

Appendix A

Phase 1 Inventory

SECTION ONE

Inventory

1.0 BACKGROUND

An Airport Master Plan is a comprehensive planning document that provides guidelines for incremental development of an airport based on the present and future aviation needs of a community and region. The Master Plan development should be coordinated with the appropriate regulatory, airport, governmental, and citizens groups to best enhance and complement the growth of the communities served, protect the environment, and be compatible with the land use patterns of the airport area.

The last Airport Master Plan for Chicago Executive Airport (PWK) was completed in 1981; the Airport was named Palwaukee Airport at the time, and changed its name to Chicago Executive Airport in 2006. Several Airport Layout Plan (ALP) updates have been conducted since the Master Plan was completed to address development needs and to help bring the terminal area and airfield closer to meeting all Federal Aviation Administration (FAA) design standards. This comprehensive Airport Planning Report is being developed as a result of the numerous changes that have taken place at PWK, as well as in the national and regional aviation systems, since the last plan was completed in the early 1980s.

A full Master Plan Update is not being completed because PWK wants this effort to focus on the primary runway length and Runway Safety Areas (RSA), as opposed to focusing on the whole airport, both airside and landside, or one of the two. This planning study will contain an inventory of the existing airport facilities and activity; forecast of the critical aircraft; facility requirements; development alternatives; and an implementation plan. It will not be considered a full Master Plan Update because it will not contain a full aviation demand forecast, environmental consequences discussion or financial feasibility analysis.

The last Master Plan was developed to assess the environmental and economic feasibility of the acquisition of the Airport by a public agency since PWK was previously owned by Priester Aviation. Once it was determined that transfer of ownership to a public entity was feasible, the study provided a Master Plan for the public acquisition and future development of PWK.

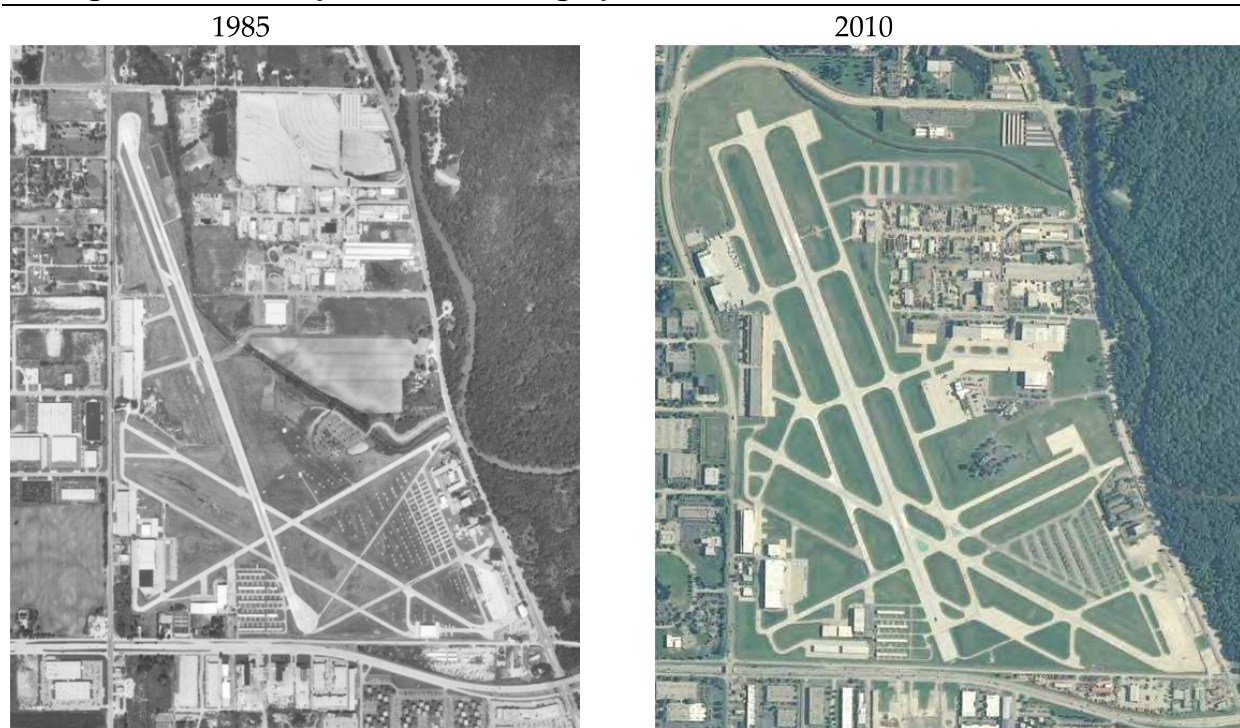
As a result of the last Master Plan, ownership of PWK was transferred from Priester Aviation to both the Village of Wheeling and City of Prospect Heights in December 1986. Beginning in the early 1990s, the Airport began efforts towards further developing and bringing the airfield into compliance with FAA standards; many of the items were recommended in the 1981 Master Plan. Major developments, completed by both the Airport and private developers, include:

- ◆ Relocation of Wolf and Hintz Roads
- ◆ Construction of Runway 34 Hold Apron and Entrance Taxiway (now Taxiway Kilo 5), and Conversion of Runway 12R/30L to Taxiway Delta

- ◆ Construction of new Air Traffic Control Tower
- ◆ Relocation of Wheeling Drainage Ditch
- ◆ Construction of East Quadrant Apron for Hangars 15, 16 and 19
- ◆ Construction of Northwest Quadrant/Atlantic Aviation Apron (previously North American Jet)
- ◆ Construction of Atlantic Aviation Fixed Base Operator Development (previously North American Jet)
- ◆ Overlay of Runway 6/24
- ◆ Demolition of Hangars 1, 2, and 3
- ◆ Construction of Taxiway Kilo and Taxiway Echo Extension
- ◆ Reconstruction and Widening of Runway 16/34 and PAPI Installation
- ◆ Relocation and Construction of Taxiway Lima
- ◆ Construction of Signature Flight Support Fixed Base Operator Development
- ◆ Reconstruction and Widening of Runway 12/30 and PAPI Installation
- ◆ Land Acquisition South of Palatine Road within Runway 34 End Runway Safety Area
- ◆ Construction of Taxiway Charlie
- ◆ Demolition of the "quonset" T-Hangars and Improvement of the Runway 34 end RSA
- ◆ Construction of T-Hangars in the Northeast Quadrant

The aerial photographs from 1985 and 2010, in **Figure 1-1**, exemplify the numerous changes that have occurred at PWK in the past twenty-plus years.

Figure 1-1:
Chicago Executive Airport Aerial Photographs



Source: Chicago Executive Airport

Source: Aerials Express

In addition to the developments listed above, the Airport recently completed a Federal Aviation Regulation Part 150 Noise and Land Use Compatibility Study which resulted in an approved Noise Compatibility Plan and Noise Exposure Maps. Currently, one new Fixed Based Operator is preparing to build a facility at PWK; the Sovereign AirCenter is planning to construct their development in the Southeast Quadrant, at the corner of Milwaukee Avenue and Palatine Road, which borders the south side of the Airport.

With the continued development at PWK, the Airport embarked on this Master Planning process to access the needs of the Airport in both the short and long term.

1.1 OBJECTIVES

An objective for this Planning Report is to evaluate Chicago Executive Airport's role in the aviation system, the potential for growth over the next 10 to 20 years, and to ensure that the facility will be able to safely and securely accommodate future demand for general aviation services for the Chicago Area and beyond. Therefore, the Airport desires to protect existing infrastructure that represents many years of local, state, and federal investment, to preserve land and resources that will be necessary to accommodate future aviation growth, and to provide the Airport with the flexibility to adapt to an ever-changing aviation environment.

Specifically, this Planning Report will determine the ideal primary runway length while also looking at the feasibility of extending the runway beyond 5,000 feet. In addition, a detailed RSA analysis will be completed with a plan for RSA improvements being developed.

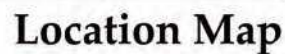
As part of the planning process, a Study Committee was developed to help guide this Planning Report, and give feedback on the options of future development of PWK. The Study Committee consisted of representatives of the Airport's Management and Board, FAA, the Illinois Division of Aeronautics (IDA), the Airport's consultant, the Village of Wheeling, the City of Prospect Heights, corporate users, light general aviation users, Fixed Base Operators (FBOs) and the Air Traffic Control Tower. This cross section of people provided representation for the majority of the users of the Airport, and those impacted by possible future growth. The Study Committee has met four times: January 23, 2008; April 29, 2008; December 10, 2008; and March 29, 2011. The presentations from the meetings can be found in **Appendix A**.

The first step in the preparation of a master plan is to collect and examine various types of data pertaining to the Airport and the area that it serves. The information contained in the following inventory is intended to provide an understanding of the historic and current conditions of the Airport and its service area, in order to provide a basis for assessing the future development needs for the Airport.

1.2 THE COMMUNITY

Chicago Executive Airport is located within the municipal boundaries of both Wheeling and Prospect Heights, Illinois, which are both located within Cook County. The Airport is situated 21 miles northwest of the Chicago Loop, and nine miles north of Chicago O'Hare International

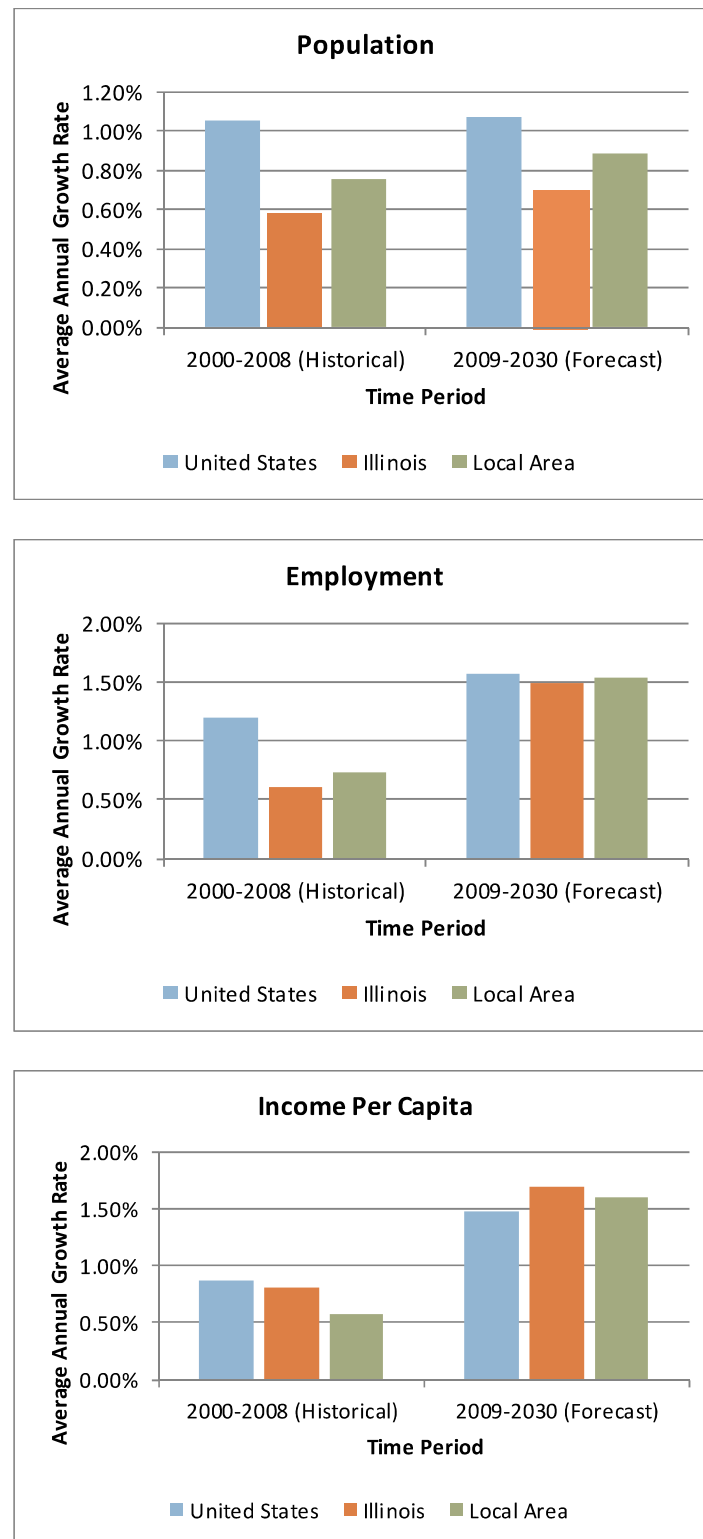
Airport. Both the City of Chicago and the northwest suburbs are very accessible since the Airport is located about one mile from Interstate 294. Additionally, both Wheeling and Prospect Heights are serviced by Metra commuter rail service along Metra's North Central Line; the stations in both communities are about two miles from the Airport. The location of PWK is shown in **Exhibit 1-1**.



1.3 SOCIO-ECONOMIC PROFILE

Since many socio-economic factors such as population, employment and income are contributing factors to demand for air transportation, these factors have been examined for PWK. **Figure 1-2** illustrates the historical (2000-2008) and the forecast (2009-2030) socio-economic profiles for Chicago area, the State of Illinois and the United States of America.

Figure 1-2:
Historical and Forecast Socioeconomic Trends - Average Annual Growth Rates



Source: Woods & Poole 2007

1.3.1 Population

Cook County has a population of 5,303,683 according to 2005 United States Census Bureau data, making it the largest county in Illinois and the second largest county in the United States; the County's population decreased by about 1% between 2000 and 2005. The Village of Wheeling experienced a 12% increase in their population between 2000 and 2005 while the City of Prospect Heights saw their population decrease by almost 6%.

Table 1-1 illustrates the historical and forecast population trends for the State of Illinois, Cook County, the Village of Wheeling and the City of Prospect Heights.

Table 1-1:
Historical and Forecast Population - Illinois, Cook County, Wheeling, Prospect Heights

Location	Year						
	1990	% Change	2000	% Change	2005	% Change	2030
Illinois	11,430,602	8.65%	12,419,293	2.79%	12,765,400	17.79%	15,036,600
Cook County	5,105,067	5.32%	5,376,741	-1.36%	5,303,683	12.24%	5,952,794
Wheeling	29,911	15.33%	34,496	11.77%	38,555	8.46%	41,816
Prospect Heights	15,239	12.09%	17,081	-5.50%	16,141	-0.26%	16,099

Source: United States Census Bureau

1.3.2 Employment

Both Prospect Heights and Wheeling encompass a diverse mix of employers. **Table 1-2** lists the top 20 employers, by number of employees, in Wheeling. Prospect Heights does not keep records of such information.

**Table 1-2:
Top Employers in Wheeling**

Rank	Employer	Employees	Type of Business
1	ACCO Brands Inc.	1,484	Manufacturer Office Supplies
2	Angiotech	1,112	Manufacturing and Distribution
3	Do All Company	927	Manufacturer Saws and Blades
4	Durable, Inc.	750	Warehouse Manufacturing
5	Chicago Manifold Products	625	MFG Rubber Rollers
6	Ensar Corp / Handi Foil	600	Manufacturer and Distributer Kitchen
7	PACTIV	550	Packaging Aluminum Foil Products
8	School District 21	487	School
9	Hospital Laundry Services	400	Laundry Service to Hospital
10	Block and Company	400	Manufacturer Banking and Cash
11	Bob Chinn's Crabhouse	375	Seafood Restaurant
12	Wal-Mart #1735	335	Retail Discount Merchandise
13	Chef Solutions	332	Manufacturer of Prepared Salads
14	TNT Holland Motor Express	300	Common Carrier
15	Allstate Printing/Distr. Center	300	Printing, Distribution, Supply
16	Fluid Management, Inc.	290	Manufacturer of Fluid Dispensing
17	Valspar Corporation	280	Consumer Paint, R&D Laundry
18	Sam's Club #8198	270	Warehouse club
19	Wheeling High School	255	School
20	Village of Wheeling	251	Municipality

Source: Village of Wheeling

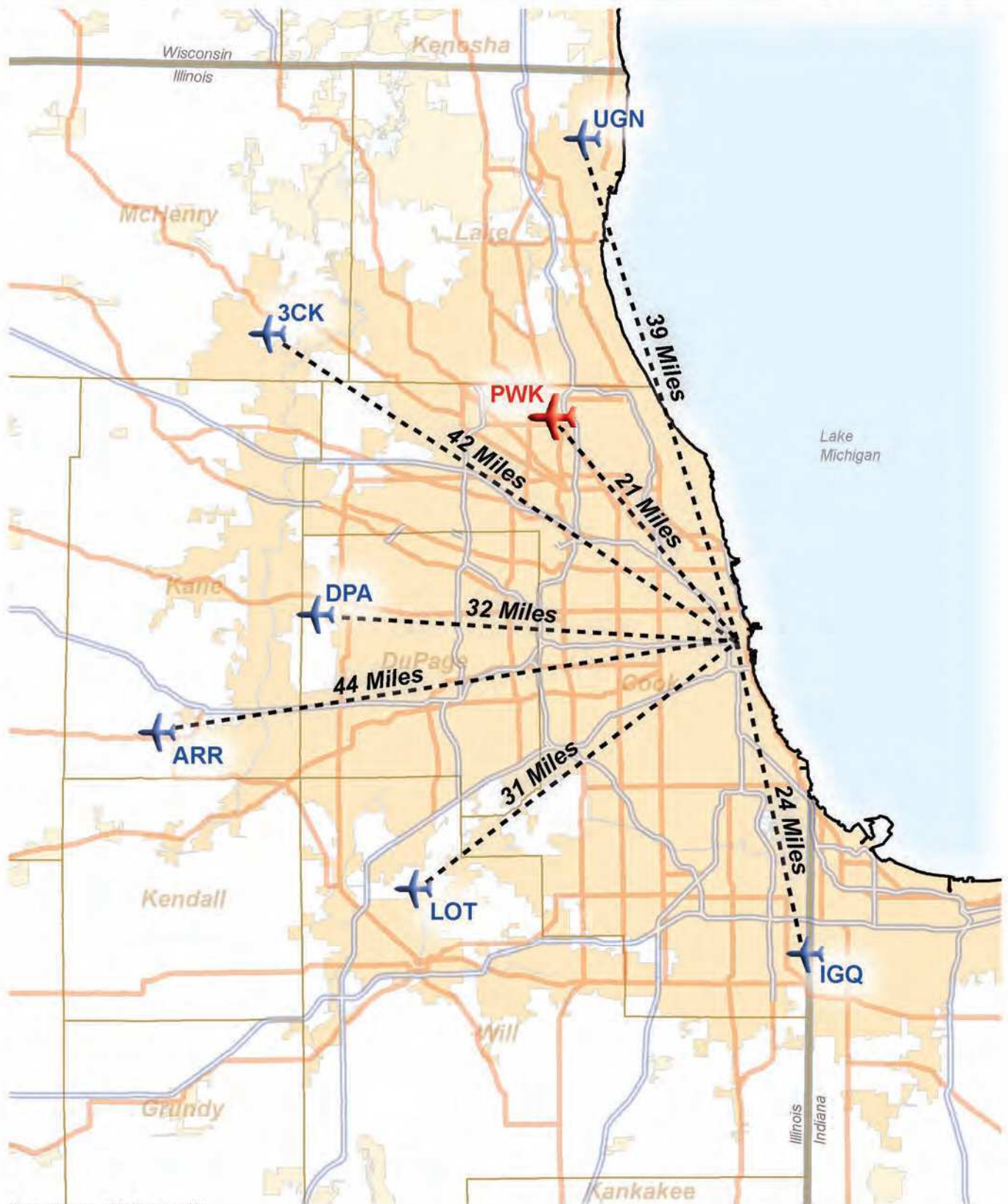
1.4 CHICAGO AREA RELIEVER AVIATION FACILITIES

According to the National Plan of Integrated Airport Systems (NPIAS), Chicago Executive Airport is defined by the FAA as a Reliever Airport. As a Reliever, PWK is a high capacity general aviation airport that allows general aviation pilots access to a metropolitan area (Chicago) while not having to operate at congested hub airports (O'Hare or Midway). There are a number of other Reliever airports in the Chicago area; they are summarized in **Table 1-3**, and displayed, along with their distance from the Chicago Loop, in **Exhibit 1-2**.

**Table 1-3:
Chicago Area Reliever Airports**

Airport	Identifier	Location	Primary Runway Length (ft)	Distance from Chicago Loop (mi)
Chicago Executive	PWK	Wheeling/Prospect Heights	5,000	21
Aurora Municipal	ARR	Sugar Grove	6,501	44
DuPage	DPA	West Chicago	7,571	32
Lake in the Hills	3CK	Lake in the Hills	3,058	42
Lansing Municipal	IGQ	Lansing	4,002	24
Lewis University	LOT	Romeoville	5,696	31
Waukegan	UGN	Waukegan	6,000	39

Source: FAA - National Plan of Integrated Airport Systems, AirNav.com



Source: Mapping - ESRI Streetmap 2008

Chicago Area Reliever Airports

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1.5 CHICAGO EXECUTIVE AIRPORT

PWK is a public use, general aviation facility that is owned by both the Village of Wheeling and the City of Prospect Heights through an Intergovernmental Agreement. The Airport is operated on a day-to-day basis by the Airport Manager and their Staff. It is managed under the guidance of the Chicago Executive Airport Board of Directors, an advisory board of members that are appointed by and represent each municipality.

The Airport is bordered by Palatine, Wolf, and Hintz Roads, and Milwaukee Avenue while Palatine and Wolf Roads, and Milwaukee Avenue provide access to PWK. Interstate 294 is located about one mile east of PWK and is accessible via Palatine Road (Willow Road). PWK encompasses approximately 412 acres of land. Land surrounding the Airport is comprised of residential, industrial, commercial and Forest Preserve District areas.

1.5.1 Airport Facilities

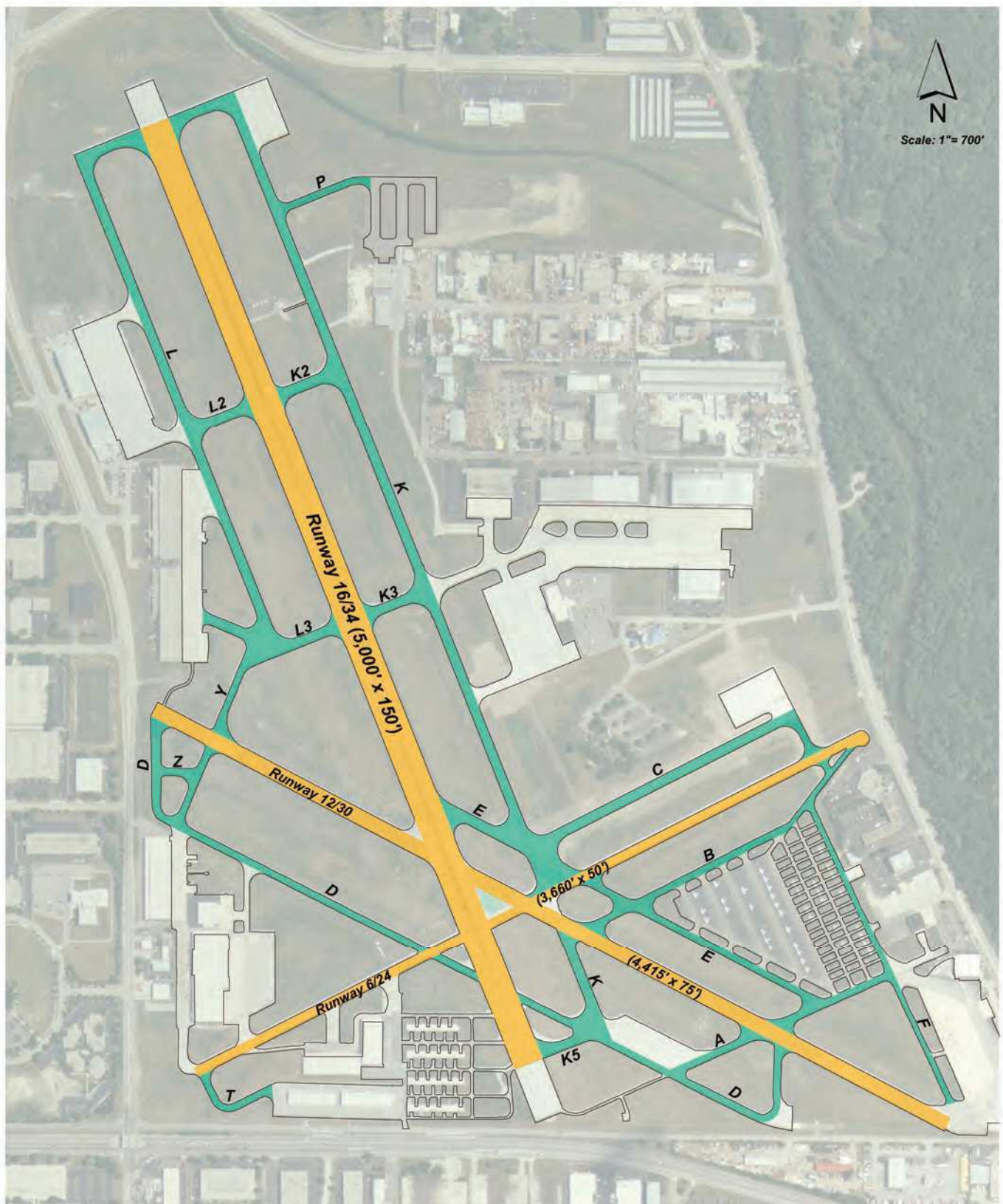
The Airport's facilities are presented in two categories: airside and landside facilities. The airside facilities include areas on the airport directly associated with aircraft operations, such as the runways, taxiways, navigational aids, and airport lighting. The landside areas include those facilities that provide a transition from surface to air transportation, such as the Fixed Base Operators (FBO's); aircraft storage facilities, including corporate jet hangars, T-hangars and apron areas; and automobile parking.

1.5.1.1 Airside

The existing airfield, as shown in **Exhibit 1-3**, consists of three active runways and an evolving taxiway system.

Runways

There is presently a three-runway system in place at PWK. Runway 16/34 is the primary runway, and is 5,000 feet long by 150 feet wide. The secondary runway is Runway 12/30; it is 4,415 feet long by 75 feet wide. Runway 6/24 functions as a light general aviation runway, and is 3,660 feet long by 50 feet wide. All three runways are constructed of asphalt. Specific runway data is shown in **Table 1-4**, and depicted in **Exhibit 1-3**.



Source: Aerial - National Agriculture Imagery Program (NAIP) 2007; CMT approved Airport Layout Plan (ALP) 2007

Runways and Taxiways

**Table 1-4:
Runway Features**

Feature	Runway		
	16/34	12/30	6/24
Length	5,000'	4,415'	3660'
Width	150'	75'	50'
Pavement	Asphalt	Asphalt	Asphalt
Grooved/Ungrooved	Grooved	Ungrooved	Ungrooved
Strength (DW - pounds)	98,000	28,000	30,000
Gradient	0.03%	0.12%	0.24%
Lighting	HIRL	HIRL	HIRL
Approach Instrumentation	Precision	None	None
Approach Lighting	Nonstandard	None	None
Approach Slope Aids	PAPI	PAPI	PAPI (6 only)
Runway Markings	Precision	Visual	Visual

Source: FAA 5010 Records, PWK ALP (Dated 11/2009)

Taxiways

Runway 16/34 is served by Taxiways Kilo and Lima, and there associated connectors, as well as Taxiway Delta. Taxiways Alpha, Delta and Yankee provide access to the ends of Runway 12/30. Runway 6/24 is served by Taxiways Bravo, Charlie and Tango.

Taxiways Bravo and Echo provide access to Areas 2 and 3, the tie down areas, while Taxiways Lima and Kilo allow aircraft to access the Airport's two FBOs. The complete taxiway system at PWK is depicted in **Exhibit 1-3**.

Lighting, Marking and Visual Aids

The location and presence of the Airport is identified by a rotating beacon that is located in the southeast quadrant of the Airport. The Airport also has a segmented circle and a lighted wind indicator located between Runway 16/34 and Taxiway Lima, and north of Taxiway Lima3.

Both Runway 16/34 and Runway 12/30 are equipped with Runway End Identifier Lights (REILs) to assist approaching aircraft in identifying the runway environment. Four-box Precision Approach Path Indicators (PAPIs) are utilized for both ends of Runways 16/34 and 12/30, as well as on Runway 6. PAPIs consist of either two- or four-lamp housing assemblies, positioned in a row perpendicular to the runway, which visually provide a means to indicate a pilot's position relative to the desired glideslope while landing. In addition, Runway 16 is equipped with Non-Standard Lead in Approach Lights.

Runway edge lighting is used to outline the edges of the runway during periods of darkness and restricted visibility. These runway edge lights are classified according to their intensity of brightness: High Intensity Runway Lights (HIRL), Medium Intensity Runway Lights (MIRL), and Low Intensity Runway Lights (LIRL). All runway edge lights are white, except for those located within the last 2,000 feet of a runway equipped with an instrument approach (or half the

runway, whichever is less), where amber lenses are used to establish a caution zone for landing aircraft. All three runways at PWK are currently equipped with HIRLs.

Runway markings are white and provide a visual aid for pilots. Markings for a runway equipped with a precision instrument approach include a threshold marking, a numeric runway identifier, centerline markings, touchdown zone markings, and aiming point markings. Markings for a runway equipped with a non-precision approach are similar to those for a precision runway, but do not include the aiming point markings. Markings for runways with no instrument approaches do not include the touchdown zone or aiming point markings. Runway 16/34 is currently marked as a precision instrument runway, while both Runway 12/30 and Runway 6/24 are marked as visual runways.

Taxiway lighting, which delineates the taxiway edges, provides guidance to pilots during darkness and periods of low visibility. The system consists of a series of blue light fixtures, typically placed at 200-foot intervals along the taxiway edges. All taxiways at PWK are lighted with medium intensity taxiway lights.

Taxiway markings are yellow and generally include centerline markings and runway hold short lines.

Aircraft Aprons

There are numerous aircraft aprons currently available at PWK for aircraft parking and tie-down. Both the Signature Flight Support and Atlantic Aviation FBOs have apron space near their FBO terminal buildings; Signature's ramp is about 14,000 square yards while Atlantic has 15,000 square yards of apron. There is also 24,000 square yards of apron space, which is mostly used by corporate aircraft, near Hangars 12, 15, 16, 19 and the HFC Hangar. About 25,000 square yards of ramp space near Hangars 5, 6, 8, 9, and 10 is used by a variety of aircraft types.

Both Area 2 and Area 3 are used for tie downs for smaller aircraft. Area 2 consists of 26,000 square yards of paved tie downs with grass separating the positions, while Area 3 occupies 25,000 square yards and is completely paved.

In addition to these areas, there is an additional 6,000 square yards of apron space north of Taxiway Charlie that will be part of a future development at the Airport. Sovereign AirCenter is also planning to add apron space at their facility in the southeast quadrant; the ramp will be 25,000 square yards.

Pavement Condition Survey

A Pavement Condition Index (PCI) survey was performed by the Illinois Department of Transportation, Division of Aeronautics, in June 2008 on all airfield pavements. The surveys were conducted using the procedures and guidelines set forth in FAA AC 150/5380-6A, Guidelines and Procedures for Maintenance of Airport Pavements, and ASTM Standard D-5340, Standard Test Method for Airport Pavement Condition Index Surveys. The results of a PCI evaluation provide an indication of the structural integrity and functional capabilities of a

pavement. Additionally, it provides an objective basis for determining maintenance and repair needs, as well as for establishing rehabilitation priorities. The PCI scale ranges from a value of zero, representing a pavement in a failed condition, to a value of 100, representing a pavement in excellent condition.

The runway, taxiway, taxilane, and apron pavements were broken into manageable sample units. Each of the surveyed sample units were visually inspected for types and severity of pavement distresses. The distresses were then measured and the severity and quantity of each type of distress was calculated per sample unit. The percent density was then used to calculate the PCI rating for the sample unit. **Table 1-5** provides the PCI ratings for each sample unit. The majority of the most heavily used pavement (Runway 16/34, Runway 12/30, Taxiways Kilo, Lima and Delta) is reported as in very good condition. The PCI of each of the runways and taxiways is depicted in **Exhibit 1-4**.

Table 1-5:
Pavement Condition Index Results

Pavement	PCI Range	Pavement	PCI Range
Runway 16/34	74-96	Taxiway K1	75-100
Runway 12/30	78-94	Taxiway K3	9-96
Runway 6/24	49-76	Taxiway K5	90
Taxiway A	38-89	Taxiway L	93-100
Taxiway B	21-65	Taxiway L2	91-96
Taxiway B2	14-43	Taxiway L3	74-100
Taxiway C	94-100	Taxiway P	100
Taxiway D	40-91	Taxiway T	75
Taxiway D2	74	Taxiway Y	87-88
Taxiway E	41-92	Taxiway Z	67-100
Taxiway F	34-35	Ramp/Apron	4-100
Taxiway K	99-100	T-Hangar Ramp	0-100

Source: Illinois Department of Transportation, Division of Aeronautics - 2008 PCI Survey

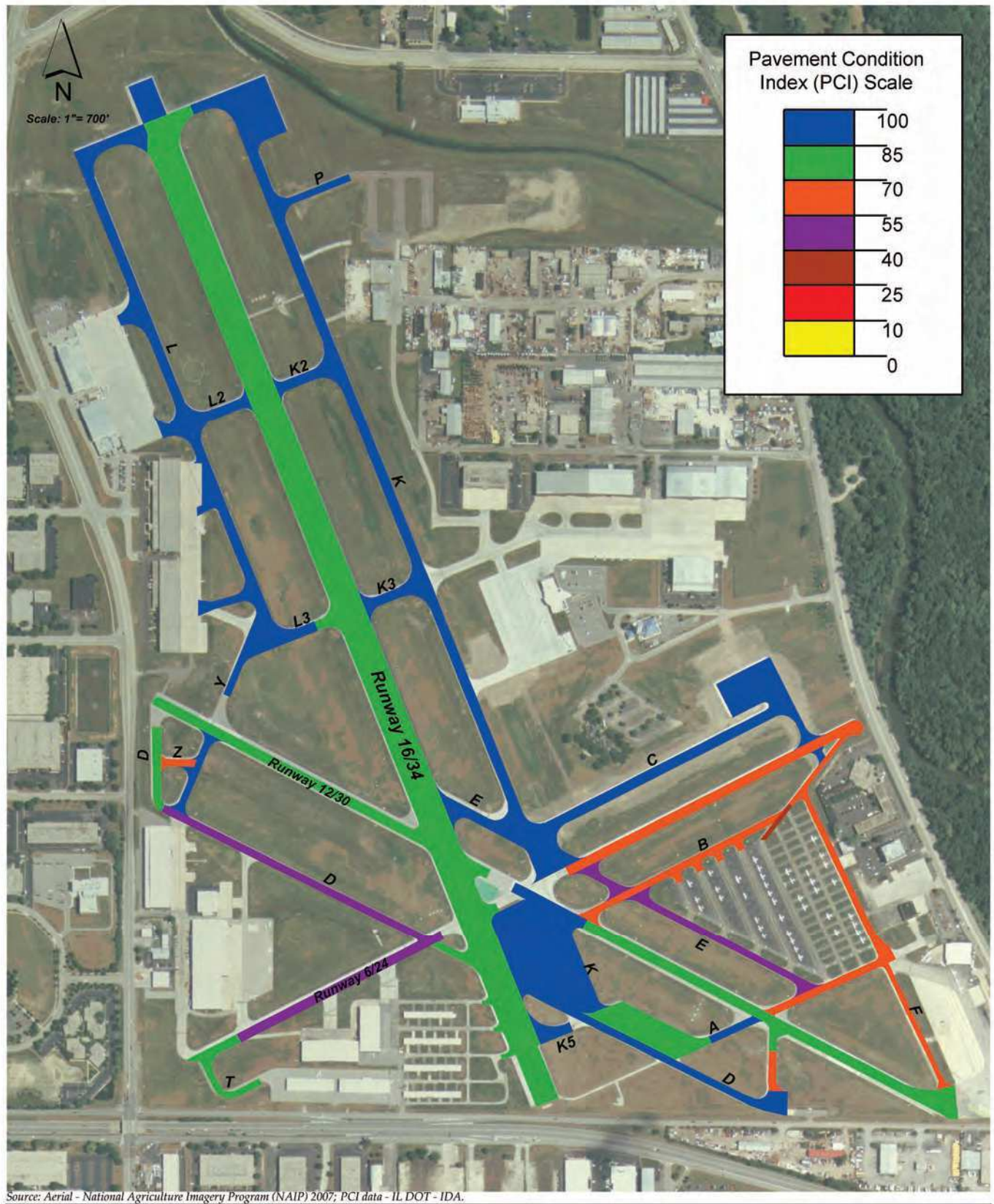
1.5.1.2 Landside

The on-airport land uses are depicted in **Exhibit 1-5** while the land uses surrounding PWK, and off its property are shown in **Exhibit 1-6**.

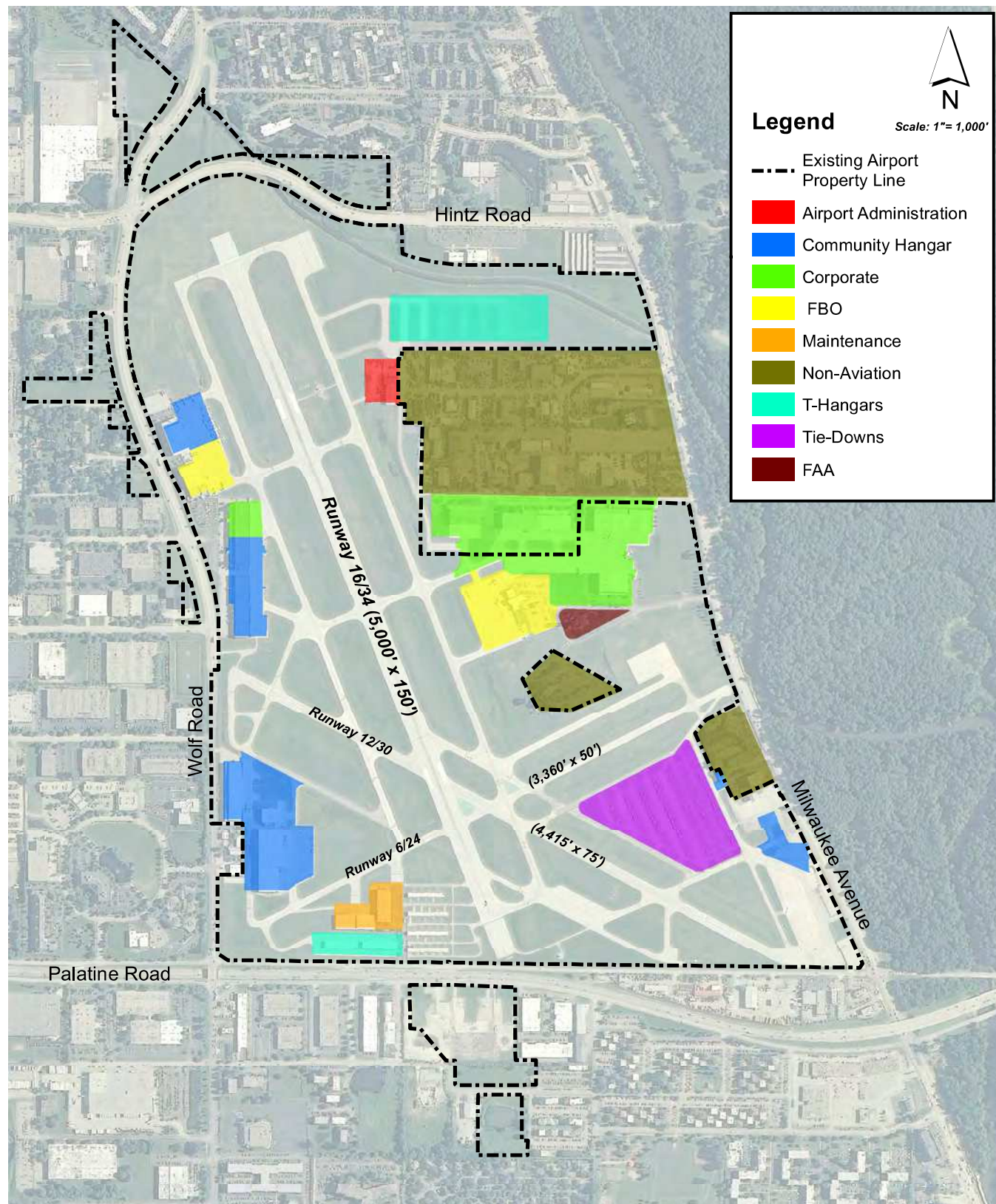
Fixed Base Operator (FBO) Facilities

There are currently two FBOs at PWK, and both serve the full range of the general aviation fleet. Signature Flight Support's facility is located east of Taxiway Kilo and south of Taxiway Kilo3 while Atlantic Aviation is located north of Taxiway Lima2 and directly west of Taxiway Lima.

Both facilities offer aircraft parking and fueling. Aircraft can either be parked outside, on an apron, or inside a hangar. Both FBO operators also offer both AvGas and Jet-A fuel. In addition, customers of either FBO have access to courtesy cars, flight planning facilities, or on-site car rental.



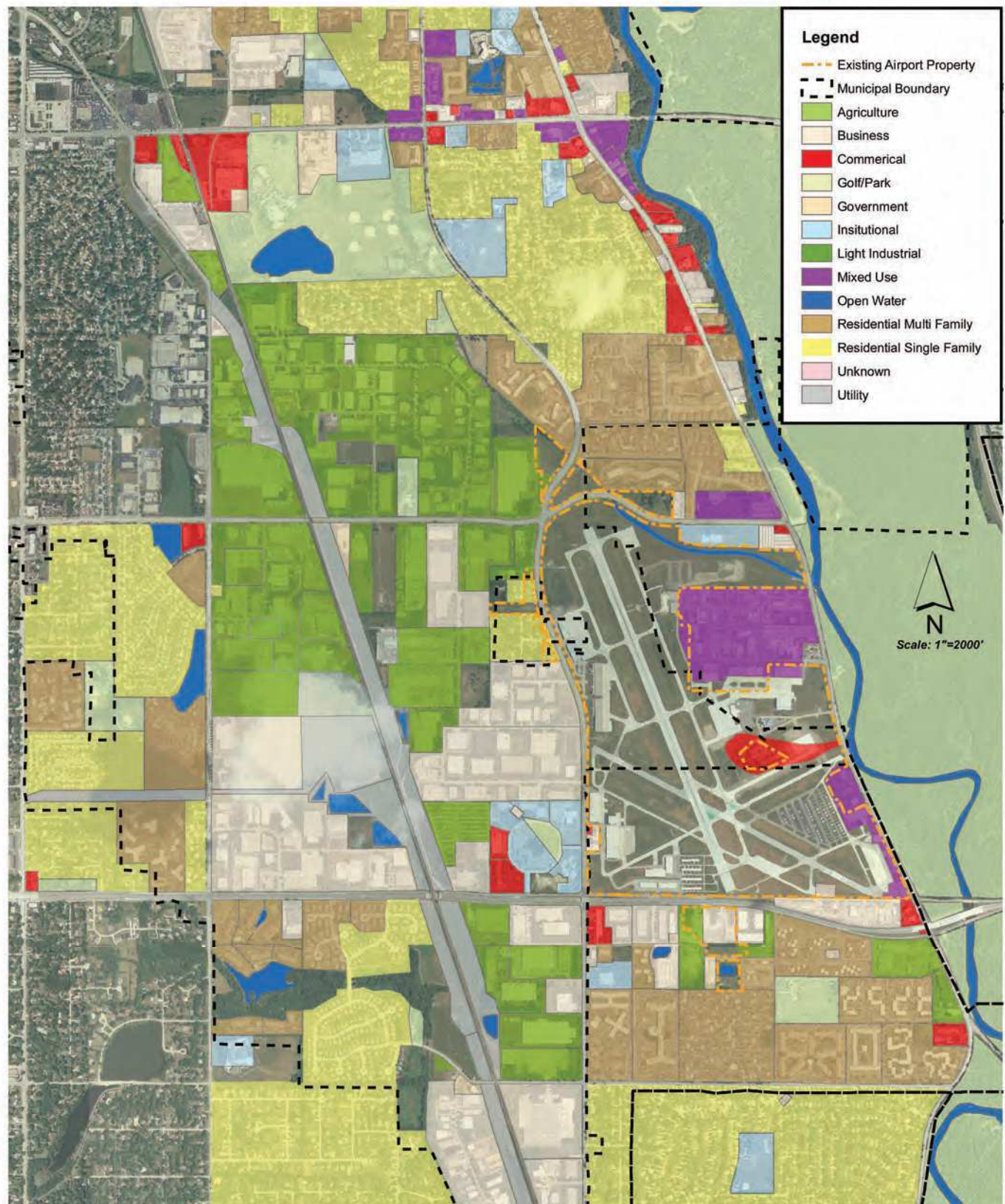
Pavement Condition Index Map



Source: Aerial - National Agriculture Imagery Program (NAIP) 2010; CMT approved Airport Layout Plan (ALP) 2007.

On-Airport Land Use

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Source: Aerial - National Agriculture Imagery Program (NAIP) 2007. Land Use - 2006.

Off-Airport Land Use

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AIRPORT

Flight Schools

There currently four flight school at PWK: Palwaukee Flyers, Windy City Flyers, Boraam Aviation and Flight World. All four schools provide flight instruction for the private pilot certificate through the commercial certificate; training for instrument and multi-engine ratings is also available. Each of the schools keeps their aircraft tied down in Areas 2 and 3.

Community and Corporate Hangars

There are currently eight community hangars and five corporate hangars at PWK; they are depicted in **Exhibit 1-7**. Hangars 5, 6, 8, 9, 10, 11, 13 and 41 are community hangars. They are all located on the west side of the airfield with the exception of Hangar 13; it is located in the southeast quadrant. The community hangars are used by Signature Flight Support, Priester Charter, North American Jet and Indeck Energy Services.

The five corporate hangars are located near Signature Flight Support's FBO. Hangars 12, 15, 16, 19 and the HFC Hangar are occupied by Duchossois Industries, Allstate, Motorola, Signature Flight Support, Henry Crown & Company, Grainger, Household International and HSBC. Klein Tools, also a corporate tenant, leases space in one of the community hangars.

Vehicle Parking

Vehicle parking is provided at all the FBOs, hangars, T-hangars and tie downs. All parking surfaces are paved and available for the use of all airport users. There are no other larger general parking areas outside of the specific areas for these facilities.

Aircraft Maintenance

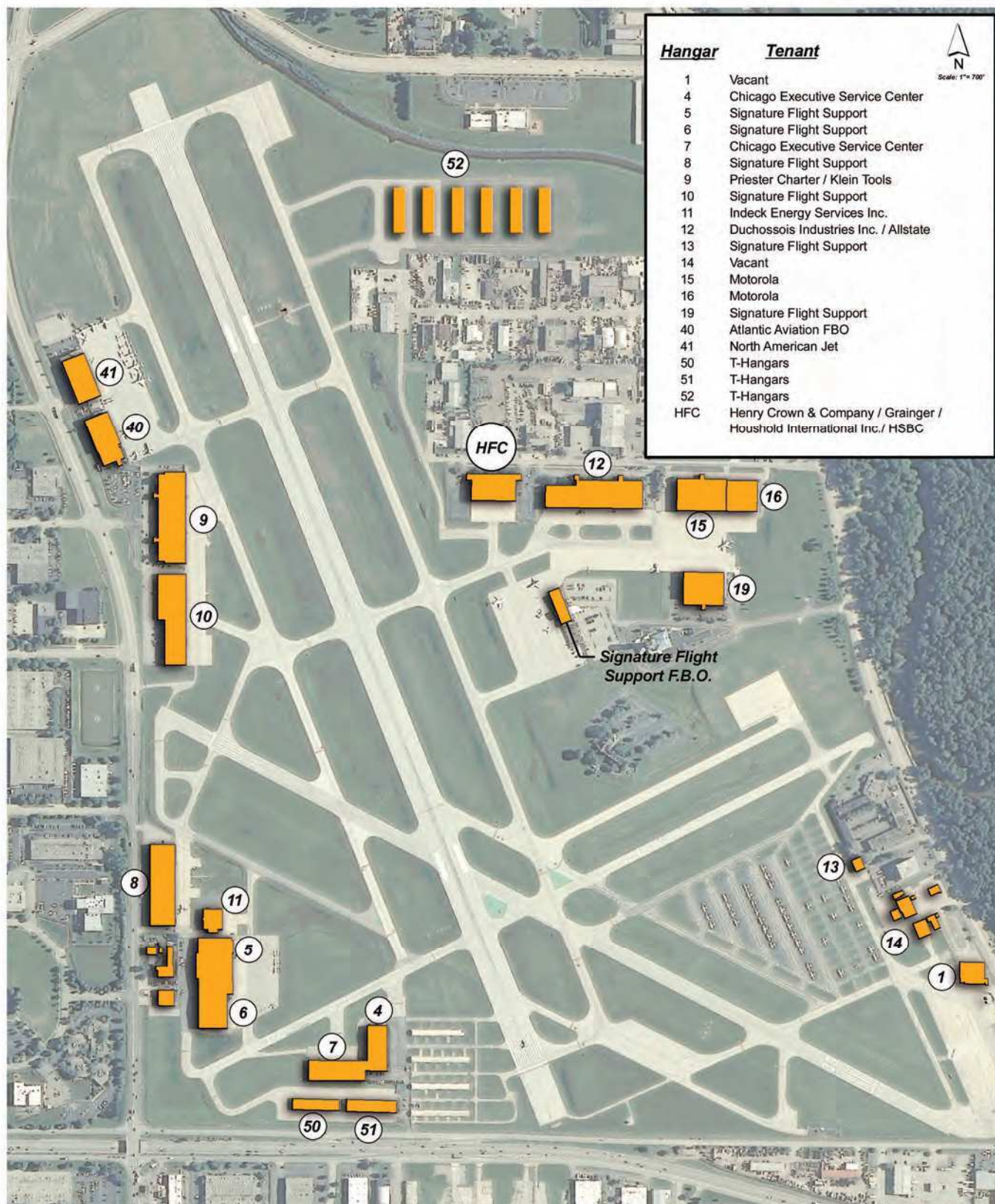
North American Jet, Palwaukee Flyers, the Chicago Executive Service Center, Landmark and Duncan Avionics currently offer maintenance services at PWK. Palwaukee Flyers only service their own aircraft while all others provide service to the general public. Duncan provides avionics assistance while the others offer full aircraft services to the full range of the general aviation fleet.

T-Hangars

There are currently six new T-hangar buildings in the northeast quadrant at PWK. Each building houses eight aircraft. The hangars were constructed to replace the "quonset" style T-hangars in the southeast quadrant of the airport that were demolished due to their location within the Runway 16/34 RSA, as well as their age.

Air Traffic Control Tower

The Air Traffic Control Tower (ATCT) was built in 1997, and is open from 6:00 a.m. to 10:00 p.m. Monday through Friday; it opens at 7:00 a.m. on the weekends. The Tower is 122 feet tall, and controls all aircraft departing from or landing at PWK as well as those aircraft transitioning



Airport Hangar Users

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through PWK's Class D airspace. When the ATCT is closed, PWK's airspace converts to Class E airspace.

1.5.2 Aircraft Inventory

This sub-section presents an overview of the aircraft operating at PWK. Both historical and current based aircraft, operations, fleet mix and the critical aircraft will be reviewed.

1.5.2.1 Based Aircraft

A review of historical data, from the 2008 FAA Terminal Area Forecast, indicates that the number of based aircraft at PWK has declined in the past 10 years from 343 based aircraft in 1999 to 265 in 2008. The largest decline has been among single engine based tenants; there were 217 single engine piston airplanes based at PWK in 1999. **Table 1-6** provides a summary of the based aircraft at PWK in 2008.

**Table 1-6:
2008 Based Aircraft**

Aircraft Type	Based Aircraft	% of Total
Single Engine Piston	169	64%
Multi-Engine Piston	38	14%
Turboprop	5	2%
Jet	50	19%
Heliocopter	3	1%
Total	265	100%

Source: FAA 5010 Data

1.5.2.2 Aircraft Operations

PWK is currently the fifth busiest airport in Illinois in terms of operations. It has been one of the top five airports, and top three Reliever airports, in terms of operations, for the past ten years. **Table 1-7** presents a 10-year history of operations at the Airport.

**Table 1-7:
Historical Aircraft Operations**

Year	Itinerant				Local			Total
	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	
1999	4,219	121,450	31	125,700	44,700	8	44,708	170,408
2000	6,071	118,733	41	124,845	55,628	10	55,638	180,483
2001	7,656	116,899	79	124,634	47,470	6	47,476	172,110
2002	8,386	117,804	34	126,224	38,340	2	38,342	164,566
2003	9,094	119,895	58	129,047	43,504	0	43,504	172,551
2004	11,107	112,987	19	124,113	24,444	0	24,444	148,557
2005	12,205	88,713	51	100,969	21,294	1	21,295	122,264
2006	12,126	75,297	42	87,465	25,396	14	25,410	112,875
2007	13,247	74,948	55	88,250	25,870	0	25,870	114,120
2008	13,369	60,626	43	74,082	24,144	21	24,165	98,247

Source: FAA ATADS, CMT Analysis

A monthly breakdown of 2008's operations is displayed in **Table 1-8**.

**Table 1-8:
2008 Aircraft Operations**

Month	Itinerant				Local			Total
	Air Taxi	General Av.	Military	Total	Civil	Military	Total	
January	1,004	3,509	2	4,515	1,122	0	1,122	5,637
February	1,017	3,123	5	4,145	1,580	0	1,580	5,725
March	1,201	4,596	3	5,800	2,212	2	2,214	8,014
April	1,484	4,607	0	6,091	2,223	0	2,223	8,314
May	1,334	6,068	2	7,404	2,275	19	2,294	9,698
June	1,229	6,703	4	7,936	2,826	0	2,826	10,762
July	1,223	7,045	9	8,277	2,541	0	2,541	10,818
August	1,148	6,629	2	7,779	2,681	0	2,681	10,460
September	1,050	5,555	10	6,615	1,956	0	1,956	8,571
October	1,046	5,611	0	6,657	1,859	0	1,859	8,516
November	961	4,600	3	5,564	1,911	0	1,911	7,475
December	716	2,580	3	3,299	958	0	958	4,257
Total	13,413	60,626	43	74,082	24,144	21	24,165	98,247

Source: FAA ATADS, CMT Analysis

1.5.2.3 Fleet Mix

The Instrument Flight Rules (IFR) fleet mix for PWK in 2007 is displayed in **Table 1-9**. It is not possible to determine the overall fleet mix, including both visual and instrument operations, because the Air Traffic Control Tower does not keep track of the types of aircraft that land at PWK, just if they are itinerant or local and if they are general aviation, military or air taxi. It is possible to determine the IFR fleet mix because aircraft types are tracked through IFR flight plans.

**Table 1-9:
2007 IFR Fleet Mix**

Aircraft Type	% of Total IFR Operations
Jet	67%
Turboprop	9%
Propeller	24%

Source: GCR, CMT Analysis

1.5.2.4 Critical Aircraft

Identification of the critical aircraft is necessary for planning purposes to apply the pertinent runway dimensions, and design standards, taxiway dimensions, apron space requirements, and required terminal support facilities. Due to the fact that the Scope of Services of this Planning Report specifies that the focus will be the airfield, and specifically runway length analysis, the critical aircraft for the purposes of this planning document is the aircraft that has the most demanding runway takeoff length requirements. The critical aircraft is defined as both the most demanding existing and future aircraft that are anticipated to conduct at least 500 annual operations. With that definition, the critical aircraft at PWK for Runway 16/34 is currently a Gulfstream V and Gulfstream 550; the aircraft are categorized together because the G-550 is the next generation version of the G-V. According to the current 2009 Airport Layout Plan for PWK, the critical aircraft for Runway 12/30 is a King Air B200. Runway 6/24's critical aircraft is a Cessna Citation I.

All of the potential critical aircraft for Runway 16/34 are listed in **Table 1-10**; each of these aircraft has at least 500 annual operations at PWK. The aircraft are ranked by their takeoff runway length requirements, meaning the Gulfstream V/Gulfstream 550 has the longest requirement takeoff distance of all the possible critical aircraft while the Challenger 600 is the second most demanding and the Cessna Citation V (56X) is the least demanding of those aircraft with at least 500 annual operations.

Since this is a forward looking planning document, a forecast for the critical aircraft has been developed. A detailed forecast was not developed as part of this Planning Report because it was not part of the Scope of Services. Because of that, the FAA forecast growth rates for general aviation IFR operations, jet operations and total operations were used. The forecast rates are from the 2009 FAA Aerospace Forecast. The potential critical aircraft in 2025 are also shown in **Table 1-10**. In addition to these aircraft, it is also possible that another aircraft could become the future critical aircraft at PWK. The Gulfstream 650, which is expected to enter into service in 2012, and the Global Express XRS, a long range version of the Global Express 5000, could both be the critical aircraft at PWK in the future; another aircraft yet to be developed could also fill this role.

**Table 1-10:
Runway 16/34 Critical Aircraft**

Aircraft	Existing				2025			
	Ops	% of Jet Ops	% of IFR Ops	% of Total Ops	Ops ¹	% of Jet Ops ¹	% of IFR Ops ²	% of Total Ops ²
G-V / G-550	535	1.7%	1.1%	0.5%	994	1.7%	1.5%	0.6%
Challenger 600	1,385	4.4%	2.9%	1.2%	2573	4.4%	3.9%	1.6%
Lear 35	2,371	7.5%	5.0%	2.0%	4404	7.5%	6.6%	2.7%
Lear 60	706	2.2%	1.5%	0.6%	1311	2.2%	2.0%	0.8%
Hawker 800	2,691	8.5%	5.7%	2.3%	4999	8.5%	7.5%	3.0%
Falcon 900	808	2.6%	1.7%	0.7%	1501	2.6%	2.3%	0.9%
G-IV	1,209	3.8%	2.6%	1.0%	2246	3.8%	3.4%	1.4%
Citation X (750)	972	3.1%	2.1%	0.8%	1805	3.1%	2.7%	1.1%
G-200 (Galaxy)	584	1.8%	1.2%	0.5%	1085	1.8%	1.6%	0.7%
Citation VII (650)	749	2.4%	1.6%	0.6%	1391	2.4%	2.1%	0.8%
Falcon 2000	1,329	4.2%	2.8%	1.1%	2469	4.2%	3.7%	1.5%
Falcon 50	1,354	4.3%	2.9%	1.2%	2515	4.3%	3.8%	1.5%
Challenger 300	688	2.2%	1.5%	0.6%	1278	2.2%	1.9%	0.8%
Lear 45	757	2.4%	1.6%	0.6%	1406	2.4%	2.1%	0.9%
Beechjet	1,784	5.6%	3.8%	1.5%	3314	5.6%	5.0%	2.0%
Citation II (550)	2,134	6.7%	4.5%	1.8%	3964	6.7%	6.0%	2.4%
Citation Sovereign	1,334	4.2%	2.8%	1.1%	2478	4.2%	3.7%	1.5%
Citation V (560)	2,395	7.6%	5.1%	2.0%	4449	7.6%	6.7%	2.7%
Citation V2 (56X)	3,008	9.5%	6.4%	2.6%	5587	9.5%	8.4%	3.4%

¹ Forecast jet operations are based on an annual growth rate of 3.5%

² Forecast IFR and total operations based on an annual growth rate of 1.9%

Source: GCR, 2008 FAA Aerospace Forecast, CMT Analysis

1.5.2.5 Airport Reference Code

PWK is served by a variety general aviation and air taxi aircraft. The Airport has a designated Airport Reference Code (ARC) that represents the most demanding aircraft that currently utilizes the facility on a regular basis. The coding system defines aircraft by approach speed (denoted by letters A through F) and wingspan (denoted by numerals I through VI). The ARC is determined by evaluating the reference code for the most demanding aircraft operating on individual runways.

Each runway at PWK has a different ARC; they are shown in **Table 1-11**.

**Table 1-11:
Airport Reference Code - Existing and Future**

Feature	Runway		
	16/34	12/30	6/24
Airport Reference Code	D-III	B-II	B-I
Critical Aircraft	Gulfstream 550	King Air B200	Cessna Citation I
Approach Category	141 to 165.5 knots	91 to 120.5 knots	91 to 120.5 knots
Wingspan	79 to 117.5 feet	49 to 78.5 feet	0 to 48.5 feet

Source: FAA Advisory Circular 150/5300-13, Change 14; PWK ALP (Dated 12/2009)