



Chapter 3 – Aeronautical Demand Forecasts

3.1 Introduction

The master plan update for PDK includes an aeronautical demand forecasting effort. Forecasts were developed using the most recently available information and are referenced in later sections of this study to determine short- and long-term facility requirements and to provide the preliminary justifications for recommended improvements. The forecasts are presented over a 22-year planning period and have a base year of 2018 and extend through 2040. A 22-year planning period was selected so that 20 years of capital and financial planning could be conducted following the completion of this Master Plan Update. The activity at PDK remained relatively consistent between 2016 and 2018, although the construction of the Engineered Materials Arresting System (EMAS) bed on the south end of Runway 3R-21L partially impacted the activity at PDK for a few months in 2018. As the second busiest airport in the State of Georgia in terms of operations behind the Hartsfield-Jackson Atlanta International Airport (ATL), PDK serves as the premier airport for general aviation and corporate activity in the Atlanta area and was the 11th busiest airport in the country for business jet operations for the one-year period between November 1, 2017 and October 31, 2018 (refer to **Table 3-1**). PDK is classified as a General Aviation Reliever Airport for ATL in the Federal Aviation Administration’s (FAA’s) National Plan of Integrated Airport Systems (NPIAS). The airport has more based aircraft than any other airport in Georgia and is home to several flight schools and corporate flight departments of Atlanta-based companies. The number of businesses, facilities, and amenities and services has continued to grow at PDK over the years and is expected to continue to grow as the Atlanta area continues to grow as a worldwide gateway for aviation activity. Today, there are over 25 businesses located at PDK, two restaurants, and an aviation park (Doc Manget Memorial Aviation Park).

With professional NFL football (Atlanta Falcons), MLB baseball (Atlanta Braves), NBA basketball (Atlanta Hawks), and MSL soccer (Atlanta United FC), as well as several popular NCAA athletic teams located nearby, PDK frequently attracts a high volume of corporate traffic for professional and college sporting events. Between November 1, 2017 and October 31, 2018, the busiest day for corporate jet activity at PDK was January 9, 2018 with 225 corporate jet operations, which was the day immediately after the 2018 NCAA College Football Playoff National Championship game that was held at the Mercedes-Benz Stadium in Atlanta between the Alabama Crimson Tide and the Georgia Bulldogs. On January 30, 2000, Super Bowl XXXIV (34) was held at the Georgia Dome in Atlanta between the St. Louis Rams and the Tennessee Titans. On the following day (January 31, 2000), there were 298 corporate jet operations at PDK, which was the second busiest day for corporate jet operations at PDK since 2000. On October 20, 2010, PDK experienced 311 corporate jet operations, which was the busiest day since at least 2000 and coincided with the National Business Aviation Association’s (NBAA’s) Annual Meeting and Convention that was held at the Georgia World Congress Center. Other planned sporting events at the Mercedes-Benz Stadium include Super Bowl LIII (53) in February 2019, the 2020 NCAA Men’s College Basketball Final Four in April 2020 and is one of many possible U.S. stadiums for the 2026 FIFA World Cup. These events draw massive crowds and are mentioned because of how they represent events when PDK experiences the greatest level of peaking and the greatest demands are placed on the airport to accommodate visiting passengers



and their aircraft. Although events like those do not occur on a regular basis throughout the year, they should be recognized because of how they affect the operation of PDK and the demands of those who want to utilize PDK during those events.

Table 3-1: Business Jet Operations (11/1/2017 to 10/31/2018)

Rank	Code	City	State	NPIAS Category	Business Jet Operations
1	TEB	Teterboro	NJ	Reliever	142,371
2	DAL	Dallas	TX	Primary	61,565
3	VNY	Van Nuys	CA	Reliever	58,346
4	HPN	White Plains	NY	Primary	58,244
5	IAD	Washington	VA	Primary	55,410
6	LAS	Las Vegas	NV	Primary	52,740
7	HOU	Houston	TX	Primary	50,059
8	PBI	West Palm Beach	FL	Primary	49,456
9	MDW	Chicago	IL	Primary	47,687
10	APA	Denver	CO	Reliever	42,106
11	PDK	Atlanta	GA	Reliever	39,481
12	SDL	Scottsdale	AZ	Reliever	35,633
13	OPF	Miami	FL	Reliever	35,042
14	SNA	Santa Ana	CA	Primary	33,944
15	BED	Bedford	MA	Reliever	32,581
16	APF	Naples	FL	General Aviation	30,721
17	SJC	San Jose	CA	Primary	30,204
18	BFI	Seattle	WA	Primary	29,414
19	BNA	Nashville	TN	Primary	29,315
20	SAT	San Antonio	TX	Primary	29,089

Sources: FAA Traffic Flow Management System Counts (TFMSC) database and Michael Baker International, Inc., 2019.



As explored throughout this master plan, there is a desire to identify sites on the airport property where aeronautical demand can be accommodated in a flexible manner. The closure of Runway 9-27 created new land development opportunities on both sides of the parallel runways where hangars, aprons, and other facilities have and can continue to be constructed to accommodate additional based aircraft and businesses. DeKalb County (owner of PDK) is currently exploring opportunities to develop several hangars in the southwest quadrant of PDK. The airport recently conducted a survey to determine what the demand is for new based aircraft tenants, the results of which indicated that there is an immediate demand for several aircraft to relocate to PDK which would conduct several thousand additional operations on an annual basis. Airport management also maintains a based aircraft waiting list where individuals or organizations must pay a fee to be included. Therefore, the growth potential at PDK is highly dictated by the availability of hangar space to accommodate new based aircraft ranging from small pistons and helicopters to long-range corporate jets, as well additional apron space to better accommodate visiting aircraft during peak times. PDK is also an origin/destination for international general aviation traffic in the Atlanta area with prior notification to the U.S. Customs and Border Protection (CBP) which serves the airport on an on-call basis.

In Boeing's Pilot & Technician Outlook 2018-2037, the company projects that a total of 790,000 new pilots and 754,000 new maintenance technicians will be needed to support the global demands of civilian commercial, business, and helicopter demands by 2037. As an increasing number of pilots reach their mandatory retirement age in the U.S. and in other countries (e.g., currently age 65 in the U.S. for commercial pilots), many organizations like the Air Line Pilots Association (ALPA) are concerned about the potential for pilot shortages and are advocating for a renewed interest in pilot training programs. It is anticipated that much of that training and maintenance activity will continue to occur at PDK to support the global demands.

There are numerous factors to consider as part of the forecasting effort for PDK and several different opportunities for growth amongst the aviation sectors that exist at the airport. These types of historical and anticipated trends are explored throughout this chapter to determine how they may influence the forecasts of aviation demands for PDK. The following forecasting elements are presented herein:

- Forecasting Limitations
- Historical and Baseline Activity Analysis
- Factors and Opportunities Affecting Activity Levels
- Based Aircraft Forecasts
- Operations Forecasts
- Instrument Operations Forecast
- Peak Activity Forecasts
- Forecast Summary



3.2 Forecasting Limitations

Forecasting aviation activity is a complex process that considers a multitude of factors, both controllable and beyond an airport's control. Forecasts are not to be construed with predictions of the future, but rather an educated guess of future activity based on a variety of predictors, calculations, assumptions, and subjective judgment. The accuracy of the estimates decline as the planning term is extended, potentially because of unforeseen local or geopolitical events, natural disasters, and/or climatological events.

The FAA's forecast approval process typically constitutes an approval for planning purposes only, which allows the airport sponsor to depict projects that are consistent with the long-term growth expectations on the Airport Layout Plan (ALP) Drawing Set. In most cases, prior to issuing a grant, the FAA will require updated information demonstrating that a proposed project is justified by activity at the time, or by activity that would directly result from the implementation of the proposed project. This policy helps to ensure that funding is directed towards critical projects throughout the U.S.

3.3 Historical and Baseline Activity Analysis

Many elements compose the broad definition of General Aviation (GA) activity. In simplest terms, GA includes all segments of the aviation industry except those conducted by scheduled air carriers and the U.S. military. GA activities may include pilot training, sightseeing, aerial photography, law enforcement, and medical flights, as well as business, corporate, and personal travel. GA operations are divided into the categories of local or itinerant. Local operations are arrivals or departures performed by aircraft that remain within the airport traffic pattern, or those that occur within sight of the airport. Local operations are most often associated with training activity and flight instruction (e.g., touch-and-goes). Itinerant operations are arrivals or departures that do not remain within the airport traffic pattern and/or that originate from another airport. The FAA defines an operation as either a single aircraft landing or takeoff. Under this definition, touch-and-goes are considered two operations (one takeoff plus one landing) and are deemed local operations. Itinerant operations are typically comprised of private, business/corporate, and air taxi flight activity, but may also include law enforcement and medical flights. A summary of the historical and baseline operations and based aircraft values is presented below.



3.3.1 Historical and Baseline Operations

Table 3-2 and **Figure 3-1** summarize the historical Airport Traffic Control Tower (ATCT) records for PDK between 1990 and 2018 as obtained from the FAA's Operations Network (OPSNET) database. The information in the OPSNET database is generated from ATCT-reported activity counts and thus closely resembles the records maintained by the ATCT staff at PDK. The values shown in 2018 reflect the one-year period from November 1, 2017 to October 31, 2018 and reflect the baseline conditions for this forecasting effort (i.e., the starting values from which the forecasts are projected from). The decline in itinerant and local activity since that time is not uncommon of many GA airports throughout the U.S. and was caused by multiple factors including federal legislation, noise and airspace concerns, reduced GA flying due to increasing costs of fuel, maintenance (e.g., for aging aircraft), new aircraft, liability, and aircraft storage fees, at least one economic recession (i.e., the Great Recession), business closures, and hurricanes and other natural disasters. Much of the reduction in local GA activity since 2000 is often attributed to events such as the terrorist attacks on September 11, 2001, sharp fuel price increases after Hurricane Katrina damaged Gulf Coast Refineries in August 2005, and the economic recession of the late 2000s. Although some of those factors were impossible to predict, their resulting consequences had considerable impacts on aviation activity throughout the U.S. The recession resulted in a decline in itinerant GA activity at PDK as many corporations grounded their aircraft fleet and individuals had less disposable income for private air transportation. The total activity levels at PDK have continued to trend upward in recent years as the cost of aviation fuel has gone down, the economy has continued to improve and there are rising levels of disposable income, and the Atlanta area continues to grow (particularly in the aviation sector).

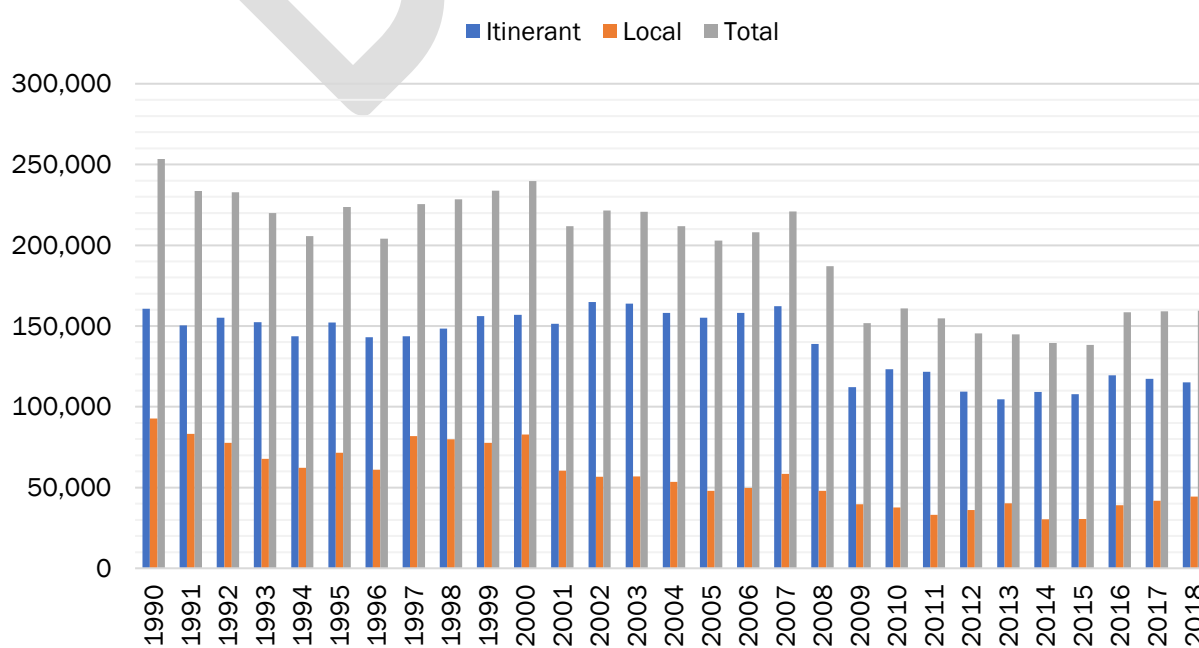
Historical flight plan activity data from the FAA's Traffic Flow Management System Counts (TFMSC) database is presented in **Table 3-3**. Flight plans are filed by aircraft that intend to fly within Instrument Flight Rules (IFR) controlled airspace, which includes most jets and turboprops. The 2018 numbers represent the baseline IFR operations numbers for PDK; however, the temporary closures of Runway 3R-21L in 2018 for the construction of the EMAS bed resulted in a reduction of what the actual IFR operations would have been if the runway was not closed. During times when the runway was closed or when the available takeoff/landing length was reduced, many corporate aircraft flew into other GA airports in the Atlanta area. Now that the EMAS bed construction is complete, it is anticipated that there will be increased utilization of Runway 3R-21L by corporate aircraft conducting IFR operations moving forward. For example, Ultimate Air Shuttle currently provides one flight per weekday between PDK and Cincinnati Municipal Airport-Lunken Field (LUK) and is adding two flights per day Monday through Thursday between PDK and Charlotte/Douglas International Airport (CLT) and one flight on Fridays beginning March 18, 2019. Various Average Annual Growth Rates (AAGRs) are shown in the table to highlight specific growth trends over time. Since 2012, IFR jet activity has shown the strongest growth trend at PDK and the recent growth rates are slightly higher than those projected for the nation in the FAA Aerospace Forecast Fiscal Years 2018-2038 (FAA Aerospace Forecast) for 'Active General Aviation and Air Taxi Hours Flown' by 2038 (i.e., the FAA Aerospace Forecast projects an AAGR of 2.70 percent for GA turbojet hours flown between 2018 and 2038). **Figure 3-2** illustrates a five-year summary of the historical IFR flight plan activity data for PDK.

Table 3-2: Historical and Baseline Operations (1990-2018)

Year	Itinerant						Local				Total
	Air Carrier	Air Taxi	GA	MIL	Total	% of Total	Civil	MIL	Total	% of Total	
1990	0	748	159,401	485	160,634	63.39%	92,731	33	92,764	36.61%	253,398
1991	0	1,020	148,895	448	150,363	64.36%	83,172	108	83,280	35.64%	233,643
1992	0	1,631	151,993	1,421	155,045	66.62%	77,662	25	77,687	33.38%	232,732
1993	0	1,196	150,626	499	152,321	69.24%	67,629	43	67,672	30.76%	219,993
1994	0	2,799	140,322	433	143,554	69.77%	62,132	53	62,185	30.23%	205,739
1995	0	3,723	148,021	445	152,189	68.05%	71,448	4	71,452	31.95%	223,641
1996	10	3,522	139,185	386	143,103	70.12%	60,916	77	60,993	29.88%	204,096
1997	7	3,871	138,870	853	143,601	63.68%	76,881	5,029	81,910	36.32%	225,511
1998	0	3,928	144,085	462	148,475	65.01%	79,864	34	79,898	34.99%	228,373
1999	9	5,167	150,567	383	156,126	66.79%	77,603	16	77,619	33.21%	233,745
2000	0	8,254	148,292	389	156,935	65.44%	82,875	15	82,890	34.56%	239,825
2001	0	10,997	139,919	393	151,309	71.43%	60,523	2	60,525	28.57%	211,834
2002	0	15,756	148,662	462	164,880	74.44%	56,576	38	56,614	25.56%	221,494
2003	24	17,631	145,740	474	163,869	74.24%	56,847	13	56,860	25.76%	220,729
2004	28	16,508	141,295	344	158,175	74.71%	53,547	3	53,550	25.29%	211,725
2005	20	18,521	136,172	351	155,064	76.40%	47,891	7	47,898	23.60%	202,962
2006	18	19,673	138,219	278	158,188	76.06%	49,794	0	49,794	23.94%	207,982
2007	19	21,121	106,634	225	162,313	73.50%	58,519	6	58,525	26.50%	220,838
2008	1	17,310	56,445	163	138,955	74.31%	47,830	207	48,037	25.69%	186,992
2009	1	12,460	99,271	314	112,046	73.85%	39,658	10	39,668	26.15%	151,714
2010	13	13,519	109,290	446	123,268	76.59%	37,640	41	37,681	23.41%	160,949
2011	22	13,688	107,526	507	121,743	78.65%	32,978	63	33,041	21.35%	154,784
2012	36	14,136	94,726	522	109,420	75.23%	35,967	57	36,024	24.77%	145,444
2013	38	14,976	89,090	458	104,562	72.23%	40,120	72	40,192	27.77%	144,754
2014	34	16,018	92,559	537	109,148	78.21%	30,186	220	30,406	21.79%	139,554
2015	33	17,900	88,957	797	107,687	77.89%	30,427	140	30,567	22.11%	138,254
2016	35	20,566	98,109	786	119,496	75.38%	38,913	116	39,029	24.62%	158,525
2017	54	21,748	94,775	626	117,203	73.68%	41,816	47	41,863	26.32%	159,066
2018	49	20,058	94,563	429	115,099	72.17%	44,337	57	44,394	27.83%	159,493
Average Annual Growth Rate (AAGR)											
1990-2000	N/A	27.14%	-0.72%	-2.18%	-0.23%	0.32%	-1.12%	-7.58%	-1.12%	-0.57%	-0.55%
2000-2010	N/A	5.06%	-3.01%	1.38%	-2.39%	1.59%	-7.59%	10.58%	-7.58%	-3.82%	-3.91%
2010-2018	18.04%	5.06%	-1.79%	-0.48%	-0.85%	-0.74%	2.07%	4.20%	2.07%	2.19%	-0.11%

Sources: FAA OPSNET database and Michael Baker International, Inc., 2019.
 Note: The 2018 numbers represent the activity from 11/1/2017 to 10/31/2018.

Figure 3-1: Historical and Baseline Operations (1990-2018)



Sources: FAA OPSNET database and Michael Baker International, Inc., 2019.
 Note: The 2018 numbers represent the activity from 11/1/2017 to 10/31/2018.



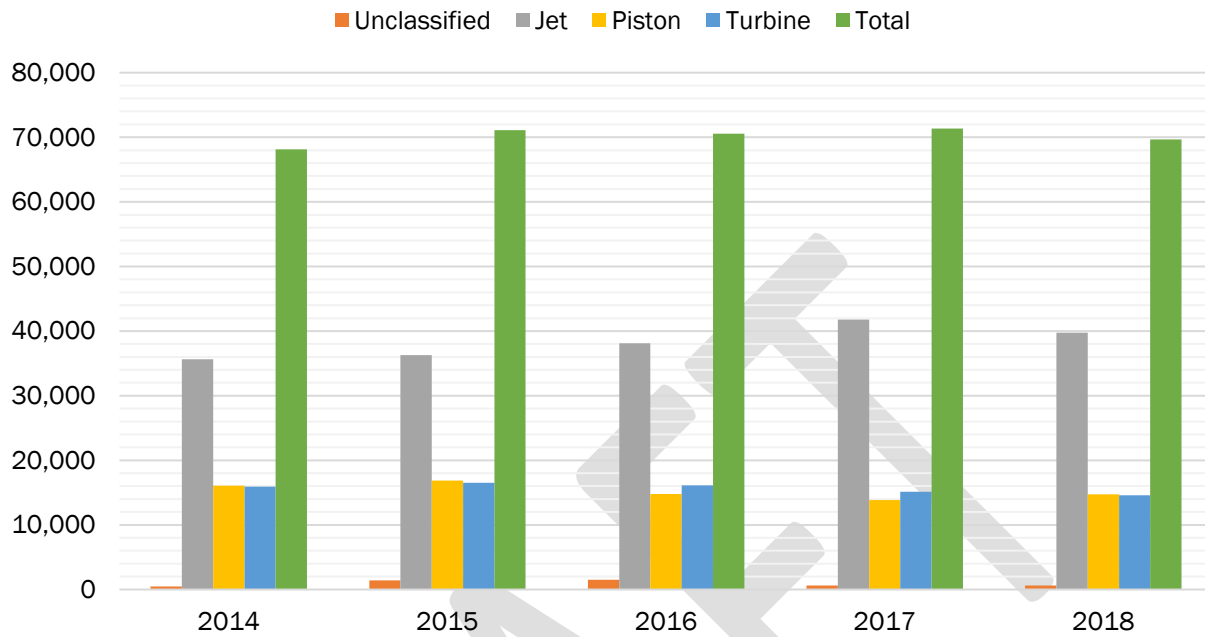
Table 3-3: Historical Flight Plan Activity by Aircraft Type (2000-2018)

Year	Unclassified	Jet	Piston	Turbine	Total Instrument	Total Operations	% of Total
2000	1,844	42,463	25,865	16,237	86,409	239,825	36.03%
2001	2,782	41,034	26,208	15,723	85,747	211,834	40.48%
2002	3,968	44,582	28,746	15,811	93,107	221,494	42.04%
2003	3,274	45,173	28,621	14,905	91,973	220,729	41.67%
2004	1,851	46,203	28,664	14,184	90,902	211,725	42.93%
2005	1,016	49,026	30,817	13,996	94,855	202,962	46.74%
2006	543	48,922	30,703	14,123	94,291	207,982	45.34%
2007	439	49,254	29,829	14,343	93,865	220,838	42.50%
2008	655	41,780	24,747	15,428	82,610	186,992	44.18%
2009	564	30,891	22,088	13,773	67,316	151,714	44.37%
2010	462	35,054	19,873	15,199	70,588	160,949	43.86%
2011	464	34,973	17,335	14,906	67,678	154,784	43.72%
2012	553	33,832	17,706	14,643	66,734	145,444	45.88%
2013	523	33,577	16,847	15,484	66,431	144,754	45.89%
2014	496	35,620	16,050	15,949	68,115	139,554	48.81%
2015	1,411	36,279	16,880	16,542	71,112	138,254	51.44%
2016	1,528	38,139	14,787	16,101	70,555	158,525	44.51%
2017	603	41,766	13,861	15,130	71,360	159,066	44.86%
2018	639	39,729	14,733	14,564	69,665	159,493	43.68%
Average Annual Growth Rate (AAGR)							
2000-2010	-12.93%	-1.90%	-2.60%	-0.66%	-2.00%	-3.91%	1.99%
2010-2018	4.14%	1.58%	-3.67%	-0.53%	-0.16%	-0.11%	-0.05%
2012-2018	2.44%	2.71%	-3.02%	-0.09%	0.72%	1.55%	-0.82%
2014-2018	6.54%	2.77%	-2.12%	-2.25%	0.56%	3.40%	-2.74%

Sources: FAA TFMSC database and Michael Baker International, Inc., 2019.
 Note: The 2018 numbers represent the activity from 11/1/2017 to 10/31/2018.



Figure 3-2: Historical Flight Plan Activity Data by Aircraft Type (2014-2018)



Sources: FAA TFMSC database and Michael Baker International, Inc., 2019.
 Note: The 2018 numbers represent the activity from 11/1/2017 to 10/31/2018.

3.3.2 Historical and Baseline Based Aircraft

Table 3-4 summarizes the historical and baseline based aircraft counts for PDK. The counts for the years prior to 2018 were obtained from the FAA’s 2017 Terminal Area Forecast (TAF) and the 2018 numbers were provided from an updated count of the based aircraft by airport personnel and was verified by the FAA through the National Based Aircraft Inventory Program. The single-engine and multi-engine aircraft shown in the table consist of both piston engine and turboprop engine aircraft. The significant decline in multi-engine aircraft over the years at PDK is consistent with what has been occurring nationwide with multi-engine piston aircraft as very few of those aircraft continue to be produced. Single-engine piston aircraft continue to comprise most of the based aircraft fleet at PDK and that trend is expected to continue for reasons including the based aircraft waiting list where individuals or organizations must pay a fee to be included and because of the high degree of flight training activity that occurs at the airport. As new areas on the airport property continue to be planned and prepped for hangar development, it is anticipated that the number of based single-engine pistons, jets, and helicopters will grow during the planning period of this Master Plan Update. **Figure 3-3** illustrates the based aircraft counts between 1990 and 2018. The Great Recession that began at the end of 2007 had the biggest single impact on based aircraft levels at PDK, which was a common trend at airports throughout the country.

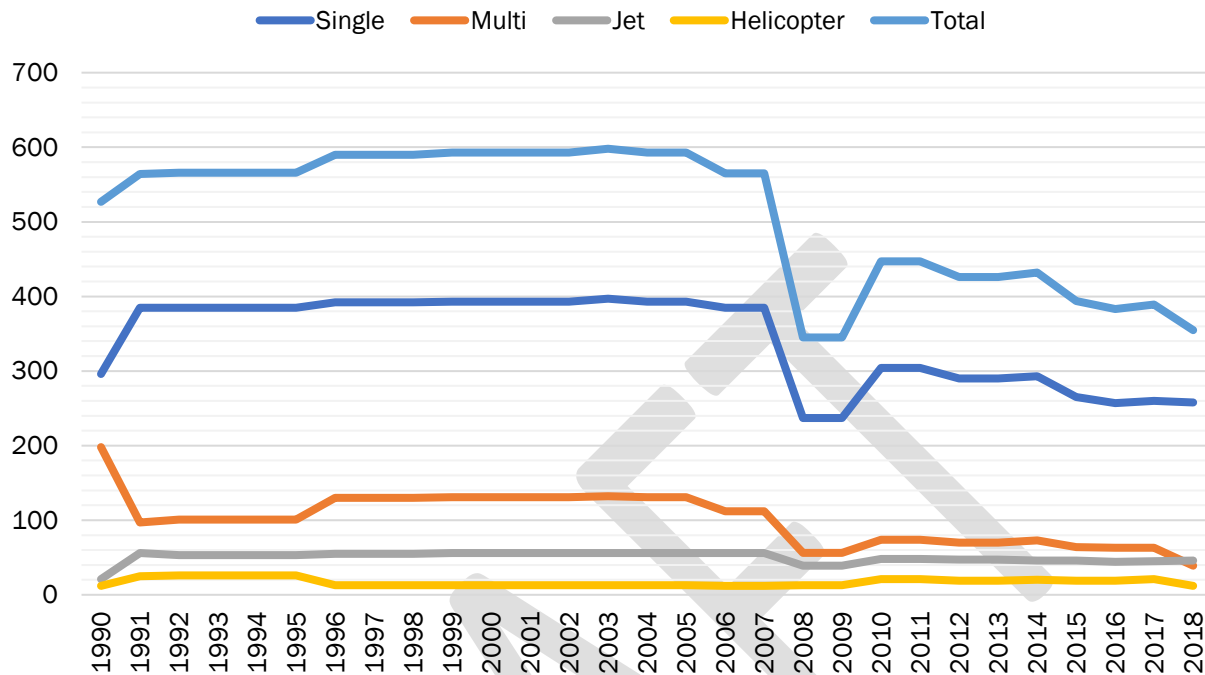
Table 3-4: Historical and Baseline Based Aircraft (1990-2018)

Year	Single-Engine		Multi-Engine		Jet		Helicopter		Other		Total Based Aircraft	Total Operations	OPBA
	Based	% of Total	Based	% of Total	Based	% of Total	Based	% of Total	Based	% of Total			
1990	296	56.17%	198	37.57%	21	3.98%	12	2.28%	0	0.00%	527	253,398	480.83
1991	385	68.26%	97	17.20%	56	9.93%	25	4.43%	1	0.18%	564	233,643	414.26
1992	385	68.02%	101	17.84%	53	9.36%	26	4.59%	1	0.18%	566	232,732	411.19
1993	385	68.02%	101	17.84%	53	9.36%	26	4.59%	1	0.18%	566	219,993	388.68
1994	385	68.02%	101	17.84%	53	9.36%	26	4.59%	1	0.18%	566	205,739	363.50
1995	385	68.02%	101	17.84%	53	9.36%	26	4.59%	1	0.18%	566	223,641	395.13
1996	392	66.44%	130	22.03%	55	9.32%	13	2.20%	0	0.00%	590	204,096	345.93
1997	392	66.44%	130	22.03%	55	9.32%	13	2.20%	0	0.00%	590	225,511	382.22
1998	392	66.44%	130	22.03%	55	9.32%	13	2.20%	0	0.00%	590	228,373	387.07
1999	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	233,745	394.17
2000	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	239,825	404.43
2001	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	211,834	357.22
2002	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	221,494	373.51
2003	397	66.39%	132	22.07%	56	9.36%	13	2.17%	0	0.00%	598	220,729	369.11
2004	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	211,725	357.04
2005	393	66.27%	131	22.09%	56	9.44%	13	2.19%	0	0.00%	593	202,962	342.26
2006	385	68.14%	112	19.82%	56	9.91%	12	2.12%	0	0.00%	565	207,982	368.11
2007	385	68.14%	112	19.82%	56	9.91%	12	2.12%	0	0.00%	565	220,838	390.86
2008	237	68.70%	56	16.23%	39	11.30%	13	3.77%	0	0.00%	345	186,992	542.01
2009	237	68.70%	56	16.23%	39	11.30%	13	3.77%	0	0.00%	345	151,714	439.75
2010	304	68.01%	74	16.55%	48	10.74%	21	4.70%	0	0.00%	447	160,949	360.06
2011	304	68.01%	74	16.55%	48	10.74%	21	4.70%	0	0.00%	447	154,784	346.27
2012	290	68.08%	70	16.43%	47	11.03%	19	4.46%	0	0.00%	426	145,444	341.42
2013	290	68.08%	70	16.43%	47	11.03%	19	4.46%	0	0.00%	426	144,754	339.80
2014	293	67.82%	73	16.90%	46	10.65%	20	4.63%	0	0.00%	432	139,554	323.04
2015	265	67.26%	64	16.24%	46	11.68%	19	4.82%	0	0.00%	394	138,254	350.90
2016	257	67.10%	63	16.45%	44	11.49%	19	4.96%	0	0.00%	383	158,525	413.90
2017	260	66.84%	63	16.20%	45	11.57%	21	5.40%	0	0.00%	389	159,066	408.91
2018	258	72.68%	39	10.99%	46	12.96%	12	3.38%	0	0.00%	355	159,493	449.28
Average Annual Growth Rate													
1990-2000	2.88%	1.67%	-4.05%	-5.17%	10.31%	9.01%	0.80%	-0.38%	N/A	N/A	1.19%	-0.55%	-1.72%
2000-2010	-2.54%	0.26%	-5.55%	-2.84%	-1.53%	1.29%	4.91%	7.92%	N/A	N/A	-2.79%	-3.91%	-1.16%
2010-2018	-2.03%	0.83%	-7.69%	-5.00%	-0.53%	2.38%	-6.76%	-4.03%	N/A	N/A	-2.84%	-0.11%	2.81%

Sources: FAA 2017 TAF, airport personnel, and Michael Baker International, Inc., 2019.



Figure 3-3: Historical and Baseline Based Aircraft (1990-2018)



Sources: FAA 2017 TAF, airport personnel, and Michael Baker International, Inc., 2019.

3.4 Factors and Opportunities Affecting Activity Levels

This section describes past and present trends that may influence PDK’s operations and based aircraft levels during the 22-year planning period. Several historical and anticipated trends have been presented in earlier sections of this chapter, such as the significant need for new pilot training to support worldwide aviation activity, the based aircraft waiting list, and events in the Atlanta area that produce peaks at PDK. There are also other trends that the FAA recommends identifying and evaluating as part of a forecasting effort including economic conditions, airport-specific factors (e.g., annual fuel flowage), the FAA Aerospace Forecast Fiscal Years 2018-2038, General Aviation Manufacturers Association (GAMA) trends, and other relevant forecasts for PDK. Although drones, multi-modal transportation, private space travel, and autonomous vehicles were popular discussion items for airports at the time of this writing, those types of trends were not anticipated to have any substantial impacts on the forecasts presented in this Master Plan Update and were therefore not evaluated in this chapter.



3.4.1 Economic Conditions

The economic conditions surrounding an airport have the potential to influence activity levels. For example, the growth or decline in a local population may correlate to the growth or decline in operations and based aircraft levels at an airport. **Table 3-5** summarizes historical and forecast population of the 10-county area covered by the Atlanta Regional Commission (ARC) and historical data for the City of Atlanta (refer to **Figure 3-4**). The forecasts were produced by the ARC in 2017 with a base year of 2016 and a forecast year of 2040. It is noted that the U.S. Census Bureau reported a July 1, 2017 population of 753,253 for DeKalb County and 486,290 for the City of Atlanta. According to information from DeKalb County, the population of the county grew the largest amount between 2017 and 2018 since between 2000 and 2001. DeKalb County CEO Michael Thurmond indicated that “DeKalb County is becoming the preferred location for many residents and business,” and “emphasized county strengths including an extensive interstate highway system, the second busiest airport in the state, a strong public transit network, improving public school system, numerous higher education and technical schools and incomparable healthcare facilities like the CDC, Emory, DeKalb Medical and Children’s Healthcare of Atlanta” (obtained from a press release on dekalbcountyga.gov dated August 22, 2018). “The City of Atlanta, which lost population between 1970 and 2000, is growing again amid a boom in multifamily housing. The city added 10,100 residents in the past year (2017 to 2018), compared to 9,700 the year before, and has grown by 9.00 percent since 2010.” (obtained from a press release on atlantaregional.org dated August 22, 2018). The U.S. Census Bureau lists Atlanta as the 10th fastest growing cities in the country between 2016 and 2017 and the Atlanta Metropolitan Statistical Area (MSA) as the ninth most populated MSA in the country. By 2040, the ARC projects the top employment sectors in the 10-county area to be health care, retail, education, scientific, and other professional services.

With the airport’s proximity to Downtown Atlanta and the growing 10-county area, it is anticipated that the projected population and employment growth will result in additional aviation activity at PDK. Although the historical population growth of the area has not produced increasing GA activity over the long-term, the activity at PDK appears to have stabilized and is trending upwards. As shown in **Figure 3-5**, the historical unemployment rate of the City of Atlanta, DeKalb County, and State of Georgia has tracked similarly to that of the country since at least 2006. Georgia continues to be a popular state for business relocations and start-ups. The 2011 Georgia Statewide Airport Economic Impact Study estimated the total economic impact of airports in the state to be \$62.63 billion annually and PDK’s impact to be \$211.7 million annually, both of which would be much higher if reevaluated under the economy in 2018/2019. Consequently, the economic conditions surrounding PDK and the growth in the aviation industry surrounding the Atlanta area should result in increasing levels of activity and based aircraft at the airport over the course of the 22-year planning period.



Figure 3-4: 10-County Region

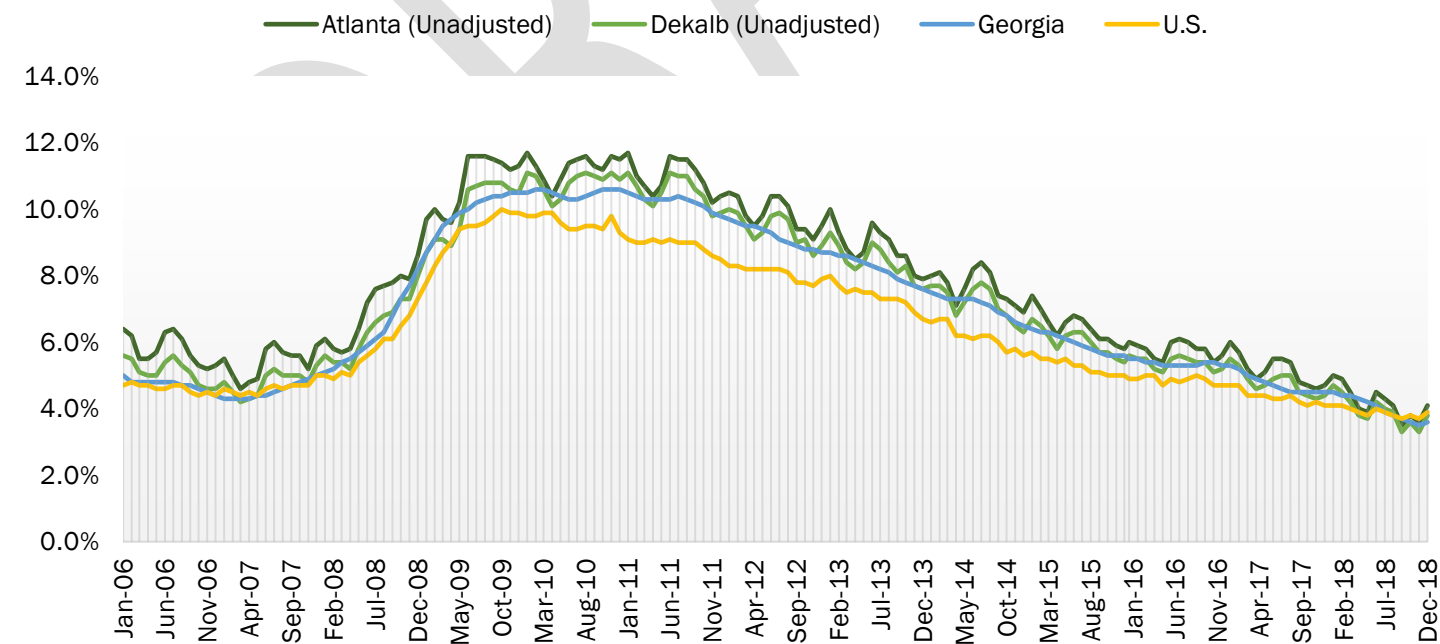


Table 3-5: Historical and Forecast Growth Rates (1970-2040)

Year	Region	Cherokee	Clayton	Cobb	DeKalb	Douglas	Fayette	Fulton	Gwinnett	Henry	Rockdale	City
1970	1,500,823	31,059	98,126	196,793	415,387	28,659	11,364	605,210	72,349	23,724	18,152	495,039
1980	1,896,182	51,699	150,357	297,718	483,024	54,573	29,043	589,904	166,808	36,309	36,747	424,922
1990	2,557,800	91,000	184,100	453,400	553,800	71,700	62,800	670,800	356,500	59,200	54,500	415,200
2000	3,429,379	141,903	236,517	607,751	665,865	92,174	91,263	816,006	588,448	119,341	70,111	416,474
2010	4,107,750	214,346	259,424	688,078	691,893	132,403	106,567	920,581	805,321	203,922	85,215	420,003
2016	4,401,800	n	270,600	737,500	725,000	139,000	112,300	985,700	877,100	223,600	90,900	439,600
2017	4,480,100	247,400	275,300	750,300	733,900	140,900	114,000	1,002,800	894,000	229,000	92,500	449,500
2018	4,555,900	254,500	279,400	758,300	744,530	142,800	116,200	1,020,370	910,700	234,800	94,300	459,600
2040	5,918,557	392,411	327,552	885,062	874,424	201,325	143,255	1,264,376	1,350,358	351,691	128,103	N/A
Average Annual Growth Rate (AAGR)												
1970-2000	2.79%	5.19%	2.98%	3.83%	1.59%	3.97%	7.19%	1.00%	7.24%	5.53%	4.61%	-0.57%
2000-2010	1.82%	4.21%	0.93%	1.25%	0.38%	3.69%	1.56%	1.21%	3.19%	5.50%	1.97%	0.08%
2010-2016	1.16%	1.91%	0.71%	1.16%	0.78%	0.81%	0.88%	1.15%	1.43%	1.55%	1.08%	0.76%
2016-2018	1.74%	2.96%	1.61%	1.40%	1.34%	1.36%	1.72%	1.74%	1.90%	2.47%	1.85%	2.25%
2018-2040	1.20%	1.99%	0.73%	0.71%	0.73%	1.57%	0.96%	0.98%	1.81%	1.85%	1.40%	N/A

Sources: Atlanta Regional Commission and Michael Baker International, Inc., 2019.

Figure 3-5: Historical Unemployment Rates (2006-2018)



Sources: U.S. Bureau of Labor Statistics and Michael Baker International, Inc., 2019.

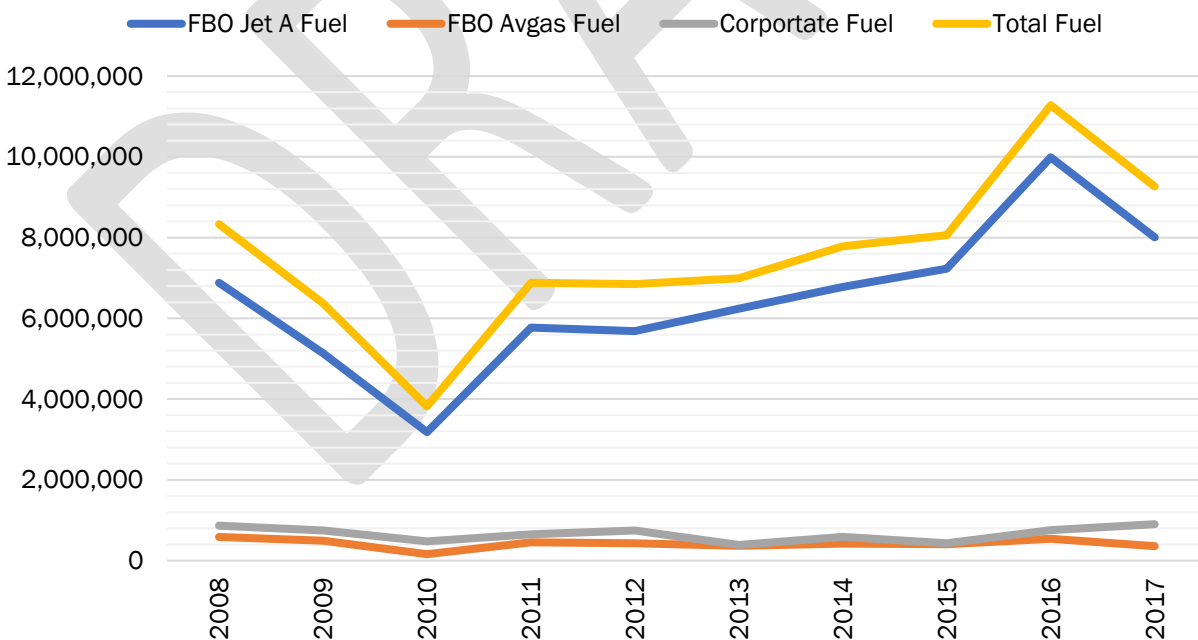


3.4.2 Airport-Specific Factors

As shown in **Figure 3-6** and **Table 3-6**, the fuel flowage at PDK also dropped during the economic recession and began to increase again starting in 2011. Compared to 2008, there were 2,948,121 more gallons of fuel pumped at PDK in 2016 despite there being 28,467 fewer operations. Most of the fuel pumped is Jet A, which reflects both the growth in based jets at PDK since 2008 and the increased prevalence of GA jet activity in the Atlanta area. The airport’s revenues from rental cars more than doubled from 2008 to 2017 and the total number of gallons pumped per operation also increased. These important airport-specific trends are revealing for the recent activity at PDK. They illustrate strong growth over a short period of time and help to frame what has occurred at PDK as aviation activity has continued to grow in the Atlanta area.

As mentioned, the airport recently conducted a survey to determine what the demand is for new based aircraft tenants. Based on 31 responses that were received, all 31 individuals are interested in basing an aircraft in a hangar at PDK if space becomes available and would collectively conduct more than 2,000 operations at the airport each year. The respondents included a mix of individuals who would purchase a new aircraft if hangar space were available, would relocate from another airport, or would relocate from an existing hangar or tiedown at PDK to a new hangar. The aircraft include a mix of pistons and turboprops. The survey, combined with the based aircraft waiting list where individuals or organizations must pay a fee to be included, illustrates the immediate growth that would occur at PDK if new hangars were available.

Figure 3-6: Historical Fuel Flowage in Gallons (2008-2017)



Sources: Airport Records and Michael Baker International, Inc., 2019.



Table 3-6: Aircraft Fuel Flowage and Rental Car Revenue (2008-2017)

Year	FBO Jet A Fuel		FBO Avgas Fuel		Corporate Fuel		Total Gallons	Total Operations	Gallons Per Operation	Rental Car Revenue
	Gallons	% of Total	Gallons	% of Total	Gallons	% of Total				
2008	6,876,920	82.57%	585,859	7.03%	866,185	10.40%	8,328,964	186,992	44.54	\$63,998
2009	5,137,644	80.61%	492,373	7.73%	743,273	11.66%	6,373,289	151,714	42.01	\$51,776
2010	3,182,001	83.32%	159,411	4.17%	477,600	12.51%	3,819,012	160,949	23.73	\$49,195
2011	5,774,268	83.91%	455,053	6.61%	652,548	9.48%	6,881,869	154,784	44.46	\$86,826
2012	5,680,566	82.93%	426,681	6.23%	742,348	10.84%	6,849,594	145,444	47.09	\$76,204
2013	6,239,430	89.22%	366,688	5.24%	387,455	5.54%	6,993,573	144,754	48.31	\$88,950
2014	6,773,836	87.06%	418,573	5.38%	587,856	7.56%	7,780,266	139,554	55.75	\$90,698
2015	7,232,596	89.73%	401,612	4.98%	426,302	5.29%	8,060,509	138,254	58.30	\$77,288
2016	9,987,603	88.57%	538,023	4.77%	751,459	6.66%	11,277,085	158,525	71.14	\$113,912
2017	8,007,488	86.41%	357,299	3.86%	902,147	9.74%	9,266,934	159,066	58.26	\$135,224
Average Annual Growth Rate (AAGR)										
2008-2017	1.71%	0.51%	-5.35%	-6.46%	0.45%	-0.73%	1.19%	-1.78%	3.03%	8.67%
2012-2017	7.11%	0.82%	-3.49%	-9.15%	3.98%	-2.12%	6.23%	1.81%	4.35%	12.15%
2008-2016	4.78%	0.88%	-1.06%	-4.74%	-1.76%	-5.41%	3.86%	-2.04%	6.03%	7.47%

Sources: Airport Records and Michael Baker International, Inc., 2019.



3.4.3 FAA Terminal Area Forecast (TAF)

The FAA develops a TAF each year for all airports in the NPIAS. Depending upon the subject airport's level of service (i.e., commercial or general aviation), the TAF may present forecasts of passenger enplanements, operations, and based aircraft. The FAA website indicates that the "TAF system is the official forecast of aviation activity at FAA facilities. These forecasts are prepared to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public." **Table 3-7** illustrates the growth projections for ATL and the four GA Reliever airports to ATL as obtained from the FAA's most recent edition of the TAF (2017 TAF). As identified in the NPIAS, the four GA Reliever airports to ATL include PDK, Fulton County Airport-Brown Field (FTY), Cobb County International Airport-McCollum Field (RYY), and Gwinnett County Airport-Briscoe Field (LZU). Although the TAF illustrates growth of over one percent per year for operations at ATL between 2018 and 2040, the TAF illustrates slower growth for the four GA Reliever airports, with PDK projected to experience the strongest AAGR of 0.42 percent. All four GA Reliever airports are projected to experience much higher based aircraft growth rates between 2018 and 2040 compared to operations. This information is utilized in subsequent portions of this chapter to evaluate potential growth scenarios for PDK and to compare the selected operations and based aircraft forecast to the TAF.

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Table 3-7: FAA 2017 TAF Growth Projections (2000-2040)

Operations					
Year	PDK	FTY	RYY	LZU	ATL
2000	238,740	118,265	108,199	113,130	922,016
2010	156,157	70,817	65,294	70,807	956,546
2018	159,454	49,571	62,680	98,022	879,757
2020	160,680	49,934	62,852	98,302	908,428
2038	173,294	53,337	64,422	100,895	1,227,304
2040	174,896	53,728	64,600	101,191	1,269,418
Average Annual Growth Rate (AAGR)					
2000-2010	-4.16%	-5.00%	-4.93%	-4.58%	0.37%
2010-2018	0.26%	-4.36%	-0.51%	4.15%	-1.04%
2018-2038	0.42%	0.37%	0.14%	0.14%	1.68%
2020-2040	0.42%	0.37%	0.14%	0.14%	1.69%
Based Aircraft					
Year	PDK	FTY	RYY	LZU	ATL
2000	593	310	311	280	6
2010	345	128	275	304	3
2018	395	87	295	224	3
2020	405	94	298	231	3
2038	512	158	342	306	3
2040	524	168	348	314	3
Average Annual Growth Rate (AAGR)					
2000-2010	-5.27%	-8.47%	-1.22%	0.83%	-6.70%
2010-2018	1.71%	-4.71%	0.88%	-3.75%	0.00%
2018-2038	1.31%	3.03%	0.74%	1.57%	0.00%
2020-2040	1.30%	2.95%	0.78%	1.55%	0.00%

Sources: FAA 2017 TAF and Michael Baker International, Inc., 2019.



3.4.4 GAMA Trends

The General Aviation Manufacturers Association (GAMA) is a trade organization that monitors and reports on the GA industry. GAMA tracks quarterly shipments and billings for GA aircraft deliveries. The first nine months of 2018 saw the largest increase in deliveries of all aircraft types since the Great Recession. **Table 3-8** summarizes the comparison of shipments between the first nine months of 2017 and 2018 as obtained from GAMA. GAMA develops an annual report each year that presents forecasts for GA aircraft including the size of the fleet and hours flown. They utilize the forecasts from the latest FAA Aerospace Forecast, which is currently for Fiscal Years 2018-2038. The FAA Aerospace Forecasts are utilized to evaluate potential growth scenarios for PDK in subsequent sections of this chapter.

Table 3-8: GA Aircraft Deliveries Comparison (First Nine Months of 2017 and 2018)

Year	Fixed-Wing				Rotorcraft		
	Piston	Turboprop	Jet	Total	Piston	Turbine	Total
2017	724	374	433	1,531	190	471	661
2018	784	395	446	1,625	220	510	730
Average Annual Growth Rate (AAGR)							
2017-2018	8.3%	5.6%	3.0%	6.1%	15.8%	8.3%	10.4%
Source: GAMA.							

3.5 Based Aircraft Forecasts

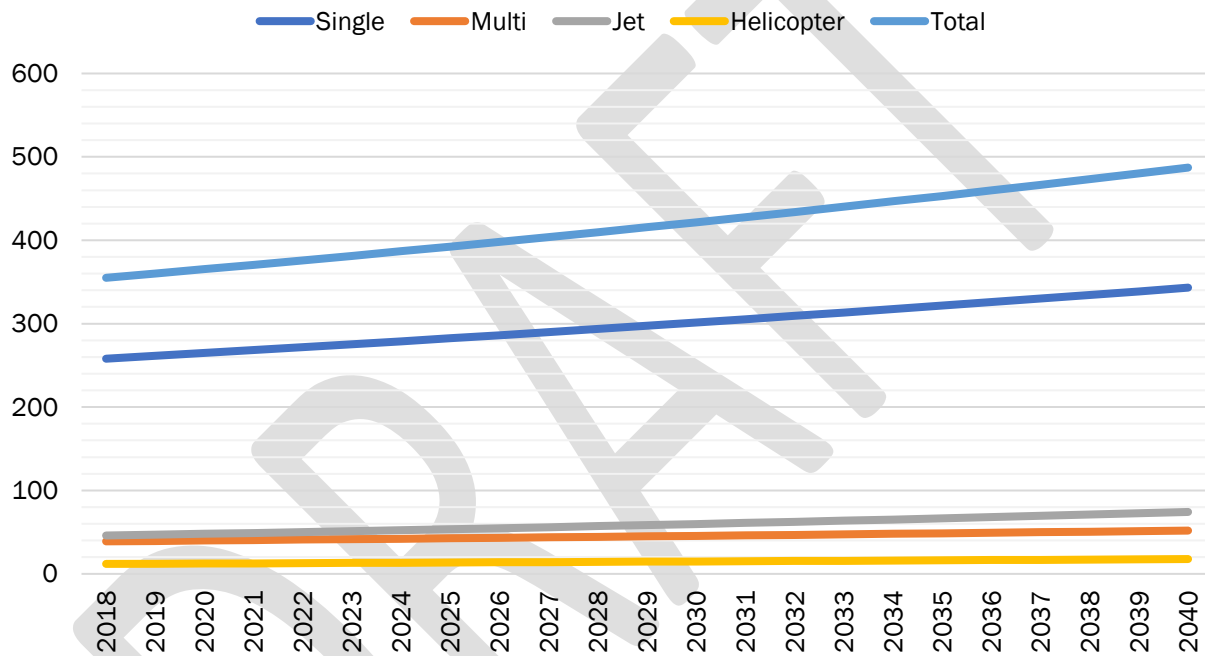
There were more than 60 T-hangars constructed at PDK in 2013 to help fulfill the demands of a waiting list for hangar space at the airport. Based on 31 responses that were received during the recent survey effort, all 31 individuals are interested in basing an aircraft in a hangar at PDK if space becomes available. Of the 31, 20 would be new based aircraft at PDK including nine that would relocate their aircraft from another airport and 11 that would purchase new aircraft. The new based aircraft would consist of 18 single-engine pistons, one multi-engine piston, and one single-engine turboprop. Although the survey did not evaluate the demand for corporate aircraft hangar space at PDK, DeKalb County is exploring opportunities to develop several hangars in the southwest quadrant of the airport. Therefore, the ability to provide hangar space is the only factor affecting the growth in based aircraft at PDK. The 2017 TAF projects the based aircraft fleet to grow stronger at PDK than the nation from 2018 to 2038. The FAA Aerospace Forecast Fiscal Years 2018-2038 projects virtually no growth in the nationwide GA fleet from 2018 to 2038 and a decline in fixed-wing piston aircraft. The 2017 TAF AAGR of 1.31 percent from 2018 to 2038 is close to the anticipated AAGR of the 10-County population from 2018 to 2040 (i.e., 1.20 percent).

As shown in **Figure 3-7** and **Table 3-9**, the forecasts of based aircraft growth for PDK employed the growth rate of 1.31 percent for single-engines and multi-engines, which includes a combination of pistons and turboprops. The growth rates for jets and helicopters were obtained from the FAA Aerospace Forecast Fiscal Years 2018-2038 for Active General Aviation and Air Taxi Aircraft. This forecast adds 132 additional



based aircraft to PDK’s fleet over the 22-year period including 85 single-engines, 13 multi-engines, 28 jets, and six helicopters. This forecast produces growth rates that are consistent with the FAA’s expectations for PDK and was conducted in an unconstrained manner (i.e., without assuming facilities can or cannot be provided at PDK to accommodate the additional based aircraft). It also shows what may be expected for a busy GA airport in a major metropolitan area where there are 26 “2018 Fortune 1000” companies have headquarters, of which 15 of those companies are Fortune 500 companies including The Home Depot (#23), United Parcel Service (UPS) (#44), Delta Air Lines (#75), and The Coca-Cola Company (#87).

Figure 3-7: Based Aircraft Forecasts (2018-2040)



Source: Michael Baker International, Inc., 2019.



Table 3-9: Based Aircraft Forecasts (2018-2040)

Year	Single-Engine		Multi-Engine		Jet		Helicopter		Other		Total Based Aircraft
	Based	% of Total	Based	% of Total	Based	% of Total	Based	% of Total	Based	% of Total	
2018	258	72.68%	39	10.99%	46	12.96%	12	3.38%	0	0.00%	355
2019	250	71.71%	40	11.32%	47	13.47%	12	3.50%	0	0.00%	349
2020	253	71.61%	40	11.31%	48	13.57%	12	3.51%	0	0.00%	354
2021	257	71.51%	41	11.29%	49	13.67%	13	3.53%	0	0.00%	359
2022	260	71.41%	41	11.28%	50	13.78%	13	3.54%	0	0.00%	364
2023	264	71.31%	42	11.26%	51	13.88%	13	3.55%	0	0.00%	370
2024	267	71.21%	42	11.24%	52	13.98%	13	3.56%	0	0.00%	375
2025	270	71.11%	43	11.23%	54	14.08%	14	3.57%	0	0.00%	380
2026	274	71.01%	43	11.21%	55	14.19%	14	3.59%	0	0.00%	386
2027	278	70.91%	44	11.20%	56	14.29%	14	3.60%	0	0.00%	391
2028	281	70.81%	44	11.18%	57	14.40%	14	3.61%	0	0.00%	397
2029	285	70.71%	45	11.16%	58	14.50%	15	3.62%	0	0.00%	403
2030	289	70.60%	46	11.15%	60	14.61%	15	3.64%	0	0.00%	409
2031	292	70.50%	46	11.13%	61	14.72%	15	3.65%	0	0.00%	415
2032	296	70.40%	47	11.12%	62	14.83%	15	3.66%	0	0.00%	421
2033	300	70.29%	47	11.10%	64	14.94%	16	3.67%	0	0.00%	427
2034	304	70.19%	48	11.08%	65	15.05%	16	3.69%	0	0.00%	433
2035	308	70.08%	49	11.07%	67	15.15%	16	3.70%	0	0.00%	439
2036	312	69.97%	49	11.05%	68	15.27%	17	3.71%	0	0.00%	446
2037	316	69.87%	50	11.03%	70	15.38%	17	3.72%	0	0.00%	452
2038	320	69.76%	51	11.01%	71	15.49%	17	3.74%	0	0.00%	459
2039	339	70.57%	51	10.67%	73	15.13%	17	3.64%	0	0.00%	480
2040	343	70.46%	52	10.65%	74	15.24%	18	3.65%	0	0.00%	487
Growth Rates											
AAGR 2018-2038	1.31%	-0.14%	1.31%	-0.14%	2.20%	0.74%	1.80%	0.34%	N/A	N/A	1.45%
AAGR 2018-2040	1.31%	-0.14%	1.31%	-0.14%	2.20%	0.74%	1.80%	0.35%	N/A	N/A	1.45%
AAGR 2020-2040	1.31%	-0.14%	1.31%	-0.14%	2.20%	0.74%	1.80%	0.35%	N/A	N/A	1.45%
Increase 2018-2038	76	N/A	12	N/A	25	N/A	5	N/A	0	N/A	118
Increase 2018-2040	85	N/A	13	N/A	28	N/A	6	N/A	0	N/A	132
Increase 2020-2040	78	N/A	12	N/A	26	N/A	5	N/A	0	N/A	122

Source: Michael Baker International, Inc., 2019.



3.6 Operations Forecasts

The 2017 TAF projects an AAGR of 0.42 percent for total operations at PDK between 2018 and 2038, which is significantly less than the 2017 TAF AAGR of 1.31 percent for total based aircraft. As described throughout this chapter, there is a high demand for based aircraft hangar storage at PDK. As new hangars continue to be developed, it is anticipated that a combination of existing tenants and new tenants will occupy them. PDK is also the premier GA airport in the Atlanta area and attracts a significant amount of visiting traffic during popular sporting and other events. With the known demand for based aircraft hangar storage at PDK and the growing number of major events that are held in the Atlanta area each year, it is anticipated that operations at PDK would increase similarly to based aircraft.

Table 3-10 and **Figure 3-8** present seven forecasts for operations growth at PDK during the planning period. These forecasts were developed by applying growth rates from various trends presented within this chapter and include national, local, and airport-specific trends. A description of each forecast is provided below.

1. **TAF** – Applied the 2017 TAF growth rate for operations at PDK.
2. **Based Aircraft** – Applied the growth rate utilized for the based aircraft forecast.
3. **Population** – Applied the forecast growth rate for the 10-county region.
4. **OPBA** – Applied the 2018 OPBA factor to the based aircraft forecast.
5. **TFMSC** – Applied the historical growth rate in flight plan activity from 2012 to 2018.
6. **Average** – Applied the average of the five previous forecasts.
7. **Average (Smoothed)** – Applied an even growth rate to the previous forecast.

After reviewing the forecasts and comparing them to the 2017 TAF, all the forecasts were found to be consistent with the TAF. According to the FAA's June 2008 Review and Approval of Aviation Forecasts guidance, total operations and based aircraft forecasts are considered consistent with the TAF if they differ by less than 10 percent in the five-year forecast period and 15 percent in the 10-year forecast period. Therefore, it was determined that the growth rate from the based aircraft forecast would be selected to forecast total operations for PDK for the 22-year planning period. That maintains the OPBA at the same number throughout the planning period and increases operations from 159,493 in 2018 to 218,797 by 2040.

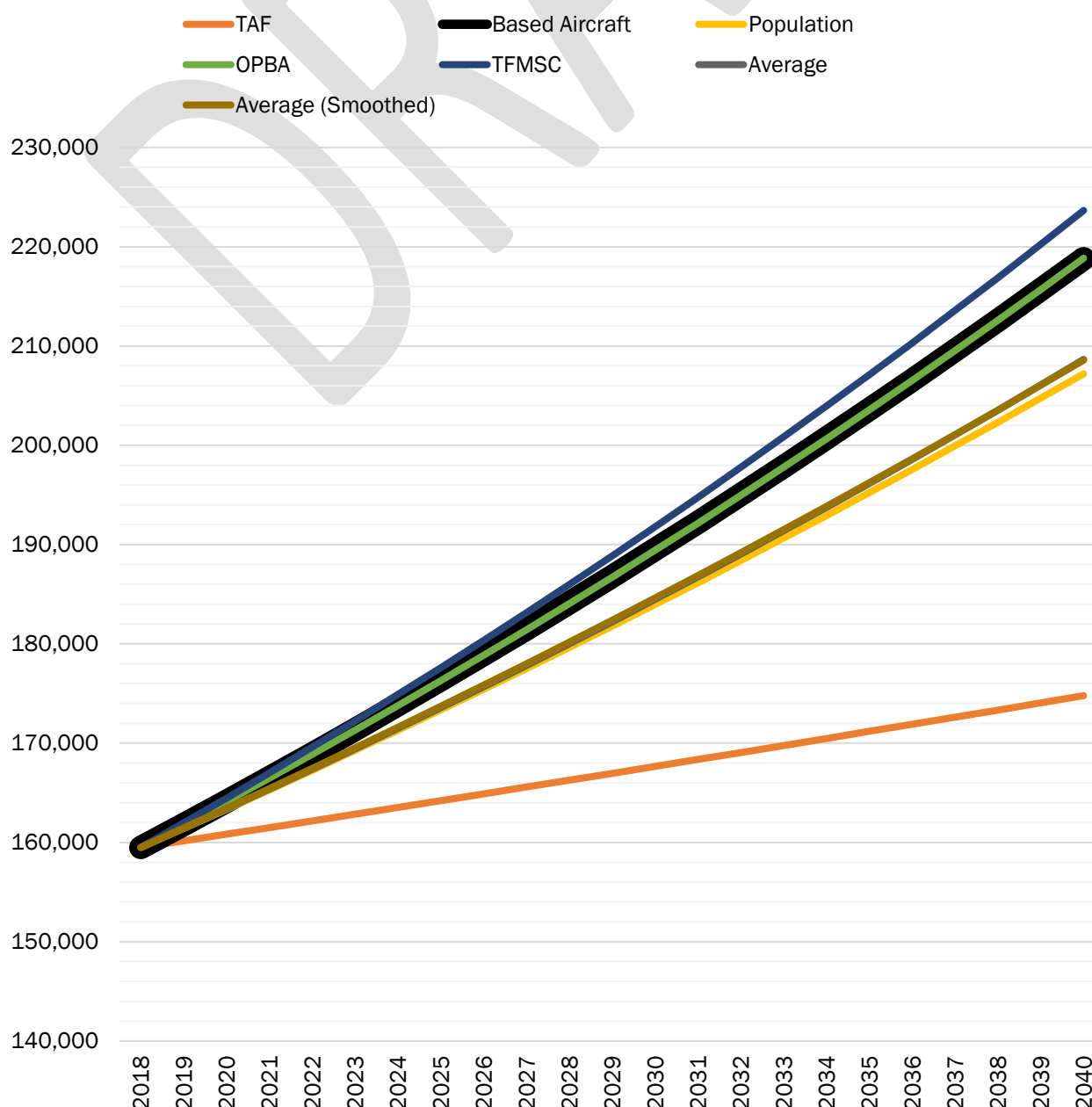
Table 3-11 illustrates the forecast of local and itinerant operations during the planning period. This forecast was produced by keeping air carrier and military operations at the same levels throughout the planning period and splitting the remaining activity by their respective percentages in 2018. **Table 3-12** illustrates the forecast of operations by aircraft type. This forecast was produced by increasing the turboprop, jet, and helicopter operations at the growth rates in the FAA Aerospace Forecast Fiscal Years 2018-2038 for Active General Aviation and Air Taxi Aircraft and the piston aircraft comprised the remainder. The number of helicopters in 2018 was estimated from a previous noise modeling effort for PDK. The number of jet operations is forecast to increase from 39,729 in 2018 to 64,125 by 2040. This forecast is further analyzed in the next chapter of this Master Plan Update to identify the critical aircraft for each runway.

Table 3-10: Total Operations Forecast (2018-2040)

Year	TAF	Based Aircraft	Population	OPBA	TFMSC	Average	Average (Smoothed)	Total Based Aircraft	OPBA
2018	159,493	159,493	159,493	159,493	159,493	159,493	159,493	355	449.28
2019	160,158	161,801	161,401	161,787	161,963	161,422	161,450	360	449.32
2020	160,826	164,143	163,333	164,115	164,471	163,378	163,431	365	449.35
2021	161,497	166,519	165,287	166,479	167,018	165,360	165,436	371	449.39
2022	162,170	168,929	167,264	168,878	169,605	167,369	167,466	376	449.41
2023	162,847	171,374	169,266	171,313	172,232	169,406	169,521	381	449.44
2024	163,526	173,855	171,291	173,785	174,899	171,471	171,601	387	449.46
2025	164,208	176,371	173,341	176,294	177,608	173,564	173,706	392	449.47
2026	164,892	178,924	175,415	178,841	180,358	175,686	175,838	398	449.48
2027	165,580	181,514	177,514	181,427	183,151	177,837	177,995	404	449.49
2028	166,271	184,141	179,637	184,052	185,988	180,018	180,179	410	449.49
2029	166,964	186,806	181,787	186,717	188,868	182,228	182,390	416	449.49
2030	167,660	189,510	183,962	189,422	191,793	184,470	184,628	422	449.49
2031	168,360	192,253	186,163	192,168	194,763	186,741	186,893	428	449.47
2032	169,062	195,036	188,391	194,956	197,780	189,045	189,187	434	449.46
2033	169,767	197,859	190,645	197,786	200,843	191,380	191,508	440	449.44
2034	170,475	200,722	192,926	200,660	203,953	193,747	193,858	447	449.42
2035	171,186	203,628	195,234	203,577	207,112	196,147	196,236	453	449.39
2036	171,900	206,575	197,570	206,539	210,319	198,581	198,644	460	449.36
2037	172,617	209,565	199,934	209,545	213,576	201,047	201,081	466	449.32
2038	173,336	212,598	202,326	212,598	216,884	203,549	203,549	473	449.28
2039	174,059	215,675	204,747	215,698	220,243	206,084	206,046	480	449.23
2040	174,785	218,797	207,197	218,845	223,654	208,656	208,574	487	449.18
Average Annual Growth Rate (AAGR)									
2018-2038	0.42%	1.45%	1.20%	1.45%	1.55%	1.23%	1.23%	1.45%	0.00%
2018-2040	0.42%	1.45%	1.20%	1.45%	1.55%	1.23%	1.23%	1.45%	0.00%
2020-2040	0.42%	1.45%	1.20%	1.45%	1.55%	1.23%	1.23%	1.45%	0.00%

Source: Michael Baker International, Inc., 2019.

Figure 3-8: Total Operations Forecast (2018-2040)



Source: Michael Baker International, Inc., 2019.



Table 3-11: Forecast of Local and Itinerant Operations (2018-2040)

Year	Itinerant						Local				Total
	Air Carrier	Air Taxi	GA	MIL	Total	% of Total	Civil	MIL	Total	% of Total	
2018	49	20,058	94,563	429	115,099	72.17%	44,337	57	44,394	27.83%	159,493
2019	49	20,350	95,937	429	116,765	72.17%	44,980	57	45,037	27.83%	161,801
2020	49	20,645	97,332	429	118,455	72.17%	45,631	57	45,688	27.83%	164,143
2021	49	20,945	98,746	429	120,169	72.17%	46,293	57	46,350	27.83%	166,519
2022	49	21,250	100,181	429	121,909	72.17%	46,964	57	47,021	27.83%	168,929
2023	49	21,558	101,637	429	123,673	72.17%	47,644	57	47,701	27.83%	171,374
2024	49	21,872	103,114	429	125,463	72.17%	48,335	57	48,392	27.83%	173,855
2025	49	22,189	104,612	429	127,279	72.17%	49,035	57	49,092	27.83%	176,371
2026	49	22,512	106,132	429	129,122	72.17%	49,746	57	49,803	27.83%	178,924
2027	49	22,839	107,674	429	130,990	72.17%	50,466	57	50,523	27.83%	181,514
2028	49	23,171	109,238	429	132,886	72.17%	51,198	57	51,255	27.83%	184,141
2029	49	23,507	110,825	429	134,810	72.17%	51,940	57	51,997	27.83%	186,806
2030	49	23,849	112,434	429	136,761	72.17%	52,692	57	52,749	27.83%	189,510
2031	49	24,195	114,067	429	138,740	72.17%	53,456	57	53,513	27.83%	192,253
2032	49	24,547	115,724	429	140,749	72.17%	54,230	57	54,287	27.83%	195,036
2033	49	24,903	117,405	429	142,786	72.17%	55,016	57	55,073	27.83%	197,859
2034	49	25,265	119,110	429	144,852	72.17%	55,813	57	55,870	27.83%	200,722
2035	49	25,632	120,839	429	146,949	72.17%	56,622	57	56,679	27.83%	203,628
2036	49	26,004	122,594	429	149,076	72.17%	57,442	57	57,499	27.83%	206,575
2037	49	26,381	124,374	429	151,234	72.17%	58,274	57	58,331	27.83%	209,565
2038	49	26,764	126,180	429	153,423	72.17%	59,119	57	59,176	27.83%	212,598
2039	49	27,153	128,041	429	155,643	72.17%	59,975	57	60,032	27.83%	215,675
2040	49	27,547	129,871	429	157,896	72.17%	60,844	57	60,901	27.83%	218,797
Average Annual Growth Rate (AAGR)											
2018-2038	0.00%	1.45%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%
2018-2040	0.00%	1.45%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%
2020-2040	0.00%	1.45%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%	0.00%	1.45%

Source: Michael Baker International, Inc., 2019.

Table 3-12: Forecast of Operations by Aircraft Type (2018-2040)

Year	Piston	Turboprop	Jet	Helicopter	Total Operations
2018	95,688	14,564	39,729	9,512	159,493
2019	96,704	14,812	40,603	9,683	161,801
2020	97,726	15,063	41,496	9,858	164,143
2021	98,756	15,319	42,409	10,035	166,519
2022	99,792	15,580	43,342	10,216	168,929
2023	100,835	15,845	44,296	10,399	171,374
2024	101,884	16,114	45,270	10,587	173,855
2025	102,940	16,388	46,266	10,777	176,371
2026	104,002	16,667	47,284	10,971	178,924
2027	105,071	16,950	48,324	11,169	181,514
2028	106,146	17,238	49,387	11,370	184,141
2029	107,227	17,531	50,474	11,574	186,806
2030	108,314	17,829	51,584	11,783	189,510
2031	109,407	18,132	52,719	11,995	192,253
2032	110,505	18,441	53,879	12,211	195,036
2033	111,610	18,754	55,064	12,430	197,859
2034	112,720	19,073	56,276	12,654	200,722
2035	113,835	19,397	57,514	12,882	203,628
2036	114,955	19,727	58,779	13,114	206,575
2037	116,080	20,062	60,072	13,350	209,565
2038	117,211	20,403	61,394	13,590	212,598
2039	118,346	20,750	62,745	13,835	215,675
2040	119,485	21,103	64,125	14,084	218,797
Average Annual Growth Rate (AAGR)					
2018-2038	1.02%	1.70%	2.20%	1.80%	1.45%
2018-2040	1.01%	1.70%	2.20%	1.80%	1.45%
2020-2040	1.01%	1.70%	2.20%	1.80%	1.45%

Source: Michael Baker International, Inc., 2019.



3.7 Instrument Operations Forecast

According to the FAA report, Forecasting Aviation Activity by Airport, instrument operations consist of “arrivals, departures, and overflights conducted by an FAA approach control facility for aircraft with an Instrument Flight Rule (IFR) flight plan or special Visual Flight Rule (VFR) procedures.” The historical flight plan activity data from the FAA’s TFMSC database was previously presented in **Table 3-13** and consisted of 69,665 operations in 2018. The forecasts of instrument operations considered not only the projected growth in jets and turboprops throughout the planning period, but also some anticipated growth for the piston activity at the airport. Therefore, all future growth in jet and turboprop activity was incorporated into the forecast and 15.40 percent of future piston activity was added which represents the 2018 share of piston and unclassified aircraft instrument operations to total operations. The resulting forecast is presented in **Table 3-13** and increases instrument operations from 69,665 in 2018 to 104,423 by 2040.

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Table 3-13: Instrument Operations Forecast (2018-2040)

Year	Piston	Turboprop	Jet	Total	Total Operations	% of Total
2018	15,372	14,564	39,729	69,665	159,493	43.68%
2019	15,535	14,812	40,603	70,950	161,801	43.85%
2020	15,699	15,063	41,496	72,259	164,143	44.02%
2021	15,865	15,319	42,409	73,593	166,519	44.20%
2022	16,031	15,580	43,342	74,953	168,929	44.37%
2023	16,199	15,845	44,296	76,339	171,374	44.55%
2024	16,367	16,114	45,270	77,752	173,855	44.72%
2025	16,537	16,388	46,266	79,191	176,371	44.90%
2026	16,708	16,667	47,284	80,658	178,924	45.08%
2027	16,879	16,950	48,324	82,154	181,514	45.26%
2028	17,052	17,238	49,387	83,678	184,141	45.44%
2029	17,226	17,531	50,474	85,231	186,806	45.63%
2030	17,400	17,829	51,584	86,814	189,510	45.81%
2031	17,576	18,132	52,719	88,427	192,253	46.00%
2032	17,752	18,441	53,879	90,072	195,036	46.18%
2033	17,930	18,754	55,064	91,748	197,859	46.37%
2034	18,108	19,073	56,276	93,457	200,722	46.56%
2035	18,287	19,397	57,514	95,198	203,628	46.75%
2036	18,467	19,727	58,779	96,973	206,575	46.94%
2037	18,648	20,062	60,072	98,783	209,565	47.14%
2038	18,830	20,403	61,394	100,627	212,598	47.33%
2039	19,012	20,750	62,745	102,507	215,675	47.53%
2040	19,195	21,103	64,125	104,423	218,797	47.73%
Average Annual Growth Rate (AAGR)						
2018-2038	1.02%	1.70%	2.20%	1.86%	1.45%	0.40%
2018-2040	1.01%	1.70%	2.20%	1.86%	1.45%	0.40%
2020-2040	1.01%	1.70%	2.20%	1.86%	1.45%	0.40%

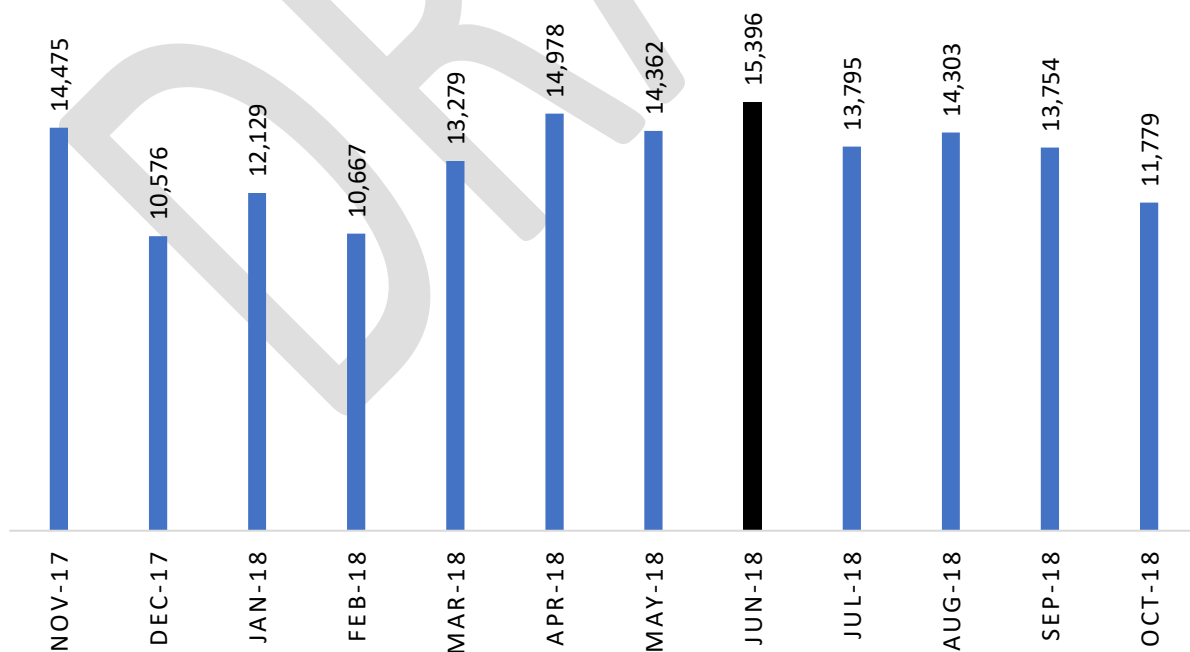
Source: Michael Baker International, Inc., 2019.



3.8 Peak Activity Forecasts

As an airport with an ATCT, it was possible to review historical activity to determine actual peak month and peak day values for PDK. As shown in **Figure 3-9**, the peak month for total activity at PDK during the one-year period between November 2017 and October 2018 was June with 15,396 operations or 9.65 percent of total annual activity. **Table 3-14** further analyzes the 2018 activity data for the peak month and day for itinerant, local, and total activity at PDK. There are max peak values and average peak values shown in the table. The max peak values occur very infrequently and therefore do not represent typical peaking situations for the airport. For example, the airport has experienced more than 500 daily itinerant operations only 10 times since 2012 and more than 300 daily local operations only nine times since 2012. The average peak values are more representative of what the airport experiences as peaks routinely throughout the year. Therefore, the calculated average peak values were used to determine the Average Peak Month (APM) and Average Day Peak Month (ADPM) forecasts for itinerant, local, and total activity over the course of the 22-year planning period (refer to **Table 3-15**). Aircraft flight track radar data from 2016 was reviewed to calculate the Average Day Peak Hour (ADPH) forecasts. The day with the most recorded flight tracks in 2016 was November 27 with 295 records and the busiest hour on that day had 31 records, which represented 10.51 percent of the daily activity. That value was applied to determine the ADPH forecasts throughout the planning period. According to FAA Values for FAA Investment and Regulatory Decisions, A Guide (updated September 2016), GA aircraft average 1.9 passengers per flight, which includes everything from small pistons to large corporate jets. That value was applied to determine the forecast of ADPM and ADPH itinerant passengers during the planning period.

Figure 3-9: 2018 Monthly Peaking Analysis for Total Activity



Sources: FAA OPSET database and Michael Baker International, Inc., 2019.



Table 3-14: 2018 Monthly and Daily Peaking Analysis

Month	Itinerant Peaking Activity					Local Peaking Activity					Total Peaking Activity				
	Annual	Month	% Annual	Day	% Annual	Annual	Month	% Annual	Day	% Annual	Annual	Month	% Annual	Day	% Annual
Nov-17	115,099	10,492	9.12%	413	0.36%	44,394	3,983	8.97%	166	0.37%	159,493	14,475	9.08%	569	0.36%
Dec-17	115,099	8,275	7.19%	510	0.44%	44,394	2,301	5.18%	284	0.64%	159,493	10,576	6.63%	693	0.43%
Jan-18	115,099	9,055	7.87%	467	0.41%	44,394	3,074	6.92%	266	0.60%	159,493	12,129	7.60%	673	0.42%
Feb-18	115,099	8,029	6.98%	472	0.41%	44,394	2,638	5.94%	279	0.63%	159,493	10,667	6.69%	726	0.46%
Mar-18	115,099	10,007	8.69%	463	0.40%	44,394	3,272	7.37%	308	0.69%	159,493	13,279	8.33%	715	0.45%
Apr-18	115,099	10,871	9.44%	495	0.43%	44,394	4,107	9.25%	339	0.76%	159,493	14,978	9.39%	774	0.49%
May-18	115,099	10,041	8.72%	521	0.45%	44,394	4,321	9.73%	308	0.69%	159,493	14,362	9.00%	827	0.52%
Jun-18	115,099	10,293	8.94%	475	0.41%	44,394	5,103	11.49%	294	0.66%	159,493	15,396	9.65%	769	0.48%
Jul-18	115,099	9,644	8.38%	464	0.40%	44,394	4,151	9.35%	254	0.57%	159,493	13,795	8.65%	679	0.43%
Aug-18	115,099	10,059	8.74%	439	0.38%	44,394	4,244	9.56%	220	0.50%	159,493	14,303	8.97%	602	0.38%
Sep-18	115,099	9,329	8.11%	442	0.38%	44,394	4,425	9.97%	208	0.47%	159,493	13,754	8.62%	628	0.39%
Oct-18	115,099	9,004	7.82%	467	0.41%	44,394	2,775	6.25%	266	0.60%	159,493	11,779	7.39%	691	0.43%
Max	Max	10,871	9.44%	521	0.45%	Max	5,103	11.49%	339	0.76%	Max	15,396	9.65%	827	0.52%
Average	Average	9,592	8.33%	469	0.41%	Average	3,700	8.33%	266	0.60%	Average	13,291	8.33%	696	0.44%

Sources: FAA OPSNET database and Michael Baker International, Inc., 2019.





Table 3-15: Peak Activity Forecasts (2018-2040)

Year	Itinerant Peaking Activity						Local Peaking Activity				Total Peaking Activity			
	Annual	APM	ADPM	ADPH	ADPM Passenger	ADPH Passenger	Annual	APM	ADPM	ADPH	Annual	APM	ADPM	ADPH
2018	115,099	9,592	469	49	891	94	44,394	3,700	181	19	159,493	13,291	650	68
2019	116,765	9,730	476	50	904	95	45,037	3,753	184	19	161,801	13,483	659	69
2020	118,455	9,871	483	51	917	96	45,688	3,807	186	20	164,143	13,679	669	70
2021	120,169	10,014	490	51	930	98	46,350	3,862	189	20	166,519	13,877	679	71
2022	121,909	10,159	497	52	944	99	47,021	3,918	192	20	168,929	14,077	688	72
2023	123,673	10,306	504	53	957	101	47,701	3,975	194	20	171,374	14,281	698	73
2024	125,463	10,455	511	54	971	102	48,392	4,033	197	21	173,855	14,488	708	74
2025	127,279	10,607	519	55	985	104	49,092	4,091	200	21	176,371	14,698	719	76
2026	129,122	10,760	526	55	1,000	105	49,803	4,150	203	21	178,924	14,910	729	77
2027	130,990	10,916	534	56	1,014	107	50,523	4,210	206	22	181,514	15,126	740	78
2028	132,886	11,074	541	57	1,029	108	51,255	4,271	209	22	184,141	15,345	750	79
2029	134,810	11,234	549	58	1,044	110	51,997	4,333	212	22	186,806	15,567	761	80
2030	136,761	11,397	557	59	1,059	111	52,749	4,396	215	23	189,510	15,793	772	81
2031	138,740	11,562	565	59	1,074	113	53,513	4,459	218	23	192,253	16,021	783	82
2032	140,749	11,729	574	60	1,090	115	54,287	4,524	221	23	195,036	16,253	795	84
2033	142,786	11,899	582	61	1,105	116	55,073	4,589	224	24	197,859	16,488	806	85
2034	144,852	12,071	590	62	1,121	118	55,870	4,656	228	24	200,722	16,727	818	86
2035	146,949	12,246	599	63	1,138	120	56,679	4,723	231	24	203,628	16,969	830	87
2036	149,076	12,423	607	64	1,154	121	57,499	4,792	234	25	206,575	17,215	842	88
2037	151,234	12,603	616	65	1,171	123	58,331	4,861	238	25	209,565	17,464	854	90
2038	153,423	12,785	625	66	1,188	125	59,176	4,931	241	25	212,598	17,717	866	91
2039	155,643	12,970	634	67	1,205	127	60,032	5,003	245	26	215,675	17,973	879	92
2040	157,896	13,158	643	68	1,222	128	60,901	5,075	248	26	218,797	18,233	892	94
Average Annual Growth Rate (AAGR)														
2018-2038	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%
2018-2040	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%
2020-2040	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%

Source: Michael Baker International, Inc., 2019.



3.9 Forecast Summary

As mentioned earlier in this chapter, the FAA considers total operations and based aircraft forecasts consistent with the TAF if they differ by less than 10 percent in the five-year forecast period and 15 percent in the 10-year forecast period. As shown in **Table 3-16**, the recommended forecasts of this Master Plan Update are considered consistent with the TAF because they do not exceed those thresholds. Note that the comparisons to the 2017 TAF were made based on adjustments that reflect actual values in 2018 but incorporate the same AAGR factors from the 2017 TAF through 2040. The recommended forecasts are used throughout the remainder of this study to plan for the long-term development of PDK.

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Table 3-16: Forecast Summary (2018-2040)

Year	Year +	Operations			Based Aircraft		
		TAF	Recommended	Difference	TAF	Recommended	Difference
2018	0	159,493	159,493	0.00%	355	355	0.00%
2019	1	160,158	161,801	1.03%	360	360	0.13%
2020	2	160,826	164,143	2.06%	364	365	0.26%
2021	3	161,497	166,519	3.11%	369	371	0.40%
2022	4	162,170	168,929	4.17%	374	376	0.53%
2023	5	162,847	171,374	5.24%	379	381	0.67%
2024	6	163,526	173,855	6.32%	384	387	0.80%
2025	7	164,208	176,371	7.41%	389	392	0.94%
2026	8	164,892	178,924	8.51%	394	398	1.08%
2027	9	165,580	181,514	9.62%	399	404	1.22%
2028	10	166,271	184,141	10.75%	404	410	1.36%
2029	11	166,964	186,806	11.88%	409	416	1.50%
2030	12	167,660	189,510	13.03%	415	422	1.64%
2031	13	168,360	192,253	14.19%	420	428	1.79%
2032	14	169,062	195,036	15.36%	426	434	1.94%
2033	15	169,767	197,859	16.55%	431	440	2.08%
2034	16	170,475	200,722	17.74%	437	447	2.23%
2035	17	171,186	203,628	18.95%	443	453	2.38%
2036	18	171,900	206,575	20.17%	448	460	2.53%
2037	19	172,617	209,565	21.40%	454	466	2.68%
2038	20	173,336	212,598	22.65%	460	473	2.84%
2039	21	174,059	215,675	23.91%	466	480	2.99%
2040	22	174,785	218,797	25.18%	472	487	3.15%
Average Annual Growth Rate (AAGR)							
2018-	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A
2018-	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A
2020-	N/A	0.42%	1.45%	N/A	1.31%	1.45%	N/A

Source: Michael Baker International, Inc., 2019.