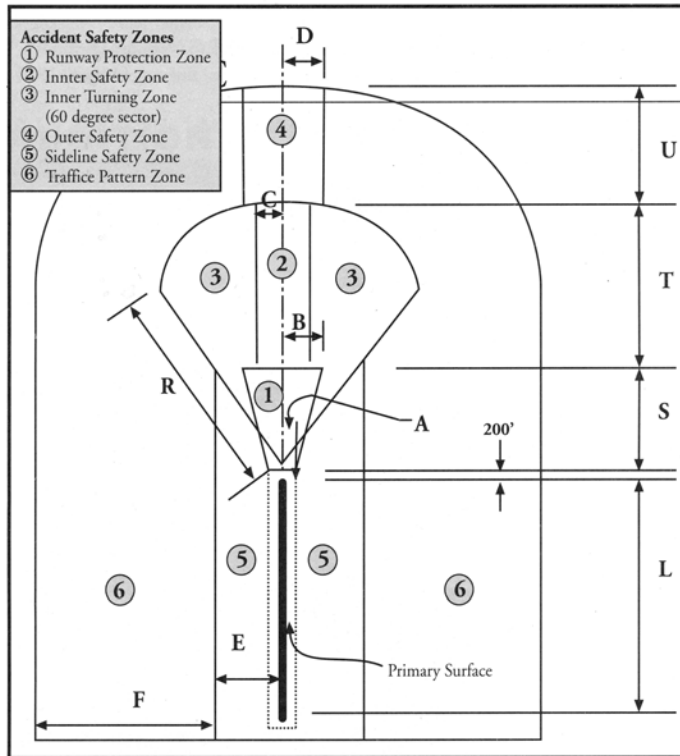
BASIC TYPES OF AVIGATION AND HAZARD EASEMENTS	
Type of Avigation/Hazard Easement	Rights Acquired
Model Avigation and Hazard Easement	<ol style="list-style-type: none"> 1. Right-of-flight at any altitude above the approach surface. 2. Prevents any obstruction above approach surface. 3. Right to cause noise, vibrations, fumes, dust, and fuel particles. 4. Prohibits creation of electrical interference or unusual lighting. 5. Grants right-of-entry to remove trees, buildings, etc., above approach surface.
Limited Avigation Easement	<ol style="list-style-type: none"> 1. Right-of-flight above approach slope surface (20:1, 34:1, 50:1). 2. Prohibits any obstruction above approach slope surface. 3. Right-of-entry to remove any structure or growth above approach slope surface.
Clearance Easement	<ol style="list-style-type: none"> 1. Prohibits any structures, growths or obstructions above approach slope surface (20:1, 34:1, or 50:1). 2. Right-of-entry to remove, mark, or light any structures or growths above approach slope surface.
Runway Protection Zone Easement	<ol style="list-style-type: none"> 1. Prohibition of residences. 2. Prohibition of places of public assembly (churches, schools, hospitals, office buildings, shopping centers, and other similar activities).
Source: Federal Aviation Administration	

*Commonwealth of Pennsylvania
Department of Transportation
Bureau of Aviation*

Various Airport Land Use Compatibility Studies

A task force created by the FAA of a variety of planning consultants, FAA regional managers, DOT and local planning representatives and managers, developed a document called Land Use Compatibility and Airports, in 1999. This document sheds light on issues, policies, regulations and suggested strategies to integrate airport compatible land use in the day to day planning activities on different planning levels. The study discusses issues of roles and responsibilities stakeholders in the realm of airport land use planning have, reaching from the FAA down to the local government and citizens. The task force suggests the best way to reach a successful level of planning, is to create an interwoven net of the roles and responsibilities each participant has and

AIRCRAFT ACCIDENT SAFETY ZONE DIAGRAM



Note:
Data Source: NTSB
accident investigations
1984-1991. Illustration
Source: Hodges and
Shutt, Institute of
Transportation Studies,
University of California,
Berkeley, 1993.

SAFETY ZONE DIMENSION (IN FEET)

Dimension	Runway Length Category (L)		
	Runway less than 4,000	Runway 4,000 to 5,999	Runway 6,000 or more
A	125	250	500
B	225	505	875
C	225	500	500
D	225	500	500
E	500	1,000	1,000
F	4,000	5,000	5,000
R (60°Sector)	2,500	4,500	5,000
S	1,000	1,700	2,500
T	1,500	2,800	2,500
U	2,500	3,000	5,000

foster continued communication between all planning levels.

Airport Impact Zone identification, as determined and published by the NTSB accident investigations 1984-1991, (see diagram on left: Aircraft Accident Safety Zone Diagram) has been used by the California DOT and Washington DOT to provide technical assistance to their GA airports and help implement this tool to improve airport compatible land in their states.

In the latest Washington State 2005 Airport Land Use Compatibility Program Evaluation and Analysis, the above illustrated aircraft accident zones, as used in their earlier guidebook from 1998 were determined to be too restrictive, outdated, too general in terms of aircraft using the airports and too complicated for the laymen to understand. One major concern today is the liability issues arising in more urbanized areas by defining such zones. The 2005 Washington State study suggests a reevaluation of the accident NTSB accident zones.

DVRPC tends to agree, working in a highly urbanized area the approach to establish effective airport land use planning must be comprehensive and be integrated on all levels of planning. The following chapter identifies the municipalities most impacted by, or most impacting the seven study airports, and lists the currently existing zoning and land use tools each municipality has implemented.

4. DVRPC Study-Airports and Their Surrounding Municipalities Under The Part 77 Surfaces

This chapter identifies all municipalities impacted by Part 77 surfaces for the seven study airports. Each municipality is identified under either a high, medium or low risk category. High risk meaning the approach, transitional or horizontal surface is in danger of conflict with natural growth or structures incompatible in use or height with the airport. Medium risk only includes municipalities covering significant areas under the horizontal surface, not the approach surface, reaching close to the airport property and posing the danger of conflict with natural growth or structures incompatible in use or height with the airport. Low risk townships are identified by their periphery to the airport only tangibly impacted by the horizontal or conicle surface.

The following table 1 includes a list of airports and their affected municipalities identifying each risk category.

Airport ID Code:

- DYL - Doylestown Airport
- UKT - Quakertown Airport
- N99 - Brandywine Airport
- N40 - Chester County G.O. Carlson Airport
- N57 - New Garden Airport
- PTW - Pottstown Limerick Airport
- PNE - Northeast Philadelphia Airport

Table 1: DVRPC Municipalities Impacted by Airport Zoning

Airport	County	Municipality	Zoning Category			Airport Zoning		Municipal Zoning	
			Hi	Me	Lo	Yes	No	Yes	No
DYL	Bucks	Doylestown Borough	X			X		X	
		Doylestown Township	X			X		X	
		Buckingham	X			X		X	
		New Britain			X		X	X	
		Plumstead		X		X		X	
UKT		Milford	X			X		X	
		Quakertown Borough		X			X	X	

		Richland	X				X	X	
		Trumbauersville			X		X	X	
N99		East Goshen	X			X		X	
		West Goshen	X			X		X	
		West Chester Borough			X		X	X	
		West Whiteland Twp.			X		X	X	
40N		Highland		X			X	X	
		Parkesburg		X			X	X	
		Sadsbury	X			X		X	
		South Coatesville	X				X	X	
		Coatesville	X			X		X	
		Valley	X			X		X	
		West Caln		X			X	X	
		Caln Township			X		X	X	
		East Followfield Twp.		X			X	X	
		Modena Borough			X		X	X	
		West Brandywine Twp.			X		X	X	
N57		Avondale	X				X	X	
		London Grove	X			X		X	
		New Garden	X			X		X	
		East Marlborough Twp.			X		X	X	
		West Marlborough Twp.			X		X	X	
PTW		Limerick	X			X		X	
	(Che)	East Coventry Twp.			X		X	X	
		East Vincent Twp.			X		X	X	
		Lower Pottsgrove Twp.		X			X	X	
		New Hanover Twp.			X		X	X	
		Pottstown Borough			X		X	X	
PNE		Philadelphia	X			X		X	

		Bensalem	X				X	X	
		Bristol Township			X		X	X	
		Cinnominson Twp.			X		X	X	
		Delanco Township			X		X	X	
		Delran Township			X		X	X	
		Falls Township			X		X	X	
		Hulmeville Borough			X		X	X	
		Langhorn Borough			X		X	X	
		Langhorn Manor Boro.			X		X	X	
		Lower Moreland Twp.			X		X	X	
		Lower Southampton Twp.			X		X	X	
		Middletown Twp.			X		X	X	
		Pendell Borough			X		X	X	

Seven out of 21 municipalities within the high to medium zoning category have not adopted airport zoning to date, equaling a 33 percent non-compliance rate and subsequently 67% compliance. This rate exponentially increases if the townships and boroughs under the low risk category are added. Out of a total 49 municipalities 35 or 71.4% are non-compliant compared to 14 municipalities (28.6%) with airport hazard zoning. Besides non-compliance, many municipal codes and land use plans have no provision for the specialty use of an airport. They often overlook even federal requirements, when allowing specific uses or construction near an airport. Currently the Pennsylvania Municipal Planning Code Section 605. Classifications. (V), gives a municipality the tool to control land use around an aviation facility. However, no specific guidelines or provisions for enforcement are given to the municipality in order to provide or enact compatible land uses around airports. The Pennsylvania Laws Relating to Aviation Act 1984-164, Subchapter B, Airport Zoning, implied, until a recent court ruling in the Baublitz versus Chanceford Township ruling, that municipalities shall adopt airport zoning in form of the FAA Part 77 airport zoning regulations, protecting portions of the navigable airspace above airports. As described on page 2 the Commonwealth Court of Pennsylvania ruled that the statutory provisions of the Act are rather directory than mandatory, therefore giving the municipality the choice and not a mandate to enact airport zoning. To protect airports from incompatible land use and Part 77 intrusions into height regulated surfaces, both provisions need to be combined. The Municipal Planning code is updated on an annual basis. DVRPC staff will, as a follow-up to this study get involved and try to have the Part 77 airport zoning provisions

included in the next update of the code alongside the airport land use provisions already included. This attempt, if successful, should give townships at least the tools they need to protect both, land uses and navigable airspace, and create an airport environment more conducive to airports and their neighbors.

This chapter describes seven study airports and their surrounding land covers in the southeastern portion of the Commonwealth. It analyzes the need for individual municipalities to adopt an airport hazard zoning ordinance, highlights incompatible land uses, depending on their periphery to the airport, as well as existing and proposed aviation easement acquisitions. The FAA Part 77 Surfaces and Land Compatibility with Parcels maps identify various incompatible and compatible areas around the airports. Those areas identified incompatible (solid red) are mainly located under the approach surfaces 3000 feet and more beyond the runway. Main criteria for their identification are the potential noise impacts past the areas typically within the 60 to 65 Day/Night decibel levels (DNL) caused by approaching and departing aircraft. Most noise complaints from surrounding neighbors are associated with residential developments in such areas. The FAA fails to recognize and help mitigate noise impacts outside the identified 65 DNL. Areas identified as impacting future airport developments (yellow) are land uses that already prohibit any runway extensions or improvements to current approach procedures and are located within the first 3000 feet beyond the runway end. The incompatible/impacting areas (striped yellow and red) are developments with the potential to prohibit future airport expansions. NJDOT approaches the land use issues with the acquisition of aviation easements and purchase of development rights. A highly effective but fiscally burdensome approach. Based on the most recent Airport Master Plan documents, existing (blue) and proposed (light green) aviation easement purchases are highlighted the maps below. In addition, areas to be protected (green) are identified for ultimate easement or land acquisition if funds would be available.

This study tries to identify and visualize such land areas. Results will be coordinated with DVRPC's Office of Regional Planning, and further with the Pennsylvania Planning Association (PPA), attempting to introduce language in the Pennsylvania Municipal Planning Code which will combine both, Pennsylvania Laws Relating to Aviation, Subchapter B, Airport Zoning and the land use provisions already included.

One concern in regard to land and/or easement purchases either fee simple or by means of AIP and state funding is the high cost factor and the low FAA/State project ranking. Nationwide airport compatible land use planning is considered, by many aviation specialists, the number one factor in future airport development restrictions and airport closures. The same focus FAA has directed to runway safety areas (RSA) and with it an increased project funding eligibility in the AIP program, would create immediate relief if applied to easement and land purchases for

compatible land use and zoning. If determined eligible, easements and land purchases for airport compatible land uses could rank at 98 for commercial airport, and between 90 to 95 for GA airports. Additional user fees through the GA community are currently discussed within the FAA to boost the aviation trust fund. This stirs great opposition by the GA pilots. To think out of the box, an airport specific user fee with a clearly identified use of such fee (for aviation easements only) could be created and help deter opposition to general fees without direct benefit to the user. At the same time it could create a relief to some of the current aviation trust fund pressures.

Brandywine Airport

Located in northern Chester County, the entire airport property is situated within West Goshen Township as illustrated in the FAR Part 77 Surfaces and 2000 Land Use map. However, the approach zone of runway 27 is located in its entirety in East Goshen. The airport is surrounded by mainly commercial and industrial uses, the runway is confined by Rt. 202 and Rt. 100 on the west and Airport Road on the east. Starting at approximately 1700 feet from the edge of the primary surface (east side) a residential community lays under the approach surface. The height limit at this distance is 50 feet based on the 34:1 approach envelope.

The FAR Part 77 Surfaces and Land Compatibility map with parcels on page 15 illustrates parcels under the Part 77 surfaces identifying airport land compatibilities for the primary, transitional and approach zones. This map highlights the areas of conflict, those areas that need to be preserved from incompatible uses and the existing and proposed aviation easement acquisitions based on the most recent ALP. As described above the airport is locked between two roadways curtailing any future extensions. The commercial/industrial development and residential area on the east side prohibit future runway expansion even if Airport Road would be relocated. The residential area is characterized as incompatible use by DVRPC due to the potential noise impact from the airport and its location under the approach zone, especially generated by overflights after takeoffs or before landings. FAA noise contours often do not reach far beyond the runway ends, but neighbor complaints about aircraft noise from over-flying aircraft come especially from those areas in the approach zones.

- Insert Map Brandywine 2000 Land Use

Back of 2000 Land use Brandywine

-Insert Map Brandywine Land Compatibility with Parcels

Back of Land Compatibility and Parcels - Brandywine

Chester County, G.O. Carlson Airport

The airport property is located in Valley Township, but the runway 11 end impacts Sadsbury Township extending up to the Township line. At about 2500 feet out, along the runway centerline, residential clusters appear, which potentially impact future runway expansions with the runway remaining in its current location. The runway is also elevated at the 29 end to a degree that re-grading would be desired should a runway relocation not be possible. Such project could lower the runway elevation significantly so that the residential cluster, as illustrated in the map, becomes a potential impact on future runway extensions towards the east. Although the elevation on the runway 11 end would not require any grading, an extension towards the west in its current orientation and location would be significantly impacted by the first residential cluster depicted in the map. At about 4000 feet out full residential developments are within the approach zone. Currently a 34:1 approach clears the developments without a height restricting problem past the runway 11 end. Part 77 height restrictions at the beginning of the first residential cluster are at about 70 feet. The Airport Master Plan calls for an instrument approach for runway 11, which requires a 50:1 glide slope extending out 10,000 feet from the end of the runway. This glide slope lowers the height restriction to 50 feet at the first residential cluster. Runway 29 currently entertains an existing 50:1 precision instrument approach and a residential development potentially impacting future expansions appears at 3000 feet under the approach zone. Height restrictions are at 60 feet. Terrain falls off toward the town of Coatesville and presently helps with the approach. The transitional zones are fairly clear from incompatible land use and it is suggested to maintain clearance especially toward the south side of the airport to keep the option of moving and extending the runway south as it is suggested in the Master Plan.

The airport land compatibility with parcels map identifies the areas to be protected, may it be by land use restrictions or future aviation easement acquisition. Existing and proposed aviation easement according to the most recent Master Plan document are mapped in light and dark blue shadings. Existing incompatible uses and existing uses that can impact future airport developments are identified separately. Areas to the south of the airport beyond the transitional surface are shown as parcels to be protected from future incompatible uses due to the master plan future layout of the airport. Much of the land will be acquired for the proposed runway relocation. Current and future areas of impact have been identified for that reason, especially to the south of the airport. The incompatible uses shown in the current approach zone are potentially impacted by noise from aircraft takeoffs and landings especially along the runway 11 approach.

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- Insert Maps Chester County 2000 Land Use

Back of 2000 land Use - Chester Co.

- Insert Map Chester County Land Compatibility with Parcels

Back of Land Compatibility and Parcels - Chester Co.

Doylestown Airport

The airport is located in Buckingham Township. The approach zone to the south, from runway 05, extends over parts of Doylestown Borough and New Britain. Terrain does not vary significantly around the airport. At a 20:1 glide slope Part 77 height restrictions range from 30 ft to 50 ft depending on the location of buildings. Along the extension of the centerline development of mostly commercial use begins at about 800 to 1000 feet out. However, some of the development west of the centerline appears to be as close as 300 feet from the end of the runway. While the southern end of the runway 05 is more or less completely developed with mostly compatible commercial development. The area beyond the northern runway 23 end is still undeveloped up to about 4800 feet out. This approach surface remains in its entirety within Buckingham township. The transitional zone to the north-west is comprised of airport property and compatible commercial uses. The transitional zone to the south-east has portions of residential development in the Doylestown Borough portion as well as airport and commercial development in addition to open space and farm land in the Buckingham township portion. All in all, residential development seems to increase around the airport. In order to maintain future safety the approach and transitional zones to the north need to be preserved.

The Land Compatibility with Parcels map highlights compatible and incompatible uses as well as existing and proposed aviation easement areas.

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- Insert Map Doylestown 2000 Land Use

Back of 2000 Land Use - Doylestown

Insert Map DYL Parcels

Back of DYL Parcels

New Garden Airport

This airport is one of a few facilities with significant amounts of open space surrounding its borders. The approaches are relatively clear from residential developments. Runway 06, with south west orientation, has some wooded area and open space, followed by a large patch of vacant land to a distance of about 1900 feet. The 06 end is atop a steep slope towards a commercial mix of building at its foot and within the Borough of Avondale. Agriculture continues for another 1000 feet before a smaller residential cluster at about 4000 feet from the runway end sits under the approach zone. The remainder of the 06 approach is further dominated by agricultural use, wooded and recreational areas which surround the residential cluster. The primary surface shows some intrusions by a row of trees along its south-western side. Trees also line the far north-western side. The runway 24 approach identifies a building within airport property. Located on the north-east corner of the end of the runway. Otherwise, uses are dominated by agriculture and wooded areas.

New Garden is probably the airport with the best land compatibility out of the seven study facilities. Terrain mainly restricts the airport from any major runway expansion. The latest Master Plan does not call for any runway extensions, but the extension of the taxiway to the full runway length. The airport is located on a plateau that slopes steeply down from the runway 6 end towards Avondale and along its south west property line almost straight down to the adjacent parcels. Terrain at the runway 24 end also slopes down steeply and then up again towards Newark Road creating . Mushroom farming dominates in the area around the airport and is a compatible neighbor. Avondale Borough, despite being without airport zoning views the airport as an asset and an open space protection (see appendix A - Township Managers questionnaire). New Garden township is in the process of acquiring the airport and using it as a base for economic stimulation. The township will plan for compatible land uses. The land compatibility map currently identifies only two minor land incompatibilities. One is a single home at the end of runway 24 owned by the current airport sponsor, the other is a residential development approximately 3300 feet from the end of the primary surface posing a potential aircraft noise impact, due to overflights outside the FAA noise contour. The area to be protected from future airport incompatible uses are highlighted in green and areas of existing and proposed aviation easement are shown in different shades of blue.

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- Insert two Map New Garden 2000 Land Use

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- Insert Map New Garden Land Compatibility and Parcels

Back of Land Compatibility and Parcels - New Garden

Northeast Philadelphia Airport

The 1240 acre airport property is constraint by development on all sides. The runway ends 06 and 24 are in danger to lose their set minimums if more incompatible land use is developed within the approach zone. Runway 06 approach has a larger underlying residential development, starting at 3000 feet from the end of the runway. Commercial buildings lay within the transitional zone and reach into the approach zone at about 2000 feet from the runway end. A school complex is located right under the approach zone of runway 06 at 8500 - 9000 feet out. The runway 24 approach is somewhat less developed. Residential areas intrude into the south west end of the approach surface at about 4800 feet out from the runway end. Clear areas are near the immediate runway end on airport property to about 2000 feet out followed by agriculture, a cluster of ballfields and a wooded area budding up to the above described residential area. A commercial/industrial development stretches from these residences to the end of the horizontal surface. It is followed by more commercial development, as well as wooded, agriculture and a small sliver of residential areas. Runway 33 features a 34:1 approach. For the first 1500 feet the zone is mostly used by a vacant property and wooded land. The following 2000 feet are used by a golf course. The remaining 4000 to 5000 feet to the end of the horizontal surface are used by the remainder of the golf course, a school area and residential development which is divided by a rail line. The runway 15 approach is probably the most seriously developed approach, with dense residential clusters, about 3000 feet from the end of the runway. US Route 1 crosses through at 2000 feet from the runway 15 end, leaving a small area of wooded and recreation use to the north west of the road and a larger tract of vacant land on the south east side towards the runway end.

PNE seems to be one of the most urbanized airport in this study, probably with the highest population density surrounding the airport property (see appendix B - Airport Area Land Use in Acres). Runway 06 and 15 both have substantial amounts of dense residential areas under the approach envelope. The ILS runway 24 has the most compatible land uses in its approach. Incompatible residential development due to impacts of potential aircraft noise during takeoff and landing operations starts at the south west side of the approach area about 5000 feet from the primary surface end of runway 24. These areas are usually well beyond the FAA 65 Day-Night decibel levels. Two schools are located about 9500 feet out within the approach zone. Runway 33 has three schools under the approach surrounded by residential areas. A golf course builds a compatible land use buffer for a good 7000 feet between runway and the residential developments. Compatible commercial/industrial land uses build the immediate buffer around the airport.

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- Insert Map Northeast Phila. 2000 Land Use

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- Insert Map Northeast Phila. Land Compatibility and Parcels

Back of Land Compatibility and Parcels - N.E. Phila.

Pottstown Limerick

This airport has a 10,000 foot horizontal surface with a 20:1 approach for runway 10 and a 34:1 approach for runway 28. The runway 10 approach zone is mainly clear of residential development besides a short strip along the Lower Pottsgrove and Limerick township line about 4500 feet from the runway end. US Route 422 crosses thru the approach zone diagonally about 1700 feet from the runway end. The runway 28 approach zone has two residential developments in its approach from 2000-5500 feet out. The remainder of this zone is covered with wooded and agricultural areas. The transitional zones are mainly clear from incompatible uses

Accordingly to the existing land uses the still remaining compatible uses under the transitional and approach surface need to be protected. Regionally this airport is viewed as one with excellent development potential due to its geographic location and potential 1000 foot runway extension. As the parcel map illustrates incompatible and airport development impacting areas are identified under the runway 28 approach. The latest ALP calls for a western runway extension towards Rt. 422. Airport Road on the eastern end of runway 28 prohibits expansion. In addition areas identified as incompatible/impacting due to potential noise impacts from aircraft takeoff and landing operations and possible FAR Part 77 height restrictions past the runway 28 end impact a possible expansion and instrument approaches to the east. The remaining land under both approaches needs to be protected from airport incompatible land uses to keep any runway expansion option open in the future.

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- Insert two Map Pottstown Limerick 2000 Land Use

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- Insert Map Pottstown Limerick Land Compatibility and Parcels

Back of Land Compatibility and Parcels - Pottstown Limerick

Quakertown

Both runway approaches are impacted by residential developments. Runway 11 has residences within its approach at about 1000 feet from the runway end after a stretch of open fields and a wooded area. The residential area expands almost to the full width of the approach zone and out to 4000 feet. The remaining 1000 feet are mainly agricultural use. The first 1250 feet of approach zone on the runway 29 end are comprised of agriculture and wooded land with 3 smaller bodies of water. A narrow strip (600-700 feet) runs thru the approach zone followed by a wooded and a less densely developed residential area. The remainder of the approach zone contains agricultural use, wooded areas and a vacant plot slated, or in preparation for residential development. A business park is located to the north of the airport. To the immediate south, the uses are agriculture and wooded with some residential development.

The Land Compatibility with Parcels map highlights compatible and incompatible uses as well as existing and proposed aviation easement areas.

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- Insert two Map Quakertown 2000 Land use

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Insert Map UKT Parcels

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5. Goals, Issues and Roadblocks to Airport Zoning in Pennsylvania

The goal of this study is defined as examining strategies to help increase the adoption rate of municipal airport hazard zoning ordinances in the Commonwealth. In addition, this study intends to help increase awareness of airport land use compatibility in those municipalities that impact airports with their local development plans. Townships that already impact airports with their current land use policies, and especially those that will impact them with their future planned developments, are often not aware of the economic and open space potential their airport may create for them. If airport land use compatibility and zoning are integrated and coordinated in the overall comprehensive land use or development plans of State, County and Municipality, the first step in the right direction is made. New Garden Township in Chester County, has adopted such thinking and currently negotiates the public acquisition of the airport with its economic stimulus potential in mind. Once the Township owns the facility, the airport master plan will work hand in hand with the township development plan. In Chester County most municipalities coordinate their township zoning and land use plans with the counties comprehensive land use plans. For those airports that are privately owned this is not the norm. In fact, many airports are viewed as a tax revenue loss and unnecessary liability by the municipality despite opposing opinions of County or State. From a State and regional point of view this is detrimental to our current airport system and will diminish the competitive socioeconomic edge the Delaware Valley Region provides to the Commonwealth of Pennsylvania today. If managed as an integrated system in local, county, regional and state plans, the airports of the Delaware Valley could be the cornerstones of a new corporate development and personal mobility in the future. The already congested and landlocked major airports in the Northeast Region, PHL, EWR, JFK, LaGuardia, and BWI could benefit from corporate jet traffic targeting suburban locations by diverting the small jets to nearby GA airport. To do so, developing these local airports into major hubs is not necessary. To comply with FAA and State safety standards for the “next generation very small Jets” (VLJs), airports need a minimum runway length of only 3800 feet to safely accommodate such aircraft. Within the industry the common consensus on the minimum runway length needed for most of the VLJ type aircraft is believed to be 3000 feet. This provides the potential to make many of today’s “Mom and Pop” airports an alternative for business travelers, and potentially help relieve nearby congested hubs. But runway length alone is not the only deciding factor for use of GA airports for such relief. Necessary air navigational instrumentation, taxiway and storage capacity, fixed base operator services and roadway accessibility are other deciding factors for private and corporate pilots to fly to a specific airport. The current developments around our airports impact their potential to effectively relieve the system at an alarming rate. It is most important to protect all airport approach zones and avoid the continued encroachment into airport sensitive areas as they are described in chapter four, to realize the optimal system benefit from GA airports.

According to the Pennsylvania Law Relating to Aviation, Chapter 57, Obstruction To Aircraft Operation, Sections 5701 thru 5703 the Pennsylvania Department of Transportation has the authority to police and enforce corrections to objects, manmade or of natural growth, that penetrate into the airport approach surfaces as described in the FAR Part 77 definitions. If such obstructions are erected without prior approval from the Pennsylvania Department of Transportation and/or violate the guidelines or regulations adopted by the Federal Aviation Administration and/or without obtaining prior approval from the Pennsylvania Department of Transportation, the violating party commits a summary offence and is subject to fines, fees and forfeitures. In the past, State Zoning Officers policed zoning/ FAR Part 77 violations by physical inspection at the site of violation, or the violators' residences, imposing daily fines if a correction of the reported hazard was not achieved in a timely manner. According to the BOA, the Commonwealth does not have police power anymore, nor is it entitled to enforce identified airport zoning violations. The enactment and power of enforcement was passed to the township. However, the State's police power, reportedly, has been successfully used in the past. DVRPC believes according to the above cited law relating to aviation that the Commonwealth does have the police power to enforce airport zoning violations with fines and penalties, at least against the violating parties.

Many of today's conflicts in regard to municipal airport zoning seem to be imbedded in the municipal responsibility of enforcement. Most municipalities do not have any relation to, nor do they want an airport in their, or any neighboring township. The "Not In My Back Yard" (NIMBY) attitude is quite common, especially with privately owned airports in more urban settings. Publicly owned airports are not necessarily excluded from the NIMBY attitudes, especially if owned and operated by County based airport authorities such as the Bucks County Airport Authority (BCAA) for the Doylestown and Quakertown airports or the Chester County Area Airport Authority (CCAAA) for the Chester County/G.O. Carlson Airport. Their surrounding municipalities adopted airport zoning ordinances but are reluctant to enforce necessary corrections to neighboring property owners even if violations are clearly identified. Another example involves Perkiomen Valley, a privately owned airport in Skippack Township in Montgomery County, where the owners are trying to remove a tree obstruction from a privately owned neighboring parcel for years to no avail. Despite the fact that the obstruction is identified and an accident occurred recently, the airport's neighbor is unwilling to trim or remove the tree. Skippack township adopted an airport zoning ordinance, but has not made any attempt to enforce it. On the contrary, the township now tries to rescind the ordinance based on the Commonwealth Court of Pennsylvania decision in the Baublitz v. Chanceford case as described in section 2. It is imperative to introduce legislative action to empower the state again to enforce at least penalties onto the municipalities that are negligent in enforcing their existing airport zoning ordinances or those that deny implementation of airport zoning at all. However, such measures need to be in place, but should be the last possible step in enforcement. Educating and supporting the

municipalities through incentives to plan with and around their airports should be the first steps before punitive measures are taken. BOA, in conjunction with PennDOT need to establish the possibility to freeze transportation dollars for municipalities containing an airport, or parts of an airport, or parts of the part 77 surfaces defining the township as a high or medium risk, but without airport zoning and/or airport compatible land use planning, as described above in this section.

Noise complaints around the suburban southeastern PA airports have significantly increased recently. Seldom is the reason for the complaint triggered by a new and louder aircraft or a larger and newer generation airplane. It is often caused by encroaching developments and new nearby owners who's subdivisions and land parcels were zoned for residential development without the airport in mind. See Northeast Philadelphia, Doylestown, Quakertown, Brandywine or Chester County land cover maps in chapter four. The failure to include airport master plans into county comprehensive plans and municipal zoning and development plans is apparent. Often it is up to the airport to alert the township about planned developments that will impose on their safe operations and are certain to cause noise complaints. In some cases the township disregards the airports expressed concerns over new developments around their property.

Pottstown Limerick is currently a prime example of the land use impacts township planning can have on an airport. A proposed shopping complex received approval to build just on the other side of route 422 of the airport. First designs located portions of the buildings within the approach zones. DVRPC and Montgomery County sent letters to the township listing multiple concerns with the proposed design and location of the complex. As the County informed DVRPC, the developer and the township only integrated minor comments from the county and disregarded major concerns of location and safety impacts. The airport and their consultant could persuade the developer to accept an avigation easement on a small portion of their property, which resulted in a very small adjustment of the building footprint to make the easement work. In any case the major concerns of the County and DVRPC as well as the airport and their consultants have been disregarded by the township illustrating the powerless position regional and state planning is versus a township when it comes to the decision making process on projects that impact facilities with regional and statewide postures such as airports have.

It is important to implement real penalties against municipalities which are supposed to govern airport zoning regulations and not rely on threats only, as those from FAR Part 77 and grant assurances which lead to increased instrument approach minimums or withhold discretionary funding from airport developments. It would be counterproductive to penalize airports directly for such inactivities, than the townships that are charged with the responsibility to enact airport zoning. Penalties should not entail limiting funds for operational or development projects at airports, but rather withhold funding for municipal projects unrelated to aviation to encourage a

township to act airport zoning implementation and enforcement through collaboration between BOA and PennDOT as described earlier in this section. An executive order by the Governor may be necessary to make this collaboration between the different PENNDOT departments possible. At this point we can only reiterate the importance of the integration and coordination of airport compatible land use on all levels of planning as mentioned earlier in this chapter.

In summary it can be said, the most intriguing reasons for municipalities not to adopt airport hazard zoning ordinances, or not to provide appropriate land use protection for airports are:

1. A lack of understanding the real value of airports to a locality.
2. A lack of expertise, or willingness to enforce, or even implement an airport hazard zoning ordinance, given that no penalty results.
3. Development pressure and inner-political pressure to neglect the airports needs.
4. Lack of tools, personnel or funds to impose corrections to zoning violations.
5. Lack of township's expertise in airport management and operations.

6. Airport Compatible Land Use: Integration Into the Airport Zoning Mechanism

The Airport Zoning Ordinance is developed for height limitations and will not ensure compatible land use around airports as it is stated in the AC 150/5190-4 point 4. c. The municipal zoning chart under point 4., identifies and categorizes the townships effected by FAR Part 77 surfaces for the study airports in this report. The following nine townships are high priority for adoption of airport hazard zoning ordinances as they are categorized as high and medium risk hazard areas.

UKT, Bucks County, Richland Township
Quakertown Borough

40N, Chester County, East Followfield
Highland
South Coatesville
West Caln

N57, Chester County, Avondale
PTW, Montgomery County, Lower Pottsgrove
PNE, Philidelphia County, Bensalem

In order to ensure effective airport zoning, including planning for compatible land uses around airports, each Township should receive direct input from a state zoning and land use expert.

This position should either be created, or existing BOA aviation planning staff, and aviation oriented MPO/RPO staff could take on additional responsibility to implement an airport zoning and compatible land use ordinance for individual municipalities. This person should help municipalities overcome the initial comprehension barrier associated with part 77 surfaces and air navigational height restrictions. During this process it shall be determined if any special circumstances exist which may exempt a municipality from adopting airport zoning, such as terrain, sufficient existing zoning code, etc. Many low risk township may benefit from such person and his input. However, the existing township zoning code must be coordinated with state directives and county codes immediately where it was not done so already, and every time state directives or county codes change. Airports are local entities with regional, statewide and national impacts that local municipalities often do not recognize, or even worst for the airport, do not accept. Therefore this study recommends an increased involvement from the Commonwealth, including the highway and transit department under an intermodal umbrella, which together can better protect aviation infrastructure when it comes to zoning and land use decision making around airports anywhere in Pennsylvania. This involvement, may it be in form of a state employed zoning expert, a professional employee of a Metropolitan Planning Organization (MPO), or a specialized consultant, who will help guide a municipality about airport zoning education, adoption and enforcement, is necessary. Today's contingent of public use airports in the DVRPC portion of Pennsylvania is at a critical level. Each facility faces continued and increased land use pressures caused by municipal neglect, incompatible land development, and political pressures that do not favor airport development. To maintain at least the status quo of airports in the region, the State has to increase protective measures in order to save today's endangered airports. Within DVRPC's RASP, which includes 12 counties and four States around Philadelphia, seven GA airports alone in PA have closed since 1982, three of which we have more detailed information on. Shannon Memorial Airport in Chester County, a 3000 foot paved runway 12/30 with about 50 based aircraft before closing sometime in 1994, is home to an athletic complex today. Reason for the airfields demise was a dispute between the two airport owners that ended in the liquidation of the facility. Turner Field closed just before Shannon airport. As documented in the 1982 RASP for the Delaware Valley Region, Turner had an 2100 foot paved runway 14/32, and a 2200 foot turf crosswind runway 7/25 with, according to the 1984 RASP, 215 based aircraft on 94 total acres. The privately owned airport sold for non aviation development and gave in to the real estate pressures at the time. Buehl Field was a small airfield in lower Bucks county with a 3100 foot runway 6/24 and about 31 based aircraft. The airport was located on 100 acres, but land locked between residential development to one end of the runway, and train tracks to the other. After numerous failed attempts to gain reliever status, and become eligible for federal funding, the aging owners finally sold the airport for non aviation use. Today an assisting living facility is on the former airports property. The four other airports were Warrington, a privately owned turf field, 3M a very busy paved runway with 64 based aircraft at the time, both airports were located in Bucks County, New London, with a turf

runway and Oxford airports in Chester County, privately owned with 15 to 20 based aircraft. Closing of these facilities were the first signs of land use conflicts already apparent at that time. Based aircraft were forced to relocate to other facilities, even though welcomed by these airports, they increased their operational and storage capacities significantly in a relatively short time. Doylestown airport more than doubled their based aircraft since then. Quakertown airport as well, and Brandywine gained more than twice it's original contingent of based aircraft. All three airports face the dilemmas of residential and other non compatible use encroachments today. Aviation oriented MPOs and RPOs need to be on the forefront in coordinating an educational approach with affected Counties and Municipalities. Close cooperation with the townships is necessary. Incentive packages to "adopt" an airport as well as disincentives for neglecting an airport must be instituted. These measures can be in form of increased general municipal funding for townships that have adopted airport zoning ordinances, and/or in form of decreased, or declined municipal funding for those townships required to adopt airport zoning, but neglect to do so. New Jersey, as one example, instituted an executive order by the Governor, that allows to withhold discretionary funding from state projects if a municipality does not comply with the statutes of the State Development and Redevelopment Plan. Pennsylvania does not have such executive order in place, but could explore this measure for the Statewide Airport Systems Plan (SASP) to increase awareness of airport compatible land use in Townships. Such an executive order in Pennsylvania may help increase the implementation of airport zoning and airport compatible land use planning. Currently Pennsylvania does not have any tools, including the airport hazard zoning law, that could force townships to comply with any State Plan or non-legislative directives.

7. The Local Component in the Zoning and Land Use Implementation Process –What was Learned from the Township Managers Questionnaire

Airport zoning is a legislatively required task for all Pennsylvania Townships that are impacted by an airport and it's Part 77 surfaces³. However, it is without enforcement tools or penalties. As a result, the townships that do not see the value of an airport, or do not have the manpower or expertise to implement and enforce such zoning, have traditionally elected not to adopt airport zoning or any type of specific airport compatible land use planning in their municipal planning code. Most of the non compliant townships refer to their regular municipal zoning code as sufficient enough not to conflict with any Part 77 surfaces. That may be an acceptable case for some peripheral townships⁴ (low risk) surrounding an airport. But others, especially those under

³ Commonwealth of Pennsylvania, Department of Transportation, Bureau of Aviation -Pennsylvania Laws Relating To Aviation, 1984, Subchapter B, Airport Zoning.

⁴ See Townships marked "low risk" in table 1

an approach surface may need detailed examination in order to determine a sufficient coverage by the existing municipal zoning code for the coexistence of an airport. In March of 2004 DVRPC developed and distributed an airport zoning questionnaire to township managers in 22 townships identified as containing high and medium risk airport hazard areas. 17 townships responded to the questionnaire, five townships declined to respond. Parkesburg Township has been reevaluated to a low risk category from a medium risk category during this process. It was determined, even with the proposed runway shift to the south Parkesburg is only peripherally impacted by the horizontal surface. Therefore it is not considered a high or medium risk.

The survey⁵ contains 12 main questions which, in some cases, have embedded various supporting questions. In general the majority of the townships and boroughs have expressed positive sentiments towards the airports existence. Nine municipalities view the airport as an asset or a positive economic engine, six municipalities did not answer, and one municipality indicated a somewhat negative relation with the airport concerning the airports traffic and development plans. Traffic increases through development of the airport and the directly related noise issues have been the main concerns mentioned in the questionnaire. Yet, the fact that the airports historic existence, in most cases before any of today's developments came to be, has only been mentioned by one municipality. The fact is that we must deal with today's situation. Time to act in a responsible manner, to ensure the coexistence of airports and residential development as well as airport compatible land uses, is critical, since more non-expendable airports may be forced to close or reduce operations due to the resulting economic pressure. As depicted in the FAA Part 77 and Land Compatibility Maps, the main existing barriers keeping the study airports from over-development are highlighted as well as those areas that need future protection from incompatible uses. The following section makes suggestions to incorporate strategies and changes for the implementation process based on these findings.

⁵ See Appendix A for complete questionnaire

8. Suggested Changes to Increase Airport Hazard Zoning Implementation Including Better Airport Compatible Land Use Management Strategies in Pennsylvania's Urban Landscape

It is apparent by now that the Pennsylvania laws relating to Aviation from 1984, Subchapter B Airport Zoning are not sufficient to ensure and protect the existence and enhancements of today's airports in the Delaware Valley Region, nor are the laws adequate to direct the effected townships to provide airport compatible land uses. A comprehensive approach to deal with airport zoning, compatible land use, and all their related factors needs to be developed to ensure effective municipal use. It was determined in this study that a mere mandate, charging a municipality with the responsibility to implement and enforce is not effective enough. This process needs to be steered by a higher state level authority, with clear established benchmarks to maintain a safe and efficient airport system, that recognizes the potential to develop its airports as necessary based on federal, state and local demand. Another suggestion entailed comparison between specialized zoning ordinances as practiced with the Flood Plain Management Act and the current airport zoning ordinances to determine similarities and differences. Staff determined one significant difference from the beginning. Flood Plains are natural areas in an ecological system that will cause irreparable damages to landscape, ecosystem, flora and fauna where severely tampered with. Airports are man made structures that were build at one point and evolve over time or may stay the same depending on demand, but could also disappear without doing damage to the land in their direct vicinity. But the way Flood Plain ordinances deal with zoning and land use including overlay zones for only portions of a township, is much like an airport overlay zone could work. Main difference here is that responsibilities for damages caused by neglect of the zoning and land use provisions of the PA Flood Plain Management act are directly with the township. The municipality bares the burden of compliance. In the case of an airport, it is the airport owner that applies for the airport insurance each year. There is no penalty to the township for not maintaining an airport zoning ordinance, and especially not for the lack of airport compatible land use provisions. Despite our findings that currently even a mandate for airport compatible land use and zoning is more or less ineffective, because of the current lack of enforcement tools and penalties to the responsible township. The Flood Plain Management Act is policed by state agencies (DEP - Department of Environmental Protection, DCEP - Department of Community and Economic Development) in conjunction with the municipality. The Bureau of Aviation should hold this function and permit proposed uses within the airport zones much like DEP and DCEP does thru the Flood Plain Management Act. The State also penalizes a non conforming township with the denial of flood insurance which in itself puts enough pressure on a township to follow suit. More importantly townships are penalized for violations of chapter 2 of the Flood Plain Management Act by ...“withholding payment of all funds payable to the municipality from the General Fund or any other Fund.” In any case also

under the Flood Plain Management Act it still takes convincing words, persistence and penalties to bring a township into compliance. Instituting such a mechanism creating an Airport Compatible Land Use and Zoning Act would have immediate impact on how townships plan with airports, but will also take enormous political will from top level government.

Municipal airport compatible land use and zoning could be improved with direct penalties for defined violations based on existing part 77 surfaces and to be newly established airport compatible land use provisions against a violating townships planning actions, but it requires an executive decision by the Governor to at least institute such penalties as we discussed earlier and below again in terms of withholding state and federal funds for other than airport related projects.

Following are additional suggestions to implement tools, educational and planning strategies to manifest the value of an airport to the municipal planning and thought process, to change negative perceptions and help to foster preventative planning around airports.

Legislative

The Commonwealth has to define it's powers to enforce set benchmarks and laws in regard to airport zoning and land use, and clearly specify the municipalities responsibilities to implement such laws and regulations into the municipal planning codes. The townships, especially those not owning the airport, most often lack the necessary expertise to establish effective zoning and land use regulations or codes. Mandates, preferably funded mandates, have to be established that cannot be overturned (see case: Chanceford Township v. Baublitz Airport). Ultimately the Commonwealth must rewrite the language of today's law pertaining to aviation. The intention of Act No. 164 Subchapter B Airport Zoning was to mandate the implementation of airport zoning in municipalities that are impacted by FAR Part 77 surfaces. Only cases where the municipality can prove to the Commonwealth that existing municipal zoning can conform to airport zoning and satisfy compatible airport land uses shall the existing municipal zoning prevail and airport zoning considered not necessary. Changing the language of the law will be a difficult and long process. In the meantime municipalities need to be motivated and convinced that airports can be beneficial not only to the region and the state but also to them. Example of airport business plans that help strengthen the tax base of a township exist and need to be pursued (also see below: Coordination of all Plan levels). A Governor's executive order, as practiced in New Jersey in the realm of zoning compliance, would allow the Commonwealth to hold or grant funding to projects other than aviation, depending on township's airport zoning and compatible land use compliance as determined by the state. If such executive order could be instituted, it will give a municipality the motivation to comply with PA State laws relating to

aviation and implement airport compatible land uses, in order to prevent the loss of funding for other township projects.

The Noise Factor

Noise has become the number one issue when dealing with airport land use compatibility. The noise factor needs to be addressed. The 65 DNL contours (Average Day-Night noise levels) in many GA cases do not even extend over the airport property lines. Neighbors' complaints about aircraft flying over their house, even with noise levels below the recommended 65 DNL, increase dramatically. In the case of the study airports, reasons for conflicts are not the expanding or growing airports, but more so the encroaching residential developments. The perception of aircraft noise is a major contributing factor why complaints are so high. Aircraft noise is perceived as a nuisance by direct airport neighbors, even if well below their legally actionable decibel levels. As we can see in the land use maps in chapter 4, most airports are impacted by already existing incompatible residential land uses. Mitigation can be extremely costly. Common mitigation tools are soundproofing homes, erecting noise barriers, or land acquisition. Other airports may be able to institute noise mitigating flight pattern for approach and departure patterns that will minimize noise impacts over existing residential areas. One other tool, that is utilized in some townships is a deed requirement to include the existence of the airport in every deed of all impacted residence surrounding the airport within a certain radius. At a minimum for all homes that have been built after the airport was developed. Fines should also be established for aircraft users that deliberately defy any published noise abatement procedures for the airport.

Coordination of all plan levels

State Airport System Plan

The findings and conclusions of the State Airport Systems Plan for each airport pertaining to a certain county and municipality shall be integrated in the three plans discussed below. Whereas the current and future recommended status of an airport as well as its development potential must be considered in the preparation, update or change of any plan. The airport state system plan should be at least available, or better, directly supplied to each county and municipality impacted by an airport.

MPO / RPO Regional long range plan and study coordination

More effective implementation of airport compatible land use and zoning needs to occur between the departments of an MPO / RPO as well as outside these organizations, where recommendations for aviation planning have to be coordinated. At DVRPC, the MPO for the Delaware Valley region, the office of aviation, for example, will begin to implement better

coordination with it's regional planning office in regard to aviation planning recommendations. More specific studies with more detailed recommendations will make such coordination more feasible. At the same time the MPO / RPO should function as the control organization between all levels of planning as listed above and below, and ensure more effective coordination of plans in regard to airport compatible land use and zoning.

County Comprehensive and/or land use and zoning plans

Counties with planning departments need to coordinate their planning efforts with the state plans and encourage airports and municipalities to coordinate their plans with the county plans. The counties often have the broader view than municipalities over an airport system within their boundaries and can help coordinate with impacted townships and foster understanding of the states recommendations in regard to the airport system developments laid out in their plan.

Municipal Zoning and Land Use Plan

Municipalities without airport zoning ordinances usually recognize airports as properties with transportation functions. Their unique impacts on the surrounding land, and vice versa, are not considered. It is here where airport master and layout plans need to be integrated into the municipal planning process to ensure a safe and beneficial land development.

Airport Layout or Master Plan

The Airport Master or Layout Plan is an airport specific plan that does not look far beyond their boundaries. It usually incorporates the owner's airport development objectives. Although the final approval of the plan comes from the BOA the plan mirrors an owners vision of the airports future. The airport sponsor and their consultant need to become more proactive and include municipality and county planning authorities into this process. Airport development proposals should be coordinated with the State Airport System Plan, which is available to the airport and to most consultants. The county and municipal planning offices need to be involved in this planning level at a much earlier stage and given the opportunity to incorporate and coordinate their county and municipal planning visions surrounding the airport. It is probably the most crucial point in the planning process that each party must be educated to integrate/coordinate various planning visions. Mediation should be provided by the Commonwealth between airport, county and municipality where necessary. All approved new or updated airport master and layout plans must be provided to the county and municipal planning offices for integration into their planning documents.

9. Conclusions

The main conclusion this study brings to light is the fact that an educational process, to implement basic needs for successful airport zoning and compatible land use planning, has to

proceed any possible changes to the laws, regulations, and current planning strategies or methods. Time to protect the land around today's airports is at essence. Time needed to make necessary law and regulation changes result in capacity and facility losses. In the meantime the educational process can either slow down this accelerating process and help pave the way to less controversial agreements when it come to the implementation of airport hazard zoning and compatible land use on the municipal level. The township managers questionnaire indicates that most townships are not necessarily opposed to airport zoning, but are unsure about implementation and enforcement of airport zoning ordinances. This fact is supported by the lack of expertise township personnel has in the field of aviation, and particularly in the more complicated field of airport zoning.

The maps produced in this study where developed to visualize the main land use impact areas and highlight land covers to be protected under current and future land use plans. These maps are a first step to visualize the connection between airport zoning and land use around airports. They should serve as a base from which more specific and sophisticated maps can be integrated into the county and municipal planning mechanism as needed.

DVRPC provides aerial photography and land use cover maps to the Delaware Valley member governments. In Spring of 2006 the latest 2005 DVRPC aerial photography and land use cover maps will be published. An updated set of maps could be produced and provided to each identified⁶ airport impacted municipality including land parcel information and land use compatibility. The maps will be the base in this education process. Negotiations to implement airport compatible land uses in the municipal planning code need to follow, to integrate and coordinate different planning levels as described under Section 8, specifically Section 8.2.

Such education is geared to eliminate any anti airport sentiment some townships have developed. It also helps to create a base understanding between airport zoning, airport compatible land use, and the municipal zoning and land use planning mechanism. Municipalities have to learn and understand that airports are transportation facilities with a far larger market area impact than a housing development or a shopping center. Airports have regional, statewide and in some cases national impacts. Reasons of regional impact from flood plains sparked the implementation of the Flood Plain Management Act. The aviation community, pilots, airport sponsors, MPO/RPO, BOA, AOPA, NASAO...etc. need to lobby the implementation of a similar Airport Compatible Land Use and Zoning Act policed by BOA and possibly the DCEP and the FAA regional offices for their respected regions to permit uses and structures.

⁶See identified municipalities under 6.

Out of the 49 municipalities around the seven study airports, at a minimum, the nine townships identified in 6 as high priority cases to adopt airport zoning ordinances, need to be contacted directly to re-introduce airport zoning and compatible land use practices individually. Each of these townships either have an airport in their municipal boundaries or are impacted directly by the airports approach surfaces without having any type of airport zoning or airport compatible land use provisions in their planning codes. Even if the *Baublitz vs Chanceford*⁷ decision will prevail and townships with airports in their vicinity are no longer mandated to implement airport zoning, they are directed to ensure their municipal zoning and land use are adequate and will prevent future hazards to the airport, as established under the FAR Part 77 surfaces. For that reason it is essential to create a task force group which may consist of an airport representative the airports consultant, a representative of the responsible MPO or a state representative (5010 Inspector/ Planner) from the Bureau of Aviation to meet with the appropriate township representative and discuss such issues. Such a task force can clarify any issues in regard to the municipal zoning code and its conformance to the FAR Part 77 surfaces of the airport in question. In addition a newly “dedicated” position, either within BOA or through MPO/RPO support for the entire Commonwealth of Pennsylvania needs to be created. This position shall induce the communication and education process between airports, municipalities and the Commonwealth. Success on this level will also simplify the implementation of any Airport Compatible Land Use and Zoning Act as suggested above.

Twenty six townships are categorized as low impact, but are in part under either or both the horizontal or conical surfaces⁸. In these cases impacts are limited and it also needs to be determined if the existing municipal zoning provisions are sufficient to protect the airport from incompatible land uses. In any case an exchange of the most current planning documents shall occur between the state, county, township and airport.

In cases of identified hazards, the issue of hazard removal enforcement and mitigation remains. Townships are reluctant to enforce when it comes to airports in their jurisdiction, and especially in cases where airports are not even within one township’s borderlines. The state has to take on more responsibility, again because an airport has greater regional implications. Police power to enforce hazard mediation or removal does exist, but needs to be exercised where education and mediation processes fail. As mentioned earlier in this study, one way is to set incentives by a

⁷ See footnote 1

⁸Conical surfaces are not shown on maps due to scale limitations.
Conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

governors executive order as it is exercised in New Jersey for zoning enforcement. The state could control the distribution of general and or discretionary funding to townships, much like the Flood Plain Management Act as discussed in Section 8. A decision to release or hold funding for other municipal projects is based on conformity to implemented airport zoning where deemed necessary by a task force board as described above, or the refusal of a township to implement or enforce the remedy of a determined hazard near an airport.

As a final step state legislation could be revised to empower the Commonwealth with the right of eminent domain to purchase or take land around airports to protect the approaches and other areas sensitive to safe air navigation around public use airports. Also see appendix C for exemplary legislation as it was instituted in the State of Kentucky. Airports are regional transportation facilities that work together in a system. Their impacts reach far beyond the municipal boundaries and therefore require input from all stakeholders.

10. References

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3. Land Use Compatibility and Airports, FAA Airports Division Southern Region, Task Force, 1998-1999
4. Land Use Guide, Wisconsin Department of Transportation
5. Pennsylvania Law Relating to Aviation, Commonwealth of Pennsylvania, Department of Transportation, Bureau of Aviation, 1984
6. Advisory Circular: 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports, Department of Transportation, Federal Aviation Administration, August 23, 1977
7. Airport Land Use Compatibility Program Evaluation, Final Report, Washington State Department of Transportation Aviation Division, Prepared by Mead & Hunt, Inc., June 2005
8. General Aviation Airports - Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement, GAO, Report to Congressional Requesters, GAO/RCED-99-109
9. Pennsylvania Airport Land Use Compatibility Guidelines, Commonwealth of Pennsylvania, Department of Transportation, Bureau of Aviation, Prepared by AirTech, March 1996
10. Kentucky Legislature, Kentucky Revised Statutes, List by sections, Statutes last updated June 21, 2005, KRS Chapter 183.00.
11. Flood Plain Management Act, Act of October 4, 1978, P.L. 851, No. 166 32 P.S. §679.101 et seq.

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11. Appendix A - Township Managers Questionnaire

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Township Managers Questionnaire

- 1) Airport Name: (in or near year township)?
- 2) What townships are adjoining/bordering the airport township?
- 3) Do you have an airport zoning ordinance?

If yes, does it include land use recommendations or restrictions on non airport land use within your township?

If no, why have you not adopted state mandated airport zoning?
- 4) What is the current zoning designation for your airport in your municipal zoning plan? (See examples in 6 below.) How are adjacent properties zoned? Which adjacent properties if any, are vacant, in industrial use, residential or high density residential, educational or other use (provide map if available)?
- 5) On adjacent properties, do any easements or restrictions exist protecting or influencing airport operations?
- 6) Have township officials considered alternate uses for the airport property if the airport was closed? If yes, which uses and zoning category?
 - a) Residential, homes
 - b) Residential apartments, high rise, senior citizen
 - c) educational
 - d) business, retail, office, industrial
 - e) open space
 - f) other
 - g) other
- 7) If yes, in 6 above, which of the following factors resulting from airport closure would apply to your township? Please explain. Choose more than one if applicable.
 - a) More property tax revenue
 - b) More roadway congestion
 - c) Higher school and sewer/water system cost basis to the township
 - d) Fewer residential complaints about noise
 - e) Negative quality of life impacts from loss of open space
 - f) Negative environmental impacts from developments.
 - g) Other impacts
- 8) What changes to the airport, either facility related or operational, would you

implement if you had the budget and management control.

- 9) Does any specialized municipal zoning, targeted to specific uses, exist in your township? If yes,
 - a) What zones and uses?
 - b) Do those uses have direct effects on the airport?
- 10) Regarding adjoining parcels not on airport property, what strategies or incentives for limiting incompatible development do you see as feasible? Please comment on each of the following as appropriate;
 - a) Outright purchase
 - b) Easement purchase, regarding height or usage
 - c) Re-zoning to compatible land use.
 - d) Public condemnation
 - e) Land use control through permitting
 - f) Deed restrictions or disclosures
- 11) As a municipal official of a suburban township with or near a public use airport, how would you describe the airport as it relates to local residents, businesses, governmental decisions? Please elaborate on any of the following:
 - a) The airport is more trouble than it's worth and I wish it would close and be redeveloped.
 - b) The airport, township and residents are regularly in conflict concerning 1) noise, 2) airport traffic, 3) development plans, 3) environmental impacts, 4) other issues.
 - c) The airport preserves open space, limits traffic growth, and balances residential service needs like schools and sewers.
 - d) The airport provides a transportation facility which stimulates economic development and provides jobs to local residents.
 - e) The airport is viewed as an asset to our community/township.
- 12) Any additional comments.

Township Managers Questionnaire - Summary Sheet

Airports	Townships	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Comments 12
Chester County Airport												
	Highland											
1	Parkesburg	Sadsbury	No, we are not within the 20,000ft of a rwy end.	No response	No	N/A	N/A	None	No	All development is compatible	No response	Appears to be no impact
1	Sadsbury	Sadsbury, East Fellowfield, West Caln, Coatesville	Yes, a) yes b) N/A	See enclosed zoning map	Yes	No	N/A	Flight pass restrictions	Yes, a) Hight restriction b) no response	b, e	b) 2&3	No response
	Coatesville											
	South Coatesville											
1	West Caln	Valley, West Caln, Adsbury, Coatesville	No	Limited industrial	No	d	No response	No response	No	c	No response	No response
1	Valley	Coatesville, West Caln, Sadsbury, East Fellowfield, West Brandywine	Yes	PD zone access from airport B RC no vacant property	Not that I am aware of	Not discussed	No response	Bring in more business	No	I am not aware of any	c), d) it could do more to provide more business and jobs, e) very much so.	No response
New Garden Aiport												
1	Avondale		No	N/A	No	N/A	N/A	No response	No	a,b,c,d,e,f (all)	c,d,e	Airshow is terrific
1	London Grove		Yes with LU Recomm.	N/A, zoned rural residential	no response	N/A	N/A	N/A	Yes a)mushr. compo. farm. b) No	c,e most, a,b,d,f	No response	No complaints or comments regarding noise at the airport.
1	New Garden	Avondale, Kenneth Twp. & Boro., London Grove	Yes	Yes, Business park, rest agricultural	AHZ, build./object ht. rest.	d	c	increase business oriented development	No	a,b,c,d,e	d	No response
Northeast Phila. Airport												
1	Bensalem	Bensalem, Cheltenham, Abington, Lower Moreland, Lower Southampton	No	N/A	N/A	N/A	No respnse	N/A	N/A	N/A	N/A	No response
	Philadelphia											
Brandywine Airport												
1	East Goshen	East Goshen	Yes	Industrial in airport vacinity	Not aware of any	N/A	N/A	N/A	N/A	c,e	N/A	No response
1	West Goshen	East Goshen, West Whiteland, East Bradford, Westtown, W. Chester Boro.	Yes	Yes	Airport, Commercial-Industrial adjacent properties in Commercial-industrial use	Yes	No	N/A	None	No	c, e(?), f	Asset to twp.
Pottstown Limerick Airport												
	Limerick	no response, general phone call only	Yes									
	Lower Pottsgrove											
Quakertown Airport												
1	Milford	Richland, Quakertown Boro., Trumbauersville	Yes	industrial, airport, north residential, south residential	no response	No	No	No response	No	No response	e	No response
1	Quakertown	Richland, Trumbauersville	No, didnt know ordinance had to be adopted	N/A	N/A	No response	No response	None	No	No response	e	No response
1	Richland	Trumbauersville	No	No response	no response	N/A	N/A	No response	No respnse	No response	No response	No response
	Trumbauersville	Milford, Quakertoun Boro., Trumbauersville	No	No response								
Doylestown Airport												
1	Doylestown Borough	Doylestown Boro. & Twp., Plumstead, Solesbury	Yes w/landuse recommendations	N/A	Unknown	Unknown	Unknown	N/A	a) O (office), Integrated Judicial Center b) No	N/A	e	No response
1	Doylestown Twnshp.	Doylestown Boro. & Twp., Plumstead	Yes	N/a	N/A	N/A	N/A	N/A	No	f	No response	No response
1	Buckingham	Plumstead, Doylestown Boro. & Twp.	Yes, section within Twp zoning ordinance.Yes it includes landuse recommendations	PI zoning. Adjacent properties PI., adjacent property uses are light industry and farmland	No	No	No response	None	Yes, s. Zon. Ord. a) No response b) Specific Airport Zoning use regulations attached, as well as PI district	a, b, c, e, f,	e	No response
1	Plumstead	Doylestown Boro. & Twp., Plumstead	Yes. Restrictions on height, light and electrical interference	Adjacent prop.: residential, light industrial, commercial.	Restrictions as per # 3 for zoning only	N/A	N/A	None, not familiar w/ budget and management	a) Airport area overlay zone b) Yes	a) somewhat feasible/cost factor,most areas built out, b) very feasible, c) not effective, d) only in extreme cases, e) not feasble due to c, f) hard to enforce.	d, e	No response

12. **Appendix B - Airport Area Land Use in Acres**

The following tables are merely a product of the mapping process and highlight some interesting comparisons, e.g.: at Brandywine is more single family detached residential acreage in the approach surface than in all the less sensitive transitional surfaces combined. Each airport may find some interesting development around their facility which may or may not be used in arguing a land compatibility case. The tables are the data sources to the maps and have not been further analyzed. Although no mention or cross reference is made in the report, staff felt their informational value to be great enough for inclusion in the appendices section.

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Brandywine Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 09-27: 3347'x50'

Approach Surface (20:1)

Land Use:	Acres:		Acres	in %
Agriculture	16.6	5.77		
Commercial	9.3	3.23		
Manufacturing:Light Industrial	4.3	1.50		
Parking:Commercial	3.4	1.19		
Parking:Light Manufacturing	3.5	1.23	Total Parking:	6.99 2.43
Recreation	1.7	0.59		
Residential:Single-Family Detached	148.8	51.70	Total Residential:	148.8 51.7
Transportation	4.9	1.69		
Vacant	10.7	3.73		
Water	2.3	0.78		
Wooded	82.2	28.57		
Total:	287.8	100.00		

Horizontal Surface

Land Use:	Acres:			
Agriculture	221.9	11.05		
Commercial	128.7	6.41		
Community Services	47.5	2.37		
Manufacturing:Light Industrial	168.8	8.41		
Parking:Commercial	56.9	2.83		
Parking:Community Services	16.5	0.82		
Parking:Light Manufacturing	47.5	2.37		
Parking:Multi-Family	2.7	0.13		
Parking:Recreation	3.4	0.17	Total Parking:	126.93 6.32
Recreation	86.7	4.32		
Residential:Multi-Family	30.4	1.51		
Residential:Single-Family Detached	599.9	29.88	Total Residential:	630.28 31.39
Transportation	43.8	2.18		
Utility	2.8	0.14		
Vacant	149.8	7.46		
Water	67.2	3.35		
Wooded	333.3	16.60		
Total:	2,007.7	100.00		

Transitional Surface (7:1)

Land Use:	Acres:			
Agriculture	31.9	9.70		
Commercial	43.1	13.11		
Manufacturing:Light Industrial	70.0	21.27		
Parking:Commercial	15.8	4.81		
Parking:Light Manufacturing	24.8	7.55		
Parking:Transportation	1.9	0.56	Total Parking:	42.52 12.92
Recreation	3.4	1.05		
Residential:Single-Family Detached	12.6	3.83	Total Residential:	12.6 3.83
Transportation	41.5	12.62		
Vacant	30.0	9.10		
Water	0.1	0.04		
Wooded	53.9	16.37		
Total:	329.2	100.00		

Primary Surface

Land Use:	Acres:			
Commercial	1.7	3.82		
Manufacturing:Light Industrial	1.1	2.56		
Parking:Commercial	0.2	0.41		
Parking:Transportation	0.7	1.55	Total Parking:	0.86 1.96
Recreation	1.2	2.67		
Transportation	34.5	79.01		
Vacant	4.3	9.92		
Wooded	0.0	0.07		
Total:	43.7	100.00		

Grand Total: 2,668.3 100.00 Grand Total Residential: 791.655 29.67

Chester County (G.O. Carlson) Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 11-29: 5400'x100'

Approach Surface (all)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	281.9	24.73		
Commercial	37.4	3.28		
Community Services	2.2	0.19		
Manufacturing:Heavy Industrial	154.2	13.53		
Mining	3.7	0.33		
Parking:Commercial	2.5	0.22		
Parking:Community Services	0.8	0.07		
Parking:Heavy Manufacturing	9.4	0.83		
Parking:Utility	0.4	0.03	Total Parking:	13.03 1.14
Recreation	3.7	0.33		
Residential:Mobile Home	18.3	1.61		
Residential:Multi-Family	12.8	1.12		
Residential:Row Home	4.8	0.42		
Residential:Single-Family Detached	219.6	19.26	Total Residential:	255.54 22.41
Transportation	39.7	3.49		
Utility	31.2	2.74		
Vacant	19.9	1.75		
Water	7.3	0.64		
Wooded	290.2	25.46		
Total:	1,140.1	100.00		

Approach Surface (34:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	275.1	48.10		
Commercial	33.1	5.79		
Parking:Commercial	2.0	0.35		
Recreation	2.6	0.45		
Transportation	25.1	4.39	Total Transportation:	25.1 4.39
Residential:Mobile Home	18.3	3.21		
Residential:Single-Family Detached	138.8	24.26	Total Residential:	157.12 27.47
Utility	0.5	0.09		
Vacant	17.3	3.02		
Water	1.8	0.32		
Wooded	57.3	10.02		
Total:	571.9	100.00		

Approach Surface (50:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	6.8	1.20		
Commercial	4.3	0.75		
Community Services	2.2	0.38		
Manufacturing:Heavy Industrial	154.2	27.14		
Mining	3.7	0.65		
Parking:Commercial	0.5	0.08		
Parking:Community Services	0.8	0.13		
Parking:Heavy Manufacturing	9.4	1.66		
Parking:Utility	0.4	0.07	Total Parking:	11.02 1.94
Recreation	1.2	0.20		
Residential:Multi-Family	12.8	2.25		
Residential:Row Home	4.8	0.85		
Residential:Single-Family Detached	80.8	14.22	Total Residential:	98.42 17.32
Transportation	14.7	2.58		
Utility	30.7	5.40		
Vacant	2.7	0.47		
Water	5.5	0.96		
Wooded	232.9	40.99		
Total:	568.2	100.00		

Horizontal Surface

Land Use:	Acres:	in %
Agriculture	2,546.9	31.80
Commercial	172.3	2.15
Community Services	57.4	0.72

Chester County (G.O. Carlson) Airport cont.

Horizontal Surface cont.

Land Use:	Acres:	in %	Acres:	in %
Manufacturing:Heavy Industrial	86.0	1.07		
Manufacturing:Light Industrial	24.1	0.30		
Mining	49.6	0.62		
Parking:Commercial	22.0	0.27		
Parking:Community Services	8.2	0.10		
Parking:Heavy Manufacturing	2.3	0.03		
Parking:Light Manufacturing	1.5	0.02		
Parking:Multi-Family	4.9	0.06		
Parking:Recreation	2.6	0.03	Total Parking:	41.54 0.52
Recreation	140.2	1.75		
Residential:Mobile Home	16.2	0.20		
Residential:Multi-Family	134.3	1.68		
Residential:Row Home	4.4	0.05		
Residential:Single-Family Detached	1,872.2	23.38	Total Residential:	2027.11 25.31
Transportation	55.1	0.69		
Utility	76.2	0.95		
Vacant	241.1	3.01		
Water	76.2	0.95		
Wooded	2,414.6	30.15		
Total:	8,008.3	100.00		

Transitional Surface (7:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	177.5	30.18		
Commercial	20.8	3.53		
Community Services	4.8	0.82		
Manufacturing:Heavy Industrial	10.2	1.73		
Mining	7.9	1.35		
Parking:Commercial	4.6	0.78		
Parking:Heavy Manufacturing	0.5	0.08		
Parking:Transportation	0.6	0.11	Total Parking:	5.68 0.97
Recreation	5.2	0.89		
Residential:Mobile Home	5.6	0.95		
Residential:Multi-Family	5.5	0.94		
Residential:Row Home	2.3	0.39		
Residential:Single-Family Detached	81.3	13.82	Total Residential:	94.73 16.10
Transportation	54.3	9.23		
Utility	0.3	0.04		
Vacant	29.7	5.05		
Water	1.7	0.29		
Wooded	175.4	29.82		
Total:	588.3	100.00		

Primary Surface

Land Use:	Acres:	in %	Acres:	in %
Agriculture	16.1	11.99		
Transportation (rwy + service roads)	108.6	80.99		
Vacant	9.2	6.84		
Water	0.2	0.13		
Wooded	0.1	0.05		
Total:	134.1	100.00		
Grand Total:	11,010.99	100.00	Grand Total Residential:	2632.93 23.91

Doylestown Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 05-23: 3004'x60'

Approach Surface (20:1)

Land Use:	Acres:		Acres:	in %
Agriculture	95.9	33.30		
Commercial	75.5	26.22		
Parking:Commercial	34.1	11.84		
Parking:Multi-Family	3.4	1.17	Total Parking:	37.45 13.00
Residential:Multi-Family	9.5	3.30		
Residential:Single-Family Detached	40.1	13.92	Total Residential:	49.58 17.22
Transportation	2.6	0.91		
Vacant	18.4	6.40		
Wooded	8.5	2.95		
Subtotal:	288.0	100.00		

Horizontal Surface

Land Use:	Acres:		Acres:	in %
Agriculture	368.0	18.84		
Commercial	128.5	6.58		
Community Services	5.6	0.29		
Manufacturing:Light Industrial	44.7	2.29		
Mining	4.6	0.24		
Parking:Commercial	41.2	2.11		
Parking:Community Services	2.6	0.13		
Parking:Light Manufacturing	14.4	0.74		
Parking:Multi-Family	18.2	0.93		
Parking:Recreation	0.5	0.03		
Parking:Transportation	0.3	0.01	Total Parking:	77.09 3.95
Recreation	94.5	4.84		
Residential:Multi-Family	138.9	7.11		
Residential:Single-Family Detached	614.0	31.44	Total Residential:	752.92 38.55
Transportation	52.2	2.67		
Utility	0.4	0.02		
Vacant	116.2	5.95		
Water	3.8	0.20		
Wooded	304.5	15.59		
Subtotal:	1,953.2	100.00		

Transitional Surface (7:1)

Land Use:	Acres:		Acres:	in %
Agriculture	54.3	17.53		
Commercial	33.6	10.87		
Manufacturing:Light Industrial	67.5	21.81		
Parking:Commercial	11.6	3.75		
Parking:Light Manufacturing	6.9	2.23		
Parking:Multi-Family	3.3	1.07		
Parking:Transportation	0.5	0.16	Total Parking:	22.30 7.21
Recreation	11.8	3.80		
Residential:Multi-Family	3.6	1.18		
Residential:Single-Family Detached	19.1	6.17	Total Residential:	22.74 7.35
Transportation	35.7	11.53		
Vacant	13.9	4.50		
Water	0.5	0.17		
Wooded	47.1	15.22		
Subtotal:	309.6	100.00		

Primary Surface

Land Use:	Acres:		Acres:	in %
Agriculture	0.1	0.00		
Commercial	0.0	0.00		
Manufacturing:Light Industrial	0.8	0.03		
Transportation	37.3	1.46		
Vacant	1.1	0.04		
Subtotal:	38.1	100.00		
Grand Total:	2,550.7	100.00	Grand Total Residential:	825.24 32.35

New Garden Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 06-24: 3695'x50'

Approach Surface (20:1)

Land Use:	Acres:		Acres:	in %
Agriculture	125.2	43.68		
Commercial	18.8	6.57		
Manufacturing:Light Industrial	11.4	3.96		
Parking:Commercial	0.7	0.24	Total Parking:	0.7 0.24
Recreation	3.7	1.30		
Residential:Single-Family Detached	22.8	7.95	Total Residential:	22.8 7.95
Transportation	18.3	6.40		
Vacant	22.3	7.78		
Water	2.6	0.90		
Wooded	60.8	21.22		
Subtotal:	286.6	100.00		

Horizontal Surface

Land Use:	Acres:		Acres:	in %
Agriculture	1,057.3	50.72		
Commercial	105.6	5.06		
Manufacturing:Light Industrial	85.8	4.12		
Parking:Commercial	7.5	0.36		
Parking:Light Manufacturing	2.8	0.13		
Parking:Multi-Family	0.8	0.04	Total Parking:	11.08 0.53
Recreation	12.7	0.61		
Residential:Mobile Home	15.8	0.76		
Residential:Multi-Family	2.4	0.11		
Residential:Single-Family Detached	289.1	13.87	Total Residential:	307.33 14.74
Transportation	30.6	1.47		
Vacant	48.3	2.32		
Water	20.4	0.98		
Wooded	405.8	19.46		
Subtotal:	2,084.8	100.00		

Transitional Surface (7:1)

Land Use:	Acres:		Acres:	in %
Agriculture	113.1	32.86		
Commercial	28.0	8.15		
Manufacturing:Light Industrial	6.5	1.87		
Parking:Commercial	1.5	0.42	Total Parking:	1.45 0.42
Recreation	3.1	0.90		
Residential:Single-Family Detached	34.2	9.94	Total Residential:	34.20 9.94
Transportation	30.6	8.90		
Vacant	9.0	2.63		
Water	3.6	1.04		
Wooded	114.5	33.28		
Subtotal:	344.1	100.00		

Primary Surface

Land Use:	Acres:		Acres:	in %
Agriculture	0.2	0.37		
Manufacturing:Light Industrial	0.3	0.63		
Transportation	33.2	69.67		
Vacant	1.8	3.79		
Wooded	12.2	25.54		
Subtotal:	47.7	100.00		
Grand Total:	2,763.2	100.00	Grand Total Residential:	364.316 13.18

Northeast Philadelphia Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 06-24: 7000'x150'

Runway 15-33: 4146'x150'

Approach Surface (all)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	77.4	3.73		
Commercial	96.5	4.65		
Community Services	98.7	4.76		
Manufacturing:Light Industrial	109.4	5.27		
Military	3.0	0.14		
Parking:Commercial	56.3	2.71		
Parking:Community Services	24.2	1.16		
Parking:Light Manufacturing	17.5	0.84		
Parking:Military	1.6	0.08		
Parking:Multi-Family	40.1	1.93		
Parking:Recreation	2.2	0.11	Total Parking:	141.86 6.84
Recreation	206.4	9.95		
Residential:Multi-Family	448.9	21.64		
Residential:Row Home	91.5	4.41		
Residential:Single-Family Detached	157.9	7.61	Total Residential:	698.30 33.66
Transportation	122.9	5.92		
Utility	10.6	0.51		
Vacant	144.4	6.96		
Water	13.4	0.65		
Wooded	351.9	16.96		
Subtotal:	2,074.9	100.00		

Approach Surface (34:1)

Land Use:	Acres:	in %		
Agriculture	9.4	0.63		
Commercial	67.7	4.53		
Community Services	91.7	6.13		
Manufacturing:Light Industrial	12.9	0.86		
Parking:Commercial	47.9	3.20		
Parking:Community Services	22.9	1.53		
Parking:Light Manufacturing	2.1	0.14		
Parking:Multi-Family	37.0	2.47		
Parking:Recreation	2.2	0.15	Total Parking:	112.08 7.49
Recreation	177.5	11.86		
Residential:Multi-Family	435.3	29.10		
Residential:Row Home	18.2	1.22		
Residential:Single-Family Detached	143.6	9.60	Total Residential:	597.07 39.92
Transportation	80.5	5.38		
Utility	10.6	0.71		
Vacant	76.9	5.14		
Water	12.7	0.85		
Wooded	246.7	16.50		
Subtotal:	1,495.7	100.00		

Approach Surface (50:1)

Land Use:	Acres:	in %		
Agriculture	68.0	11.74		
Commercial	28.8	4.97		
Community Services	7.0	1.21		
Manufacturing:Light Industrial	96.5	16.67		
Military	3.0	0.51		
Parking:Commercial	8.4	1.45		
Parking:Community Services	1.2	0.21		
Parking:Light Manufacturing	15.4	2.66		
Parking:Military	1.6	0.28		
Parking:Multi-Family	3.1	0.54	Total Parking:	29.78 5.14
Recreation	28.9	4.99		
Residential:Multi-Family	13.7	2.36		
Residential:Row Home	73.2	12.65		
Residential:Single-Family Detached	14.3	2.47	Total Residential:	101.23 17.48
Transportation	42.4	7.33		

Northeast Philadelphia Airport cont.

Approach Surface (all) cont.

Land Use:	Acres:	in %	Acres:	in %
Vacant	67.5	11.66		
Water	0.8	0.13		
Wooded	105.2	18.17		
Subtotal:	579.1	100.00		

Horizontal Surface

Land Use:	Acres:	in %		
Agriculture	20.2	0.23		
Commercial	537.5	6.08		
Community Services	268.9	3.04		
Manufacturing:Light Industrial	830.5	9.40		
Parking:Commercial	244.6	2.77		
Parking:Community Services	45.9	0.52		
Parking:Light Manufacturing	159.9	1.81		
Parking:Military	1.6	0.02		
Parking:Multi-Family	72.2	0.82		
Parking:Recreation	10.3	0.12		
Parking:Row Home	4.7	0.05		
Parking:Transportation	2.6	0.03	Total Parking:	541.74 6.13
Recreation	365.8	4.14		
Residential:Multi-Family	1,504.7	17.03		
Residential:Row Home	976.9	11.06		
Residential:Single-Family Detached	1,615.2	18.28	Total Residential:	4096.78 46.37
Transportation	539.8	6.11		
Utility	64.0	0.72		
Vacant	296.7	3.36		
Water	40.8	0.46		
Wooded	1,231.4	13.94		
Subtotal:	8,834.1	100.00		

Transitional Surface (7:1)

Land Use:	Acres:	in %		
Agriculture	18.6	1.97		
Commercial	22.2	2.35		
Community Services	4.4	0.47		
Manufacturing:Light Industrial	148.5	15.74		
Military	1.7	0.18		
Parking:Commercial	16.4	1.74		
Parking:Light Manufacturing	16.5	1.75		
Parking:Military	1.8	0.19		
Parking:Multi-Family	3.0	0.31		
Parking:Recreation	0.0	0.00		
Parking:Transportation	6.7	0.71	Total Parking:	44.41 4.71
Recreation	27.5	2.92		
Residential:Multi-Family	48.1	5.10		
Residential:Row Home	18.7	1.99		
Residential:Single-Family Detached	33.5	3.54	Total Residential:	100.30 10.63
Transportation	268.6	28.46		
Vacant	161.8	17.15		
Water	0.3	0.03		
Wooded	145.5	15.41		
Subtotal:	943.8	6.67		

Primary Surface

Land Use:	Acres:	in %		
Transportation	213.8	96.32		
Vacant	2.9	1.29		
Wooded	5.3	2.40		
Subtotal:	222.0	1.57		
Grand Total:	14,149.6	100.00	Grand Total Resid.:	5593.69 39.53

Pottstown-Limerick Airport - DVRPC 2000 Land Use by FAA Part 77 Surfaces

(excluding conical surface)

Runway 10-28: 3371'x75'

Approach Surface (all)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	339.6	56.27		
Commercial	11.6	1.92		
Community Services	6.9	1.15		
Parking:Commercial	3.2	0.53		
Parking:Community Services	1.7	0.28		
Parking:Multi-Family	6.9	1.14		
Parking:Recreation	0.5	0.09	Total Parking:	12.33 2.04
Recreation	12.3	2.03		
Residential:Multi-Family	29.7	4.92		
Residential:Single-Family Detached	68.5	11.35	Total Residential:	98.16 16.27
Transportation	9.7	1.60		
Vacant	41.2	6.82		
Water	0.8	0.13		
Wooded	71.0	11.76		
Total:	603.5	100.00		

Approach Surface (20:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	86.3	59.81		
Commercial	2.6	1.77		
Parking:Commercial	0.8	0.55	Total Parking	0.8 0.55
Residential:Single-Family Detached	13.8	9.59	Total Residential	13.8 9.59
Transportation	9.5	6.58		
Vacant	18.4	12.77		
Wooded	12.9	8.93		
Total:	144.3	100.00		

Approach Surface (34:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	253.3	55.16		
Commercial	9.0	1.97		
Community Services	6.9	1.51		
Parking:Commercial	2.4	0.52		
Parking:Community Services	1.7	0.37		
Parking:Multi-Family	6.9	1.50		
Parking:Recreation	0.5	0.12	Total Parking:	11.53 2.51
Recreation	12.3	2.67		
Residential:Multi-Family	29.7	6.46		
Residential:Single-Family Detached	54.7	11.90	Total Residential:	84.32 18.36
Transportation	0.2	0.04		
Vacant	22.7	4.95		
Water	0.8	0.17		
Wooded	58.1	12.65		
Total:	459.2	100.00		

Horizontal Surface

Land Use:	Acres:	in %
Agriculture	1,909.6	24.09
Commercial	252.1	3.18
Community Services	76.8	0.97
Manufacturing:Light Industrial	32.7	0.41
Mining	51.5	0.65
Parking:Agriculture	2.0	0.03
Parking:Commercial	45.1	0.57
Parking:Community Services	5.4	0.07
Parking:Light Manufacturing	2.9	0.04

Pottstown-Limerick Airport cont.

Horizontal Surface cont.

Land Use:	Acres:	in %	Acres:	in %
Parking:Multi-Family	8.1	0.10		
Parking:Recreation	5.5	0.07		
Parking:Transportation	0.8	0.01		
Parking:Utility	16.5	0.21	Total Parking:	86.40 1.09
Recreation	391.4	4.94		
Residential:Mobile Home	49.8	0.63		
Residential:Multi-Family	121.0	1.53		
Residential:Single-Family Detached	1,589.5	20.05	Total Residential:	1760.28 22.20
Transportation	94.2	1.19		
Utility	312.6	3.94		
Vacant	621.2	7.84		
Water	88.4	3.93		
Wooded	2,250.5	28.39		
Total:	7,927.9	100.00		

Transitional Surface (7:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	155.2	41.25		
Commercial	28.3	7.53		
Manufacturing:Light Industrial	6.5	1.72		
Parking:Commercial	6.4	1.71		
Parking:Light Manufacturing	0.3	0.08		
Parking:Multi-Family	0.8	0.20		
Parking:Transportation	0.6	0.15	Total Parking:	8.03 2.13
Residential:Multi-Family	2.1	0.57		
Residential:Single-Family Detached	25.4	6.74	Total Residential:	27.51 7.31
Transportation	65.2	17.32		
Utility	0.1	0.03		
Vacant	16.4	4.36		
Water	2.3	0.62		
Wooded	66.7	17.73		
Total:	376.3	100.00		

Primary Surface

Land Use:	Acres:	in %	Acres:	in %
Agriculture	3.0	6.90		
Commercial	0.0	0.00		
Residential:Single-Family Detached	0.1	0.29	Total Residential	0.13 0.29
Transportation	40.3	92.78		
Wooded	0.0	0.02		
Total:	43.4	100.00		
Grand Total:	9,554.5	446.1	Grand Total Res.:	1984.24 20.77

Quakertown Airport - DVRPC 2000 Land Use by FAA Part 77 Surface

(excluding conical surfaces)

Runway 11-29: 3201'x50'

Approach Surface (20:1)

Land Use:	Acres:	in %	Acres:	in %
Agriculture	91.5	31.77		
Commercial	12.5	4.33		
Community Services	0.9	0.33		
Manufacturing:Light Industrial	1.2	0.43		
Parking:Commercial	0.2	0.07		
Parking:Community Services	1.0	0.36	Total Parking:	1.2 0.43
Residential:Single-Family Detached	93.0	32.29	Total Residential:	93.0 32.29
Vacant	15.2	5.28		
Water	2.3	0.81		
Wooded	70.1	24.35		
Total:	288.0	100.00		

Horizontal Surface

Land Use:	Acres:	in %		
Agriculture	678.9	34.20		
Commercial	56.0	2.82		
Community Services	79.0	3.98		
Parking:Commercial	8.5	0.43		
Parking:Community Services	5.7	0.29		
Parking:Multi-Family	1.9	0.09		
Parking:Recreation	0.3	0.02	Total Parking:	16.4 0.83
Recreation	34.5	1.74		
Residential:Mobile Home	7.0	0.35		
Residential:Multi-Family	51.7	2.61		
Residential:Single-Family Detached	550.3	27.72	Total Residential:	609.0 30.68
Transportation	5.8	0.29		
Utility	3.6	0.18		
Vacant	42.0	534.96		
Water	3.7	190.43		
Wooded	456.2	22.98		
Total:	1,985.1	100.00		

Transitional Surface (7:1)

Land Use:	Acres:	in %		
Agriculture	92.6	29.13		
Commercial	7.8	2.47		
Manufacturing:Light Industrial	1.9	0.61		
Parking:Commercial	0.4	0.11		
Parking:Transportation	0.5	0.15	Total Parking:	0.8 0.26
Residential:Mobile Home	5.1	1.61		
Residential:Multi-Family	3.0	0.94		
Residential:Single-Family Detached	54.8	17.25	Total Residential:	62.9 19.80
Transportation	30.1	9.47		
Vacant	6.3	1.99		
Water	0.7	0.21		
Wooded	114.7	36.08		
Total:	317.9	100.00		

Primary Surface

Land Use:	Acres:	in %
Agriculture	5.4	13.00
Transportation	25.4	61.35
Wooded	10.6	25.65
Total:	41.4	100.00

Grant Total: 2,632.5 100.00 Grant Total Residential: 765.0 29.06

13. **Appendix C - Kentucky Legislature, KRS Chapter 183.00, Excerpts: 183.110, 183.120, 183.121, 183.122, 183.123, 183.132.**

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183.110 Police powers of secretary, officers and employees.

- (1) The secretary and officers and employees of the cabinet designated by order of the secretary shall be peace officers and may arrest any person found violating any provision of this chapter or any civil air regulation promulgated by the Federal Aviation Administration.
- (2) The secretary, in his discretion, may commission any official or employee of an airport board or governmental unit not authorized by KRS 183.880 to establish a safety and security department as peace officers and such persons so commissioned shall have all of the powers of peace officers in respect to the enforcement of this chapter or any civil air regulation promulgated by the Federal Aviation Administration and rules and regulations promulgated by airport boards or governmental units.

History: Amended 1976 Ky. Acts ch. 300, sec. 1. -- Amended 1974 Ky. Acts ch. 74, Art. IV, sec. 20(6). -- Amended 1960 Ky. Acts ch. 179, sec. 14. -- Amended 1958 Ky. Acts ch. 153, sec. 11. -- Recodified 1942 Ky. Acts ch. 208, sec. 1, effective October 1, 1942, from Ky. Stat. sec. 165-55.

183.120 Acquisition of facilities by cabinet -- Aid to other agencies.

- (1) The cabinet may acquire or dispose by contract, purchase, lease, donation, condemnation or otherwise, airports, buildings, runways, grounds and other facilities suitable for airport purposes and the proper safeguards to flying where such acquisition or disposal shall be in the public interest.
- (2) The cabinet may make additions and improvements to such airports, or facilities and either alone or with the cooperation of others provide personnel, heat, light, water, fuel, telephone service, drainage, runways, fueling facilities, radio and navigation facilities, and other costs of operation and maintenance, including insurance, and may bear the expense of removal or change of obstructions that menace air travel.
- (3) The cabinet may enter into contracts of lease for land or facilities to which title is vested in the Commonwealth with any city, or cities, county, or counties, governmental unit, political subdivision, airboard or person for the furtherance of the purposes of this chapter. All rents or revenues derived from such contracts of lease shall become the property of the cabinet to be expended by it in carrying out the purposes of this chapter.
- (4) The cabinet may give such advice and assistance, including financial aid, engineering and technical assistance within the limits of its resources as it deems advisable, to enable any governmental unit or board to acquire, construct, expand, maintain and operate airports or otherwise assist in the development of aeronautics within their limits. Such aid may include the exercise of the cabinet's power of eminent domain, if such usage is requested by the governmental unit or board. Where such eminent domain powers are utilized, title to acquire property may vest in the governmental unit.

Effective: March 25, 1960

History: Amended 1960 Ky. Acts ch. 179, sec. 15, effective March 25, 1960. -- Amended 1958 Ky. Acts ch. 153, sec. 12. -- Recodified 1942 Ky. Acts ch. 208, sec. 1, effective October 1, 1942, from Ky. Stat. sec. 165-57.

183.121 State airways system -- State airport plan -- Aeronautics controversies -- Injunctive proceedings.

- (1) The cabinet may designate, design, establish, expand, or modify a state airways system which will best serve the interests of the state. It may chart such airways systems and arrange for publication and distribution of such maps, charts, notices and bulletins relating to such airways as may be required in the public interest. The system shall be supplementary to and coordinated in design and operation with the federal airways system. It may include all types of air navigation facilities, whether publicly or privately owned, provided that such facilities conform to federal safety standards.
- (2) It may participate as party plaintiff or defendant, or as intervener on behalf of the state, or on behalf of any air board or governmental unit or other person in any controversy involving any right of the state or others pertaining to aeronautics.
- (3) To enforce the provisions of this chapter the cabinet may in addition to all other remedies institute and prosecute injunctive proceedings without the execution of a bond.
- (4) The Franklin Circuit Court shall hold concurrent venue with the courts of this Commonwealth of all civil and injunctive actions instituted by the cabinet for the enforcement of this chapter and the orders, rules and regulations of the cabinet thereunder.

History: Amended 1960 Ky. Acts ch. 179, sec. 16. -- Amended 1958 Ky. Acts ch. 153, sec. 13. -- Created 1946 Ky. Acts ch. 48, sec. 4.

183.122 Condemnation -- Effect on zoning of adjacent property.

- (1) Where necessary, in order to provide unobstructed air space for the landing and taking off of aircraft utilizing airports acquired or operated under the provisions of this chapter, the cabinet is hereby granted authority to condemn and acquire, in the same manner as is provided for the acquisition of property for airport purposes, easements through or other interests in air space over land or water, interests in airport hazards outside the boundaries of the airports and such other airport protection privileges, together with rights of ingress and egress thereto and therefrom, as are necessary to insure safe approaches to the landing areas of said airports and the safe and efficient operation thereof. The cabinet is authorized to acquire, in the same manner, the right or easement, for a term of years or perpetually, to place or maintain suitable marks for the daytime marking and suitable lights or marks for the night marking of airport hazards, including the right of ingress and egress to and from such airport hazards for the purpose of maintaining and repairing such lights and marks.
- (2) The secretary may, by order, authorize any airport board or governmental unit to condemn and acquire, with the full power of the Commonwealth, in the manner provided in the Eminent Domain Act of Kentucky, any of the interests, easements, airport protection privileges, interests in air space, rights, or hazard marking privileges described in subsection (1), or any real or personal property. Any condemnation proceeding which may be necessary for such acquisition, if filed under this subsection, shall be filed in the name of the Commonwealth on relation of the secretary of transportation, and of the airport board or governmental unit making such acquisition.
- (3) The authority granted in subsections (1) and (2) shall not be so construed as to limit the right, power, or authority of the state or any municipality or governmental unit to zone property adjacent to any airport pursuant to any law of this state.

History: Amended 1976 Ky. Acts ch. 140, sec. 85. -- Amended 1974 Ky. Acts ch. 74, Art. IV, sec. 20(6). -- Amended 1960 Ky. Acts ch. 179, sec. 17. -- Amended 1958 Ky. Acts ch. 153, sec. 14. -- Created 1946 Ky. Acts ch. 48, sec. 7.

183.123 Declaration of public purposes of governmental actions in the field of aviation.

The acquisition of any lands for the purpose of establishing airports or other air navigation facilities; the acquisition of any airport protection privileges; the acquisition, establishment, construction, enlargement, improvement, maintenance, equipping, and operation of airports and other air navigation facilities, whether by the state separately or jointly with any governmental unit thereof or air board; the assistance of the state in any such acquisition, establishment, construction, enlargement, improvement, maintenance, equipping and operation; and the exercise of any other powers of the cabinet as set out in this chapter, including the zoning of land in and around air facilities, are hereby declared to be public and governmental functions exercised for a public purpose, and matters of public necessity, and such lands and other property and privileges acquired, zoned and used in the manner and for the purposes enumerated in this chapter shall and are hereby declared to be acquired, zoned and used for public and governmental purposes and as a matter of public necessity.

History: Amended 1960 Ky. Acts ch. 179, sec. 18. -- Amended 1958 Ky. Acts ch. 153, sec. 15. -- Created 1946 Ky. Acts ch. 48, sec. 12.

183.132 Local air boards.

- (1) Any urban-county government, city, or county, or city and county acting jointly, or any combination of two (2) or more cities, counties, or both, may establish a nonpartisan air board composed of six (6) members. Any city other than the first class and county jointly or an urban-county government established pursuant to KRS Chapter 67A may establish a nonpartisan board composed of ten (10) members. Any existing six (6) member board, including a board established in an urban-county government, may be expanded to ten (10) members by action of the government entity or entities that established the six (6) member board.
- (2) Any city of the first class, jointly with the county containing the city or a consolidated local government, may establish or maintain a nonpartisan air board. Membership of the board shall be appointed in accordance with subsection (6) or (11) of this section. Any air board established or maintained in a county containing a city of the first class or consolidated local government shall be composed of eleven (11) members.
- (3) The board shall be a body politic and corporate with the usual corporate attributes, and in its corporate name may sue and be sued, contract and be contracted with, and do all things reasonable or necessary to effectively carry out the duties prescribed by statute. The board shall constitute a legislative body for the purposes of KRS 183.630 to 183.740.
- (4) The members of an air board composed of six (6) members shall be appointed as follows:
 - (a) If the air board is established by a city, the members shall be appointed by the mayor of the city;
 - (b) If the air board is established by a county, the members shall be appointed by the county judge/executive except that in the event that an airport is located outside the boundary of the county establishing the airport board, the county judge/executive shall appoint an additional member to the air board from the jurisdiction where the airport is physically located. The additional member shall serve a four (4) year term in accordance with the provisions of subsection (7) of this section and receive full voting privileges on matters brought before the airport board;
 - (c) If the air board is established as a joint city-county air board, the members shall be appointed jointly by the mayor of the city and the county judge/executive;
 - (d) If a combination of cities, counties, or both, establishes a joint air board, the mayors and county judges/executive involved shall jointly choose six (6) members and shall jointly choose successors;
 - (e) If the air board is established by an urban-county government, the mayor of the urban-county government or an officer of the urban-county government designated by the mayor shall serve as one (1) member of the board. The remaining five (5) members shall be appointed by the mayor. One (1) of the

members appointed by the mayor shall live within a three (3) mile radius of the airport.

- (5) The members of an air board composed of ten (10) members in a city other than a city of the first class and county jointly other than an urban-county government established pursuant to KRS Chapter 67A shall be appointed as follows:
 - (a) Five (5) members shall be appointed by the mayor of the city, without approval of the legislative body;
 - (b) Five (5) members shall be appointed by the county judge/executive without approval of the other members of the fiscal court.
- (6) An air board consisting of eleven (11) members and established jointly by a city of the first class and the county containing the first class city shall be composed of members as follows:
 - (a) The mayor of the city of the first class;
 - (b) The county judge/executive of the county containing the city of the first class;
 - (c) Three (3) members appointed by the mayor of the city of the first class;
 - (d) Three (3) members appointed by the county judge/executive of the county, with the approval of the fiscal court;
 - (e) Two (2) members, who shall be residents of the county containing a city of the first class or of counties contiguous thereto, appointed by the Governor; and
 - (f) One (1) member, who shall be a member of the executive board of an incorporated alliance of incorporated neighborhood associations and fifth or sixth class cities which represents citizens living within a five (5) mile radius of airport operations, appointed by the Governor. If more than one (1) incorporated alliance exists, the Governor shall select the appointee from the executive boards of any of the incorporated alliances. If no alliances exist, the Governor shall appoint a citizen of the county who resides within a five (5) mile radius of airport operations.
- (7) An air board consisting of eleven (11) members and established or maintained by a consolidated local government upon its establishment shall be composed of members as follows:
 - (a) The mayor of the consolidated local government;
 - (b) Seven (7) members appointed by the mayor of the consolidated local government;
 - (c) Two (2) members who shall be residents of the county containing the consolidated local government or residents of counties contiguous to the county containing the consolidated local government, appointed by the Governor; and
 - (d) One (1) member who shall be a member of the executive board of an incorporated alliance of incorporated neighborhood associations and fifth or sixth class cities which represents citizens living within a five (5) mile radius of airport operations, appointed by the Governor. If more than one (1) incorporated alliance exists, the Governor shall select the appointee from the

executive boards of any of the incorporated alliances. If no alliances exist, the Governor shall appoint a citizen of the county who resides within a five (5) mile radius of airport operations.

- (8) The members of an air board composed of ten (10) members established by an urban-county government shall be composed of the mayor of the urban-county government or an officer of the urban-county government designated by the mayor. The remaining nine (9) members shall be appointed by the mayor. Two (2) of the members appointed by the mayor shall live within a three (3) mile radius of the airport.
- (9) Members of the board composed of six (6) members shall serve for a term of four (4) years each and until their successors are appointed and qualified. The initial appointments shall be made so that two (2) members are appointed for two (2) years, two (2) members for three (3) years, and two (2) members for four (4) years. Upon expiration of the staggered terms, successors shall be appointed for a term of four (4) years.
- (10) Members of the board composed of ten (10) members in a city other than a city of the first class and county jointly shall serve for a term of four (4) years each and until their successors are appointed and qualified. The initial appointments made by the mayor and the county judge/executive shall be made so that one (1) member is appointed for two (2) years, two (2) members are appointed for three (3) years, and two (2) members are appointed for four (4) years. If an existing six (6) member board is being increased to a ten (10) member board, initial appointments of the four (4) new members shall be made so that the mayor and the county judge/executive, or the mayor if the board is established by an urban-county government, each appoint one (1) member for two (2) years and one (1) member for four (4) years. Upon expiration of the initial terms, successors shall be appointed for a term of four (4) years. In the case of a board established by an urban-county government, the term of the mayor for the urban-county government, or the officer of the urban-county government designated by the mayor, shall be coextensive with the term of the mayor.
- (11) Members of an air board composed of eleven (11) members and established or maintained jointly by a city of the first class and the county containing a city of the first class shall serve for a term of three (3) years each and until their successors are appointed and qualified. The terms of the mayor and the county judge/executive shall be coextensive with their terms of office. The mayor and the county judge/executive shall each make their initial appointments to a board established jointly by a city of the first class and the county containing a city of the first class so that one (1) member is appointed for one (1) year, one (1) member is appointed for two (2) years, and one (1) member is appointed for three (3) years. The Governor shall make the initial appointments so that one (1) member is appointed for two (2) years and one (1) member is appointed for three (3) years. Upon the expiration of the initial terms, successors shall be appointed for a term of four (4) years.
- (12) Members of an air board composed of eleven (11) members in a county that has established a consolidated local government in a county containing a former city of

the first class shall serve until their successors are appointed and qualified. The terms of office on the air board of the mayor of the previously existing city of the first class and the county judge/executive of this county shall expire upon the establishment of a consolidated local government. Upon the establishment of a consolidated local government, if the consolidated local government maintains the previously existing air board, the incumbent members, except the mayor of the previously existing city of the first class and the county judge/executive of that county, shall continue to serve as members of the board for the time remaining of their current terms of appointment. The Governor shall appoint members pursuant to subsection (7)(c) and (d) of this section. The mayor of the consolidated local government shall serve on the board for a term which shall be coextensive with his or her term of office. Incumbent members shall be eligible for reappointment upon the expiration of their terms. The terms of all other board members shall be for four (4) years. Upon the establishment of a consolidated local government and maintenance of a previously existing air board, any incumbent member whose term had expired but who had continued to serve because the member's successor had not been appointed, shall continue to serve until a successor is appointed. Successors shall be appointed by the mayor or the Governor as provided by law within sixty (60) days after the establishment of the consolidated local government. As the terms of the previously serving members of an air board being maintained by a consolidated local government expire, the mayor of the consolidated local government and the Governor shall respectively make their new appointments.

- (13) Members of the board shall serve without compensation but shall be allowed any reasonable expenses incurred by them in the conduct of the affairs of the board. The board shall, upon the appointment of its members, organize and elect officers. The board, except for a board composed of eleven (11) members, shall choose a chairman and vice chairman who shall serve for terms of one (1) year. Where the board is composed of eleven (11) members and established jointly by a city of the first class and the county containing a city of the first class, the mayor of the city of the first class and the county judge/executive shall jointly appoint the chairman from among the membership of the board. Where the board is composed of eleven (11) members and is in a county containing a consolidated local government, the mayor shall appoint the chairman from among the membership of the board. The board shall also choose a secretary-treasurer who may or may not be a member of the board. The board may fix a salary for the secretary-treasurer and the secretary-treasurer shall execute an official bond to be set and approved by the board, and the cost of the bond shall be paid by the board.
- (14) The board may employ necessary counsel, agents, and employees to carry out its work and functions and prescribe rules and regulations as it deems necessary.
- (15) The secretary-treasurer shall keep the minutes of all meetings of the board and shall also keep a set of books showing the receipts and expenditures of the board. The secretary-treasurer shall preserve on file duplicate vouchers for all expenditures and shall present to the board, upon request, complete reports of all financial transactions and the financial condition of the board. The books and vouchers shall at all times be subject to examination by the legislative body or bodies by whom the

board was created. The secretary-treasurer shall transmit at least once annually a detailed report of all acts and doings of the board to the legislative body or bodies by whom the board was created.

- (16) In the event that a joint air board is created by cities, counties, or both, and thereafter a city or county desires to withdraw from participation, then the remaining participants may jointly choose a successor member or members of the board. A local government wanting to withdraw from participation in the board shall not be entitled to return of any moneys or property advanced to the board.
- (17) A quorum for the transacting of the business of a six (6) member board shall consist of four (4) members, a ten (10) member board shall consist of six (6) members, and an eleven (11) member board shall consist of six (6) members. Meetings of the board may be called by the chairman or by four (4) members. In case of tie voting by the board, the issue shall be deemed to have failed passage.
- (18) A board member may be replaced by the appointing authority upon a showing to the authority of misconduct as a board member or upon conviction of a felony. A board member shall not hold any official office with the appointing authority, except for the mayor of a city of the first class and the county judge/executive on a board made up of eleven (11) members and established jointly by a city of the first class and the county containing a city of the first class, or the mayor of an urban-county government or a consolidated local government, or an officer of the urban-county government designated by the mayor on a board established by an urban-county government.

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History: Amended 2003 Ky. Acts ch. 173, sec. 1, effective June 24, 2003. -- Amended 2002 Ky. Acts ch. 346, sec. 197, effective July 15, 2002. -- Amended 1998 Ky. Acts ch. 25, sec. 1, effective July 15, 1998; and ch. 439, sec. 1, effective July 15, 1998. -- Amended 1996 Ky. Acts ch. 194, sec. 58, effective July 15, 1996. -- Amended 1986 Ky. Acts ch. 196, sec. 1, effective July 15, 1986; and ch. 347, sec. 1, effective July 15, 1986. -- Amended 1984 Ky. Acts ch. 269, sec. 1, effective July 13, 1984. -- Amended 1964 Ky. Acts ch. 134, sec. 5. -- Created 1960 Ky. Acts ch. 179, sec. 32.

Legislative Research Commission Note (6/24/2003). In subsection (2) of this section, a reference to "subsection (6) or (10)" has been changed to "subsection (6) or (11)" to conform with the renumbering in 2003 Ky. Acts ch. 173, sec. 1. See KRS 7.136.

Legislative Research Commission Note (7/15/98). This section was amended by 1998 Ky. Acts chs. 25 and 439. Where these Acts are not in conflict, they have been codified together. Where a conflict exists, Acts ch. 439, which was last enacted by the General Assembly, prevails under KRS 446.250.

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Key Words:	Airport compatible land use, airport hazard zoning ordinance, Far Part 77 surfaces, FAA, Bureau of Aviation, municipality, county, zoning enforcement, approach surface, transitional surface, primary surface, horizontal surface, conical surface.
Abstract:	<p>This report analyses the current issues of airport hazard zoning compliance and airport land use compatibility in the DVRPC portion of Pennsylvania. Seven airports within the counties of Chester, Montgomery and Bucks were included in this study. Township managers of affected municipalities by airport hazard zones were interviewed. The report compiles state hazard zoning compliance rates and identifies townships whose non compliance represent the most risk to future airport safety and infrastructure preservation. Compatibility of key parcels were analyzed at each airport and highlighted in a series of maps. The report identifies issues and roadblocks in the airport zoning adoption and land use compatibility planning process. Financial, legislative and educational strategies are suggested to improve such processes.</p>

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