3 FORECASTS OF AVIATION DEMAND

3.1 Airport Service Region

Gary/Chicago International Airport (the Airport or GYY) is located in northwest Indiana, just 25 miles southeast of Chicago, IL. The primary Airport service region, as defined for purpose of this report, is the Gary, IN Metropolitan Division (the Metropolitan Division or MD), encompassing the northwestern Indiana counties of Jasper, Lake, Newton, and Porter. The secondary Airport service region encompasses the broader Chicago-Naperville-Elgin, IL-IN-WI Metropolitan Statistical Area[1] (the MSA), encompassing the Metropolitan Division, as well as the northeastern Illinois counties of Cook, DeKalb, DuPage, Grundy, Kane, Kendall, Lake, McHenry, and Will, and the southeastern Wisconsin county of Kenosha.

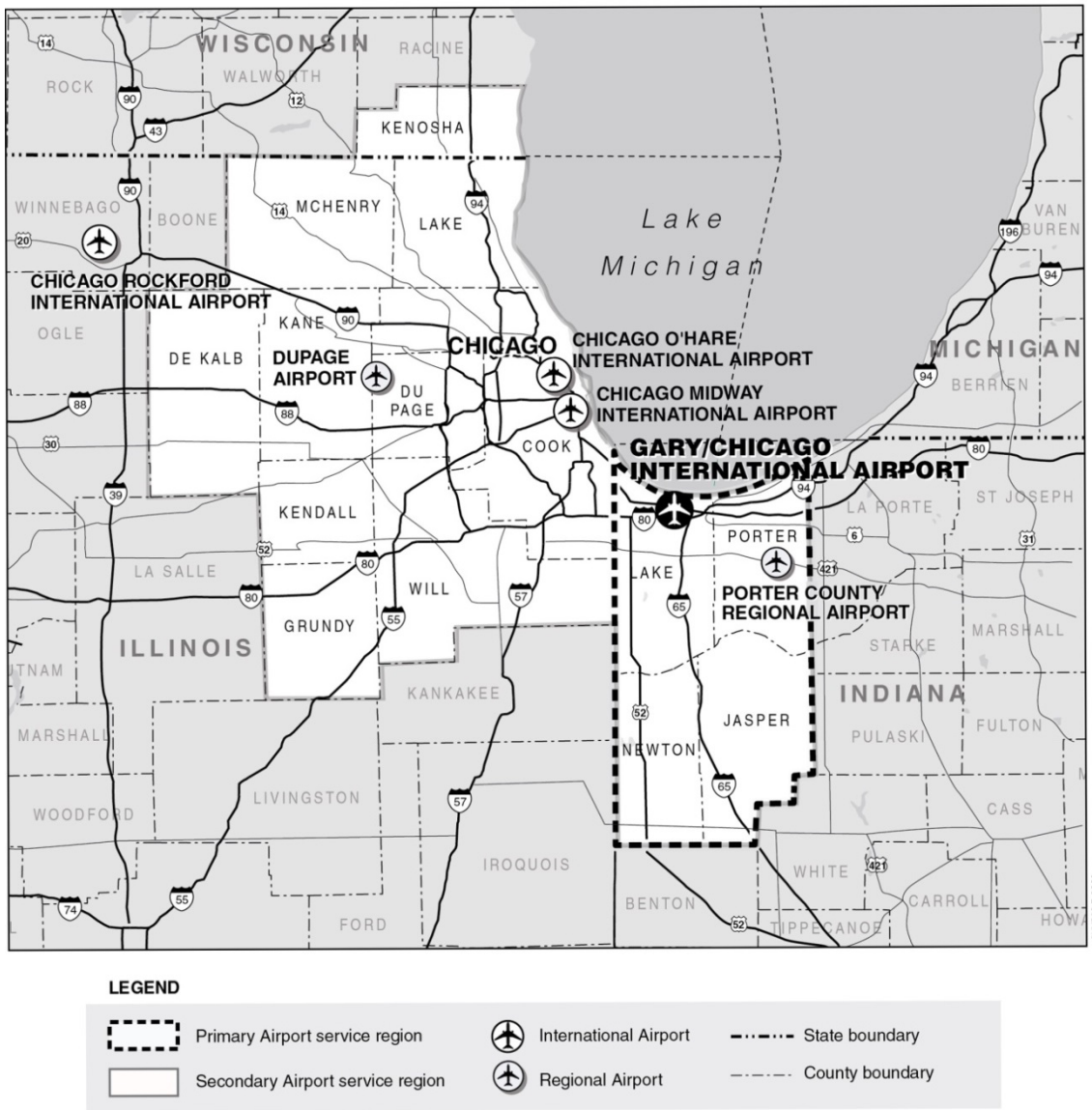
The Metropolitan Division has a population of approximately 700,000 and contains the city of Gary. The MSA has a population of approximately 9.5 million and contains the city of Chicago, the third-largest city in the United States and the largest city in the Midwest. Figure 1 shows a map of the primary and secondary Airport service regions.

Two major competing airports located within a modest drive for residents of and visitors to the Metropolitan Division are Chicago Midway International Airport (Midway, or MDW), a large hub airport with a substantial low-cost carrier (LCC) presence by Southwest Airlines located 25 miles northwest of the Airport, and Chicago O'Hare International Airport (O'Hare, or ORD), a large hub airport, major connecting hub for both American Airlines and United Airlines, and major international gateway located 45 miles

[1] Metropolitan Statistical Areas, or MSAs are defined by the Office of Management and Budget (OMB) and are used by the Census Bureau and other agencies for collecting and analyzing statistical data.

northwest of the Airport. GYY competes against both airports for passenger traffic, and against MDW, DuPage Airport (located 30 miles west of Chicago), and Porter County Municipal Airport (located 25 miles southeast of Gary) for general aviation (GA) traffic. Exhibit 3-1 – Airport Service Region depicts the region around GYY.

EXHIBIT 3-1 – Airport Service Region



Source: LeighFisher.

According to a leakage study prepared for the Airport by AvPorts and published in December 2014, the Airport's primary catchment area is defined as that area where GYY is the closest airport in terms of driving distance, encompassing a population of 1.9 million. For the 12 months ended March 2014, this catchment area was the source of approximately 3.0 million passenger bookings, accounting for 7.6% of the total passenger bookings of the "Greater Chicagoland" catchment area (served by MDW and ORD in addition to GYY, and generally analogous to the MSA). Of the passenger bookings in the primary catchment area, 85% were for domestic travel and 15% were for international, while 58% were for business purposes and 42% were for leisure. This study supports the potential for future growth in passenger traffic at GYY, provided commercial service is available.

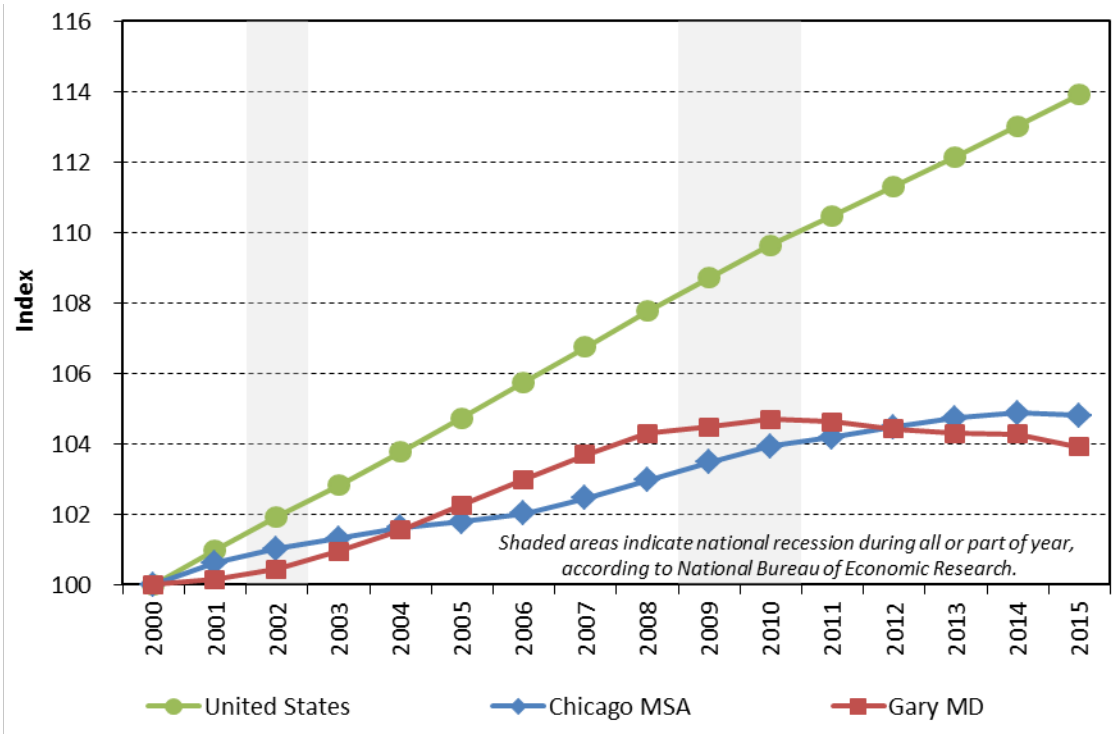
3.2 Demographic and Economic Profile

The level of air travel demand is highly correlated with the economic profile of an airport's service region, particularly with socioeconomic trends and tourism appeal. The demographic variables with the strongest influence on airline travel demand are the region's population, employment, and per capita income. Growth in population increases the number of potential travelers, while growth in employment and income increases the propensity of that population to travel by air. In addition to these factors, business travel and tourism can play a significant role in generating commercial airline and GA travel demand to and from the Airport service region.

3.2.1 Population

Population growth is a key factor influencing the demand for airline travel. Exhibit 3-2 – Comparative Index of Population Trends and Table 3-1 – Comparative Index of Population Trends depict population trends based on U.S. Department of Commerce, Bureau of the Census website, www.census.gov, accessed September 2016. This data shows that, between 2000 and 2015, the Metropolitan Division and MSA population increased at a rate one-third the national average. Moreover, population in the Metropolitan Division has declined since 2010. These trends are similar to those experienced by many cities in the midwestern and northeastern United States, reflecting the migration of manufacturing facilities to southeastern states, the rise of automation in industrial processes, a reduced need for labor in making steel products, and more liberal foreign trade policies.

Exhibit 3-2 – Comparative Index of Population Trends



*(index: 2000 = 100)

Source: U.S. Department of Commerce, Bureau of the Census website, www.census.gov, accessed September 2016.

Table 3-1 - Comparative Index of Population Trends

Population *(a)*	**2000**	**2010**	**2015**
United States	282,162,411	309,346,863	321,418,820
Chicago MSA	9,113,234	9,471,357	9,551,031
Gary MD	676,510	708,291	703,031
Average annual growth rate	**2000-2010**	**2010-2015**	**2000-2015**
United States	0.9%	0.8%	0.9%
Chicago MSA	0.4	0.2	0.3
Gary MD	0.5	(0.1)	0.3

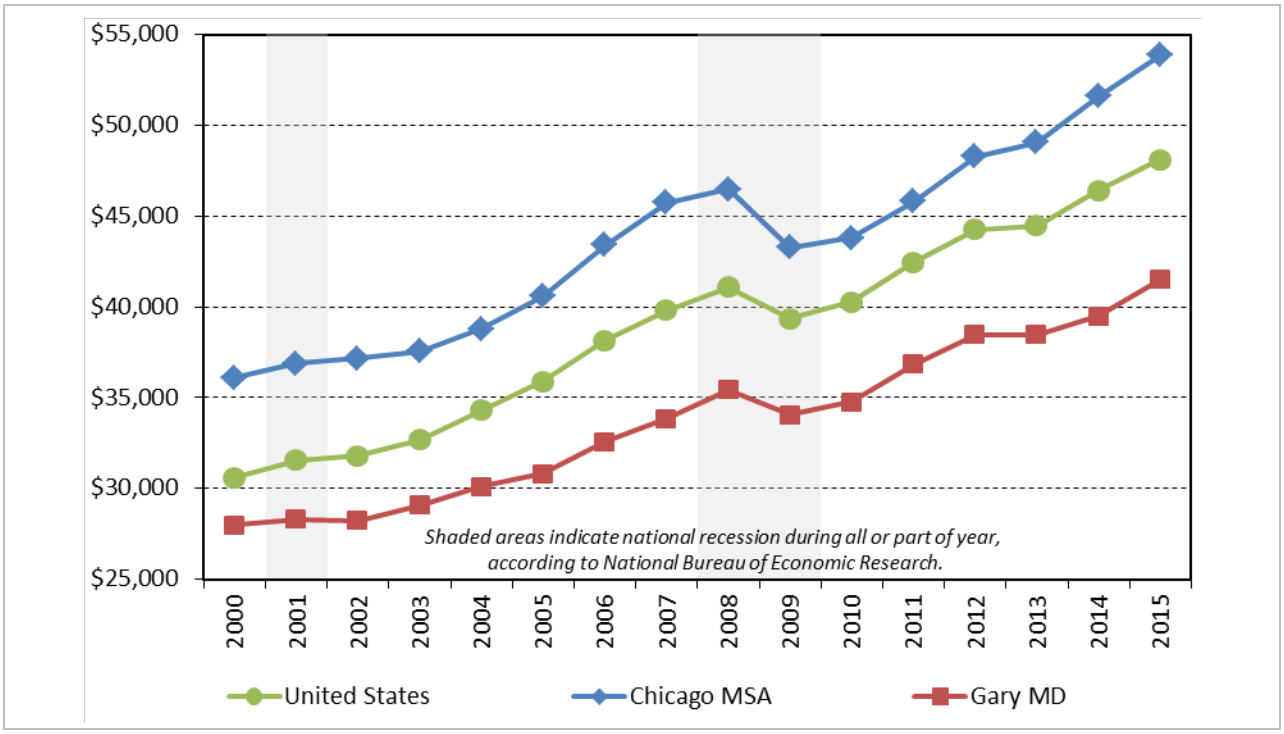
(a) Values represent July 1 population estimates

Source: U.S. Department of Commerce, Bureau of the Census website, www.census.gov, accessed September 2016.

3.2.2 Per Capita Income

Exhibit 3-3 – Per Capita Income and Table 3-2 – Per Capita Income depict per capita income trends based on the U.S. Department of Commerce, Bureau of Economic Analysis website, www.bea.gov, accessed September 2016. This data shows that per capita income growth in the Metropolitan Division and the MSA has generally mirrored the pattern of nationwide growth over the past 15 years. Over that period, per capita income in the MSA has been generally 10-15% above the national average, while per capita income in the Metropolitan Division has been generally 10-15% below the national average. While a higher per capita income correlates with a greater propensity to travel by air, a lower per capita income is indicative of a more affordable workforce. However, a lower per capita income in an airport service region can present challenges in attracting and retaining commercial passenger air service.

Exhibit 3-3 - Per Capita Income



Source: U.S. Department of Commerce, Bureau of Economic Analysis website, www.bea.gov, accessed September 2016.

Table 3-2 – Per Capita Income

Per Capita Personal Income	2000	2010	2015
United States	$30,602	$40,277	$48,112
Chicago MSA	36,096	43,803	53,886
Gary MD	27,990	34,785	41,507
Average annual growth rate	**2000-2010**	**2010-2015**	**2000-2015**
United States	2.8%	3.6%	3.1%
Chicago MSA	2.0	4.2	2.7
Gary MD	2.2	3.6	2.7

Source: U.S. Department of Commerce, Bureau of Economic Analysis website, www.bea.gov, accessed December 2016.

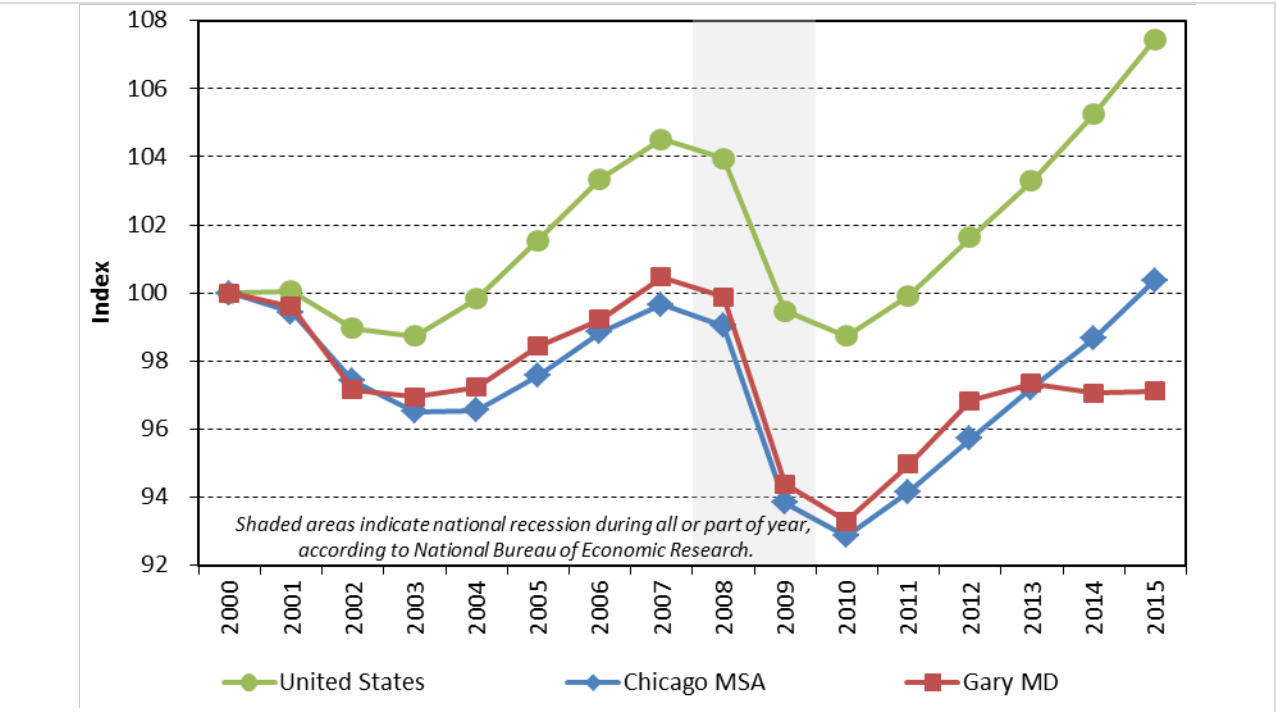
3.2.3 Nonagricultural Employment

Exhibit 3-4 – Comparative Index of Non-Agricultural Employment and Table 3-3 – Comparative Index of Non-Agricultural Employment depict employment trends based on U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016. This data shows that between 2000 and 2015 the Metropolitan Division and the MSA experienced no net growth in non-agricultural employment. In the Metropolitan Division—the region most proximate to the Airport—employment was 3% lower in 2015 than it was in 2000. Since the end of the 2008-2009 economic recession; however, employment growth in the MSA has nearly kept pace with the national average.

3.2.4 Employment by Industry Sector

Table 3-4 – Average Annual Non-Agricultural Employment Growth and Employment Share by Industry depicts employment trends by industry sector based on Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016. This data shows employment by industry sector in the Metropolitan Division, the MSA, and the United States. The Metropolitan Division has a higher percentage of jobs in in trade, transportation, utilities, education and health services, and manufacturing than the United States overall, and a lower percentage in government, professional/business services, and financial activities.

Exhibit 3-4 - Comparative Index of Non-Agricultural Employment



(index: 2000 = 100)

Source: U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016.

Table 3-3 - Comparative Index of Non-Agricultural Employment

Employment (thousands)	2000	2010	2015
United States	132,024	130,361	141,865
Chicago MSA	4,569	4,243	4,586
Gary MD	282	263	274
Average annual growth rate	**2000-2010**	**2010-2015**	**2000-2015**
United States	(0.1%)	1.7%	0.5%
Chicago MSA	(0.7)	1.6	0.0
Gary MD	(0.7)	0.8	(0.2)

Note: Columns may not add to totals shown because of rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016.

Table 3-4 - Average Annual Non-Agricultural Employment Growth and Employment Share by Industry

Industry	Average Annual Growth Rate 2005-2015			2015 Percent of Total		
	Gary MD	Chicago MSA	United States	Gary MD	Chicago MSA	United States
Trade, Transportation, Utilities	(0.2%)	0.2%	0.4%	21.5%	20.3%	19.0%
Education & Health Services	1.8	2.3	2.2	18.0	15.3	15.5
Manufacturing	(0.6)	(1.8)	(1.4)	13.3	9.0	8.7
Government	(1.4)	(0.2)	0.1	12.8	12.0	15.5
Leisure & Hospitality	0.5	1.5	1.7	11.7	9.8	10.7
Professional/Business Services	(0.0)	1.3	1.5	8.3	17.6	13.9
Natural Resources, Mining, & Construction	(2.2)	(2.6)	(0.9)	5.6	3.6	5.1
Other Services	0.6	(0.1)	0.4	4.9	4.2	4.0
Financial Activities	(1.5)	(1.1)	(0.1)	3.2	6.4	5.7
Information	(2.6)	(1.3)	(1.1)	0.7	1.8	1.9
TOTAL	(0.1%)	0.3%	0.6%	100.0%	100.0%	100.0%

Note: Columns may not add to totals shown because of rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016.

3.2.5 Unemployment Rates

Exhibit 3-5 – Civilian Unemployment Rate and Table 3-5 – Civilian Unemployment Rate show that unemployment in the Metropolitan Division and the MSA has generally mirrored the national trend since 2000. During the first 7 months of 2016, unemployment in the Metropolitan Division and the MSA (6.6% and 6.2%, respectively) was somewhat higher than the national average (5.0%).

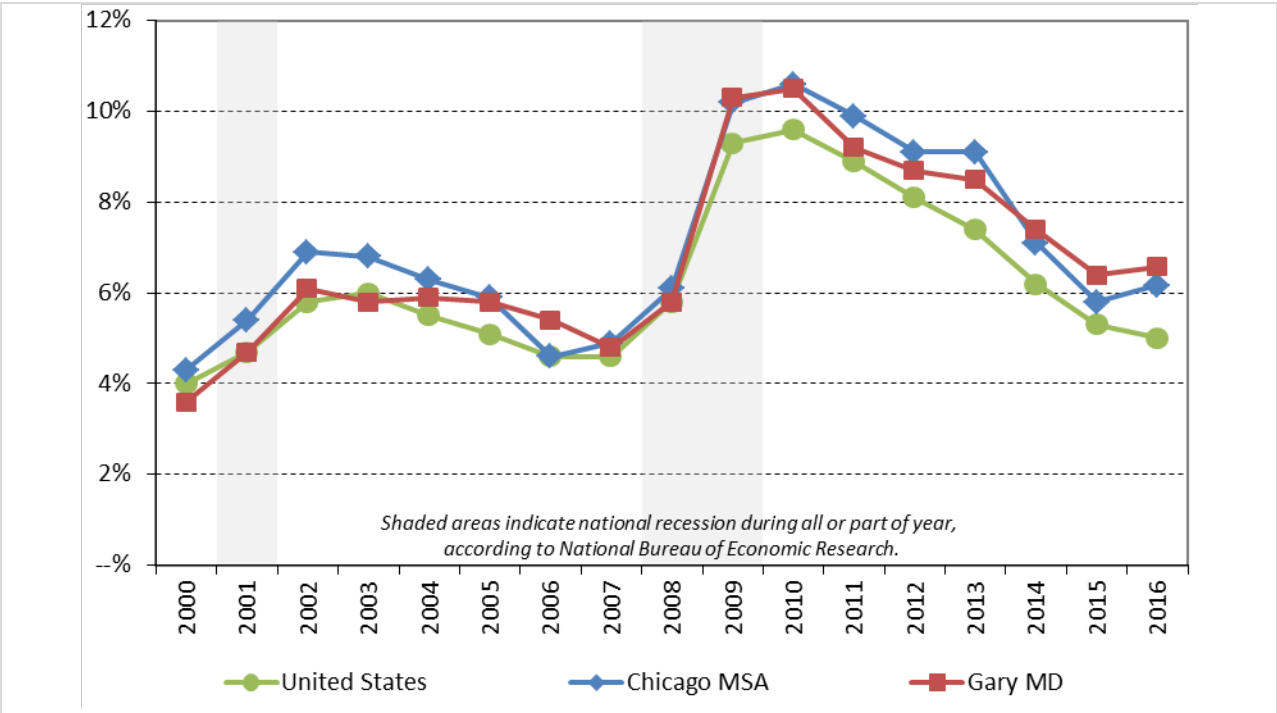
Table 3-5 - Civilian Unemployment Rate

Unemployment Rate	2000	2010	2016 *(a)*
United States	4.0%	9.6%	5.0%
Chicago MSA	4.3	10.6	6.2
Gary MD	3.6	10.5	6.6

(a) 2016 data represents average for January-July 2016.

Source: U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016.

Exhibit 3-5 - Civilian Unemployment Rate



Source: U.S. Department of Labor, Bureau of Labor Statistics website, www.bls.gov, accessed September 2016.

3.3 Economic Outlook

3.3.1 Outlook for the U.S. Economy

Following real (inflation-adjusted) gross domestic product (GDP) growth of 1.5% in 2013, 2.4% in 2014, and 2.4% in 2015, the Congressional Budget Office forecasts real GDP growth of 1.9% in 2016, 2.4% in 2017, 2.2% in 2018, and average 1.9% thereafter.

Continued U.S. economic growth will depend on, among other factors, stable financial and credit markets, a stable value of the U.S. dollar versus other currencies, stable energy and other commodity prices, the ability of the federal government to reduce historically high fiscal deficits, inflation remaining within the range targeted by the Federal Reserve, and growth in the economies of foreign trading partners.

3.3.2 Outlook for the Economy of the Airport Service Region

The economic outlook for the Metropolitan Division and the MSA generally depends on the same factors as those for the nation. The PNC Financial Services Group, in its 2nd Quarter 2016 Chicago Market Outlook publication, describes a relatively modest near-term economic outlook, citing inconsistency in

job creation and labor force trends. Over the longer term, however, it points to the Chicago region's continued role as the Midwest's largest and most diverse economy, populated by a productive and affluent workforce.

In terms of population, the Indiana Business Research Center at Indiana University's Kelley School of Business projects 0.3% average annual growth in the Metropolitan Division between 2015 and 2035. This is lower than corresponding projections of population for the MSA (+0.8%), developed by the Chicago Metropolitan Agency for Planning, and the nation (+0.7%), developed by the U.S. Census Bureau.

3.4 Historical Aviation Activity

The Airport is designated as a non-primary GA airport by the FAA, categorized with airports that accommodate less than 10,000 annual passenger boardings. It is located in the Gary Metropolitan Division which, itself, constitutes the southern portion of the Chicago-Naperville-Elgin MSA, the largest population center and economy in the Midwestern United States. The MSA is served by Chicago O'Hare International Airport (ORD) and Chicago Midway International Airport (MDW), located 45 miles and 25 miles, respectively, from GYY. ORD and MDW, both designated as large hub airports by the FAA, together provide virtually all scheduled air service for travelers bound to and from the MSA and the Metropolitan Division. Table 3-6 – Enplaned Passengers for Airports Located in the Chicago MSA (by calendar year) shows the substantial difference in the number of passengers at the Airport, relative to ORD and MDW.

The Airport, ORD, and MDW share a large common base of air travelers due to their physical proximity. The Airport's primary service region is a part of the larger Chicago-Naperville-Elgin MSA. Given this overlap in the airports' "catchment areas," the relative air service offerings at the airports play a key role in the decision-making of air travelers, and hence, in the resulting traffic trends at the airports. To the extent that the relative cost and convenience of accessing the three airports is similar, the relative cost (i.e., airfares) and quality (e.g., nonstop service to more destinations, flight frequencies, first- and business-class service) of air service offerings becomes a primary airport choice determinant. For GA travel, primary airport choice determinants include fuel prices, surface transportation distance and cost to ultimate travel destination, and availability of airport services and amenities.

Table 3-6 – Enplaned Passengers for Airports Located in the Chicago MSA (by calendar year)

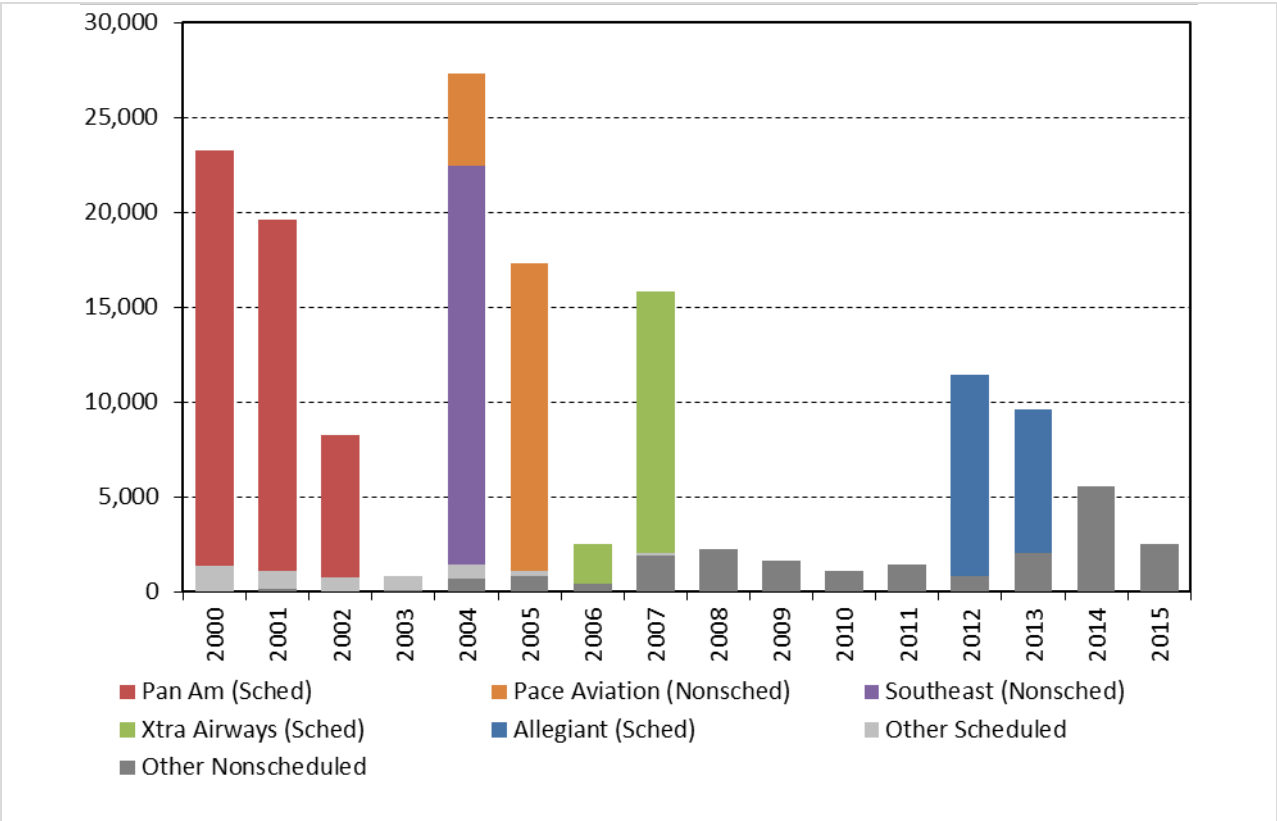
Calendar Year	Gary	Chicago-Midway	Chicago-O'Hare
2000	23,246	7,004,479	33,149,749
2001	19,584	7,070,547	30,738,410
2002	8,265	7,868,493	30,711,821
2003	812	8,683,963	32,921,556
2004	27,328	9,236,103	36,046,032
2005	17,341	8,381,089	36,719,725
2006	2,496	8,913,932	36,825,183
2007	15,814	9,127,888	36,521,760
2008	2,226	8,016,881	33,683,225
2009	1,618	8,252,330	31,132,083
2010	1,104	8,517,759	32,169,472
2011	1,399	9,130,408	31,887,145
2012	11,432	9,430,545	32,169,832
2013	9,640	9,906,746	32,314,696
2014	5,553	10,309,827	33,787,538
2015	2,547	10,829,102	36,353,800

Source: U.S. DOT, Schedule T100.

3.4.1 Enplaned Passenger and Service Trends

Exhibit 3-6 – GYY Enplaned Passengers (by calendar year) shows the effect on passenger volumes of the intermittent air service offered at GYY over the past 15 years. Depending upon the air service offered, numbers of enplaned passengers have varied from a peak of approximately 27,000 in one year to less than 1,000 in another. Since 2000, Pan Am, Southeast, Pace Aviation, Xtra Airways (formerly Casino Express), and Allegiant have been the only substantive providers of air service at the Airport.

Exhibit 3-6 – GYY Enplaned Passengers (by calendar year)



Source: U.S. DOT, Schedule T100.

The three airlines having offered scheduled passenger service—Pan Am, Xtra Airways, and Allegiant—primarily served an outbound resident market traveling to southerly 'Sunbelt' leisure destinations. Pan Am offered an average of 1-2 flights per day and served Allentown, Orlando, Pittsburgh, Portsmouth, St. Louis, St. Petersburg, and Tampa in the 2000 to 2002 period. Xtra Airways offered an average of 1 flight per day and served Fort Lauderdale, Las Vegas, Orlando, Phoenix, and St. Petersburg in 2006 and 2007. Allegiant offered an average of 1 flight per week to Orlando in 2012 and 2013.

3.4.2 Aircraft Operations and Based Aircraft Trends

Table 3-7 – GYY Historical Operations (by calendar year) shows historical flight operations and based aircraft at the Airport from 2011 to 2015. The number of total operations has varied from approximately 22,000 to 29,000 per year. Between 2013 and 2015, operations were affected by the construction of Runway 12-30, although the exact impact is difficult to quantify. In each year, GA operations have accounted for the large majority of flights at the Airport, usually making up more than 90% of the total. The smaller segments of military (primarily operations of the Indiana National Guard), cargo, and passenger flights have made up the remainder. Some cargo is handled by fixed-base operators and is flown on small, non-scheduled aircraft carrying just-in-time inventory. These operations may be included in the broader GA category.

Table 3-7 – GYY Historical Operations (by calendar year)

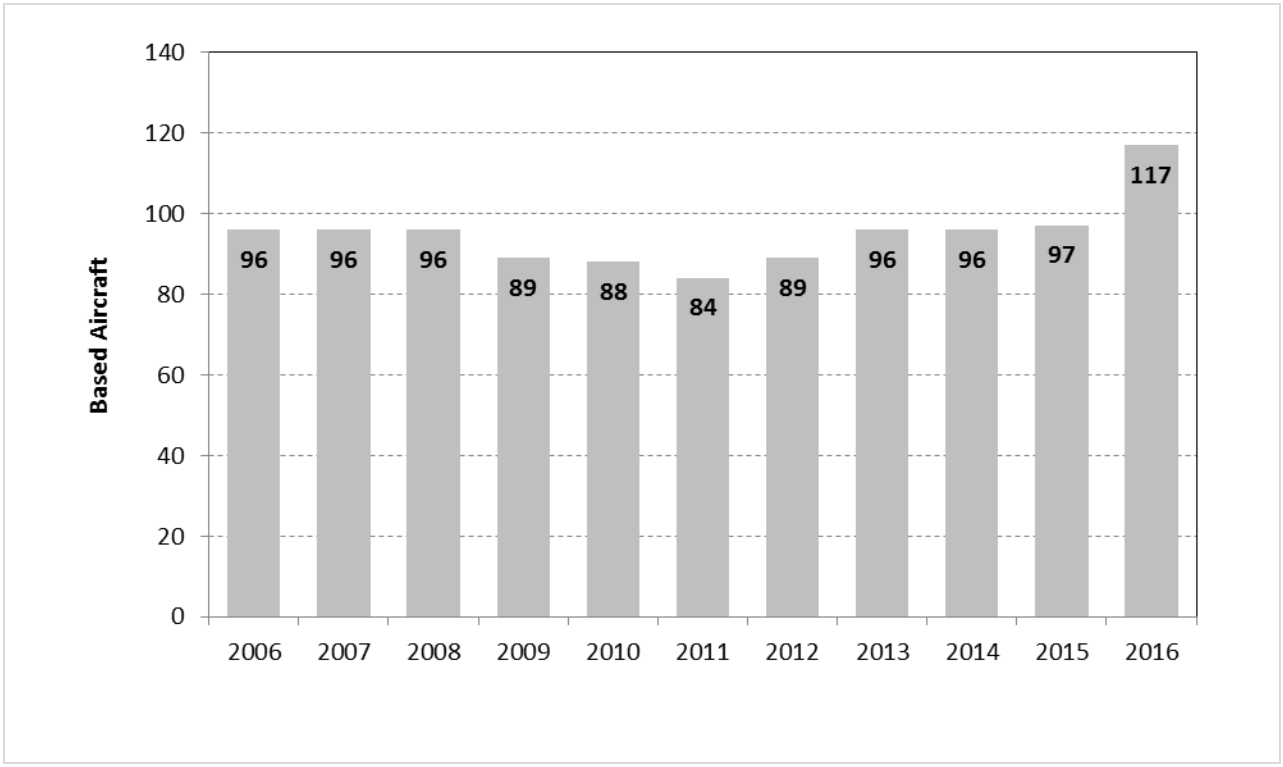
						Average Annual Growth Rate			
	2011	2012	2013	2014	2015	2011-2012	2012-2013	2013-2014	2014-2015
Total Operations	28,238	28,677	22,348	22,029	25,229	1.6%	(22.1%)	(1.4%)	14.5%
Passenger Airline	39	191	185	182	89	389.7	(3.1)	(1.6)	(51.1)
All-Cargo Airline	133	247	157	266	244	85.7	(36.4)	69.4	(8.3)
General Aviation & Other *(a)*	25,628	25,153	21,016	19,890	22,915	(1.9)	(16.4)	(5.4)	15.2
Military	2,438	3,086	990	1,691	1,981	26.6	(67.9)	70.8	17.1
Based Aircraft	84	89	96	96	97	6.0%	7.9%	0.0%	1.0%

(a) Includes general aviation, as well as flights that are not classified in any other category shown.

Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records; FAA TAF.

Exhibit 3-7 – Historical Based Aircraft (calendar year) shows based aircraft at the Airport from 2006 to 2016. Figures shown generally align with similar data contained in the Indiana State Airport System Plan. Based aircraft increased from 84 to 97 over the 2011-2015 period. However, Airport management reports that based aircraft subsequently increased to 117 by late 2016, following the runway extension. Of the 117 based aircraft, approximately 40% were jet aircraft, 34% were propeller aircraft, 14% were turboprop aircraft, and the remaining 12% included helicopters and aircraft not otherwise categorized. Six of the based aircraft were military helicopters; the remaining 111 were all civilian aircraft. The largest aircraft based at the airport are three Boeing 737-800 business jets. A trend toward larger based aircraft is evident when comparing to information contained in the Airport's previous Master Plan. In 1997, of 82 aircraft based at the Airport, 82% were propeller aircraft, 8% were jet aircraft, 5% were turboprop aircraft, and 5% were helicopters.

Exhibit 3-7– GYY Historical Based Aircraft (by calendar year)



Sources: 2006-2015: FAA TAF, issued January 2016; 2016: Gary/Chicago International Airport records.

3.5 Forecast Approach

This section describes the rationale underlying the Base Forecast and High Scenario developed for this Master Plan Update, and presents the basic assumptions associated with each. The methodology used to develop the forecasts of enplaned passengers is laid out, along with the methodology used to develop the forecasts of aircraft operations, and peaking of both passengers and operations. FAA approval is being sought for the Base Forecast. The High Scenario, by comparison, supports the Airport's ultimate development plan and was developed on the basis of more optimistic assumptions.

3.5.1 Forecast Assumptions

3.5.1.1 BASE FORECAST

The Base Forecast for the Airport was developed on the basis of the assumptions that:

1. The U.S. economy will experience growth in real GDP consistent with that projected by the Congressional Budget Office (1.9% in 2016, 2.4% in 2017, 2.2% in 2018, and average 1.9% thereafter), as described in the earlier section "Economic Outlook."

2. The economy of the MSA will grow at approximately the same rate as the U.S. economy as a whole, while the economy of the Metropolitan Division will grow at a lower rate than the national average.
3. Scheduled passenger airline service will resume at the Airport during the forecast period, but at modest levels, not exceeding levels of service previously accommodated periodically since 2000. Unscheduled charter activity will also occur. The geographical location of GYY, within a 90-minute drive of two major competing airports, means that its market is already largely served by airlines operating at those other airports.
4. GYY will make slight gains in market share of GA flights among the airports serving the Greater Chicago region due to constraints at MDW and, to a lesser extent, ORD.
5. A generally stable international political environment and safety and security precautions will ensure airline traveler confidence in aviation without imposing unreasonable inconveniences.
6. There will be no major disruption of airline service or airline travel behavior as a result of international hostilities or terrorist acts or threats.

3.5.1.2 HIGH SCENARIO

There are a number of events that could occur over the forecast period that would cause traffic growth at the Airport to exceed the levels envisioned in the Base Forecast, including the following:

1. Demographic and economic trends in the Metropolitan Division and the MSA could outperform their historical trends. Economic growth could outpace the national average during the forecast period.
2. One or more 'niche' airlines (e.g., small LCCs, domestic or international charter carriers) could launch regular service at the Airport. (Even in the High Scenario, it is unlikely that any airline presently serving MDW or ORD would opt to serve GYY in addition to, or in lieu of, those airports.)
3. Ground access to MDW or ORD, or both, could become more difficult, lengthening the driving or transit time required and encouraging more airlines and travelers to consider use of GYY. Increased parking costs and congestion at MDW or ORD, or both, could have the same effect on travelers.
3. Congestion at competing airports, greater awareness of GYY and its facilities, and competitive costs for aircraft handling and fuel could allow the Airport to gain share of the regional GA market, most likely at the expense of nearby MDW.

While it is not anticipated that all of the above events would necessarily occur, some combination of them could boost growth significantly over the forecast period. The events should be regarded, therefore, as illustrative of the more positive conditions that could prevail over the forecast period. The resulting rate of growth, however, is difficult to predict with any certainty.

3.5.2 Forecast Methodology

In giving consideration to the appropriate methodology to be used in developing traffic forecasts for the Airport, it was recognized that typical methodologies were of limited utility in forecasting passenger traffic and associated commercial operations. The inconsistent and vacillating history of traffic over the past 15 years does not lend itself readily to extrapolation of past trends. Moreover, given that passenger traffic at GYY has been primarily driven by the airline service that is provided, and only secondarily influenced by demand factors, econometric modeling was not employed. GA and cargo activity, however, could be expected to be more aligned with national economic trends.

In order to meet the forecasting challenge posed by the considerable shifts in the Airport's traffic since 2000, as well as the uncertainty of future scheduled service at the Airport, a scenario-based forecasting approach containing benchmarking and market-share elements was adopted. A Base Forecast was prepared to characterize modest growth in aviation activity, while a High Scenario was prepared to reflect a more optimistic set of growth assumptions. The High Scenario presented herein is an unconstrained forecast, i.e., its growth trajectory is not limited or curtailed by current airside, landside, or terminal constraints.

3.5.2.1 BASE FORECAST—MODEST SERVICE AND ORGANIC GROWTH

The Base Forecast is predicated on an assumption of resumed scheduled passenger service at GYY; however, the future service is forecast not to exceed prior levels of scheduled service accommodated at the Airport since 2000. Given that the Airport Authority is actively marketing the Airport and seeking scheduled commercial passenger service, it is believed that this is a reasonable forecast assumption. The recent trend towards low cost carriers offering domestic and international service at small hub and non-hub airports also supports this assumption. Specifically, numbers of enplaned passengers are forecast to reach the average level of passengers recorded between 2000 and 2015 (9,500) by 2020, and the maximum level of passengers recorded (27,000) by 2035. This equates to an incremental gain of approximately 1,200 enplaned passengers per year over the 20-year period. Given a typical passenger load of 120 to 140 passengers per flight, this equates to fewer than ten flights per year increase. The FAA, in its annual Terminal Area Forecast (TAF), assumes no future scheduled passenger service at GYY, and for that reason passengers in the Base Forecast exceed the TAF. For the TAF, FAA utilizes an econometric forecasting approach that assumes no further industry consolidation, airline bankruptcies or liquidations, changes in federal government operations, nor drastic increases in fuel prices.

3.5.2.2 HIGH SCENARIO PASSENGER SERVICE—PEER BENCHMARKING

The High Scenario forecast was predicated, in part, on an assumption of a more substantial expansion of scheduled passenger service at GYY than has been accommodated in the past, during the forecast period. For this component of the High Scenario forecast, a peer benchmarking approach was used.

Launch and growth of passenger service were forecast to occur at a similar pace and magnitude of comparable peer airports. A group of peer candidates was identified based on geographic proximity to large air service markets, small airport size with low operating costs for the airlines, and little or no

commercial air service at the outset. Exhibit 3-8 – Enplaned Passengers for Selected Peer Airports and GYY Base Forecast and High Scenario displays comparable airports that gained scheduled passenger air service from a baseline similar to that of GYY. The vertical axis indicates the number of passengers enplaned at the airport, while horizontal axis depicts the pace of growth, i.e., the number of years since initial service launch.

- *Two peer airports were excluded as being too high.* The number of enplaned passengers at GYY is not expected to grow at the pace of, or to the magnitude of, Phoenix-Mesa Gateway Airport or Punta Gorda Airport. Both of these airports are located in Sunbelt locations and serve a largely inbound visitor base of travelers—an entirely different type of market and demographic than GYY would serve. These airports recorded 500,000 annual enplaned passengers within 6-8 years following the launch of scheduled service.
- *Two peer airports were excluded as being too low.* Conversely, future enplaned passengers at GYY could exceed the number enplaned at some other peer airports, such as the airports serving Rockford, IL and Stockton, CA, which continued to enplane fewer than 100,000 passengers per year 10-12 years after service launch. Geographically, those peers are more distant from large population centers of potential travelers. GYY's physical proximity to the Chicago MSA's 9.5 million residents yields it a substantially larger pool of potential travelers than most peer comparators. Chicago Rockford International Airport has sustained a modest level of service by Allegiant and seasonal charter airlines for several years. While its location is somewhat close to Chicago, IL (90 miles to Chicago's downtown), it is more than three times as distant as is GYY (25 miles). Rockford's further distance from MDW and ORD limits the degree of competition it poses, as well.
- *One peer airport was identified as having the most similar market.* Trenton-Mercer Airport serves a similar market to Gary. Trenton is a former manufacturing and industrial community with a declining population, located between the large metropolitan regions of New York City and Philadelphia. LCC Frontier launched service at the airport in 2012, growing quickly to a level of 390,000 annual enplaned passengers. This level of demand proved to be unsustainable, however, with the number of enplaned passengers decreasing to less than 280,000. Given its similar market, however, this airport was considered the most comparable peer to Gary.
- *Four remaining peer airports grew at similar rates.* Several airports are difficult to discern in Exhibit 3-8 due to their similar pace of growth and, thus, degree of overlap. These airports include: Arnold Palmer Regional Airport, serving Latrobe, PA, 35 miles from Pittsburgh; Niagara Falls International Airport, located 20 miles from Buffalo, NY, and 10 miles from the Canadian border; Rickenbacker International Airport, located 10 miles from Columbus, OH; and MidAmerica St. Louis Airport, serving Belleville, IL, 25 miles from St. Louis. Passenger growth at each of these airports averaged increases of between 16,000 and 24,000 enplaned passengers per year for the first 5-6 years of service.
- *Other peer airports were omitted from analysis.* Other potential peer airports were considered and omitted from the benchmarking analysis. Van Nuys Airport in Los Angeles is one of the nation's busiest GA airports, but it accommodates no scheduled passenger airline service—one of

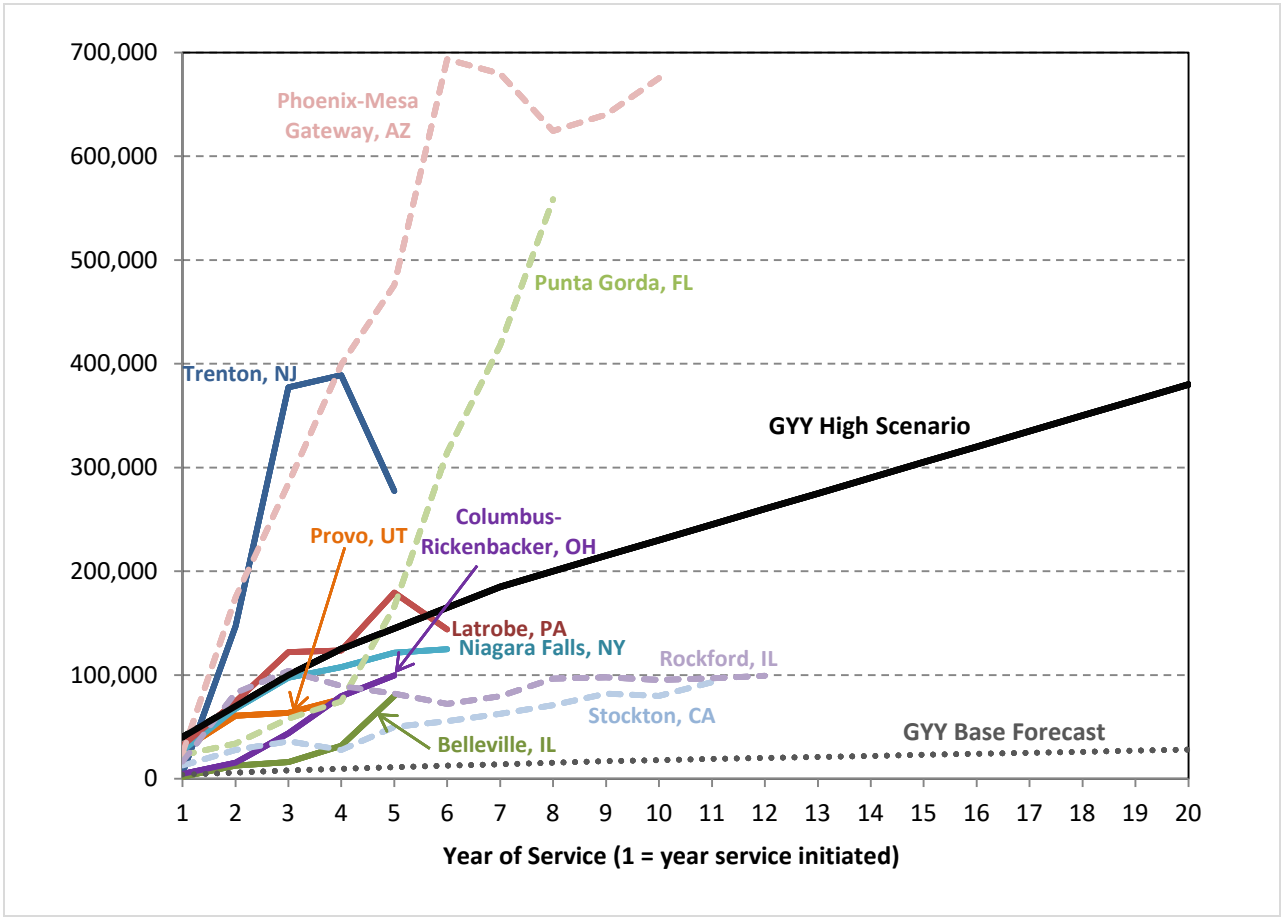
the key assumptions underlying the High Scenario forecast. Orlando Sanford International Airport accommodates both scheduled and charter passenger airline service. However, given that Orlando is one of the largest tourism destinations in the world, Sanford's 1.3 million annual enplaned passengers were viewed as an unrealistically high benchmark.

Given these factors, for the purpose of the High Scenario it was assumed that scheduled airline service would be introduced and passengers would increase at GYY at a pace and magnitude less than those airports serving major leisure destinations, but greater than those airports serving small resident populations. During the first 5 years of growth in commercial service, it was assumed that passengers would increase at roughly the pace of the central cluster of benchmark airports described above and depicted in Exhibit 3-8. This exhibit contains a solid black line depicting the projected passenger growth at GYY in the High Scenario relative to peer airports. The Base Forecast is also shown for comparative purposes, with a dotted black line. The High Scenario forecast trajectory is not the derived result of a mathematical equation. Rather, it approximates the general growth trajectory of the central cluster of benchmark airports at a rounded level, so projects a realistic scenario for buildup of service.

Specifically, the number of enplaned passengers at GYY was forecast under the High Scenario to increase at an average of 29,000 per year for the first 5 years after launch of commercial service, reaching 145,000 annual enplanements by year five. This rate of growth approximates the average rate of growth of Trenton, Latrobe, Rickenbacker, and Belleville in the first 5 years of service at those airports. The pace of passenger growth was forecast to decelerate in the later years of the forecast period. Growth over the entire 20-year period is forecast to be approximately 17,000 enplaned passengers per year—the lower end of the 5 peer airport range mentioned above.

Table 3-8 – Enplaned Passengers and Rates of Growth for Selected Peer Airports and GYY Base Forecast and High Scenario presents the passenger volumes and annual growth rates of the Base Forecast and the High Scenario relative to this central cluster of peer airports. For the Base Forecast, the table demonstrates that the relatively high annual percentage growth rates are a result of the Airport's very low initial passenger volumes. For instance, the 50% year-over-year growth rate between Years 1 and 2 in the Base Forecast equates to only an additional 2,000 enplaned passengers per year (or 5 passengers per day). While the High Scenario forecasts a more aggressive pace of passenger growth than the Base Forecast, it equates to an average of 80 passengers per day over the first five years, which is comparable to documented activity at the peer benchmark airports. Finally, Table 3-8 makes clear the decelerating rates of growth projected in both the Base Forecast and the High Scenario. In each case, growth is forecast to decelerate to single-digit rates within the first 8 to 9 years of the forecast period.

Exhibit 3-8 – Enplaned Passengers for Selected Peer Airports and GYY Base Forecast and High Scenario



Note: Peer airports exclude charter passengers.
Sources: U.S. DOT, Schedule T100; LeighFisher, December 2016.

Table 3-8 – Enplaned Passengers and Rates of Growth for Selected Peer Airports and GYY Base Forecast and High Scenario

						GYY Base Forecast		GYY High Scenario	
Year	Trenton, NJ	Latrobe, PA	Niagara Falls, NY	Columbus-Rickenbacker, OH	Belleville, IL	Passengers	Avg. Annual Growth Rate	Passengers	Avg. Annual Growth Rate
1	5,373	31,785	26,946	4,646	1,921	4,000		40,000	
2	146,879	74,237	67,364	15,518	12,709	6,000	50.0%	70,000	75.0%
3	377,328	122,154	97,341	43,723	15,981	8,000	33.3%	100,000	42.9%
4	389,089	123,568	107,506	79,639	31,865	9,500	18.8%	125,000	25.0%
5	277,544	179,285	121,533	99,681	79,726	11,000	15.8%	145,000	16.0%
6		143,948	124,949			12,500	13.6%	165,000	13.8%
7						14,000	12.0%	185,000	12.1%
8						15,500	10.7%	200,000	8.1%
9						17,000	9.7%	215,000	7.5%
10						18,000	5.9%	230,000	7.0%
11						19,000	5.6%	245,000	6.5%
12						20,000	5.3%	260,000	6.1%
13						21,000	5.0%	275,000	5.8%
14						22,000	4.8%	290,000	5.5%
15						23,000	4.5%	305,000	5.2%
16						24,000	4.3%	320,000	4.9%
17						25,000	4.2%	335,000	4.7%
18						26,000	4.0%	350,000	4.5%
19						27,000	3.8%	365,000	4.3%
20						28,000	3.7%	380,000	4.1%
	Year-Year Percent Change								
1-2	2633.6%	133.6%	150.0%	234.0%	561.6%	50.0%		75.0%	
2-3	156.9%	64.5%	44.5%	181.8%	25.7%	33.3%		42.9%	
3-4	3.1%	1.2%	10.4%	82.1%	99.4%	18.8%		25.0%	
4-5	-28.7%	45.1%	13.0%	25.2%	150.2%	15.8%		16.0%	

Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records; FAA TAF.

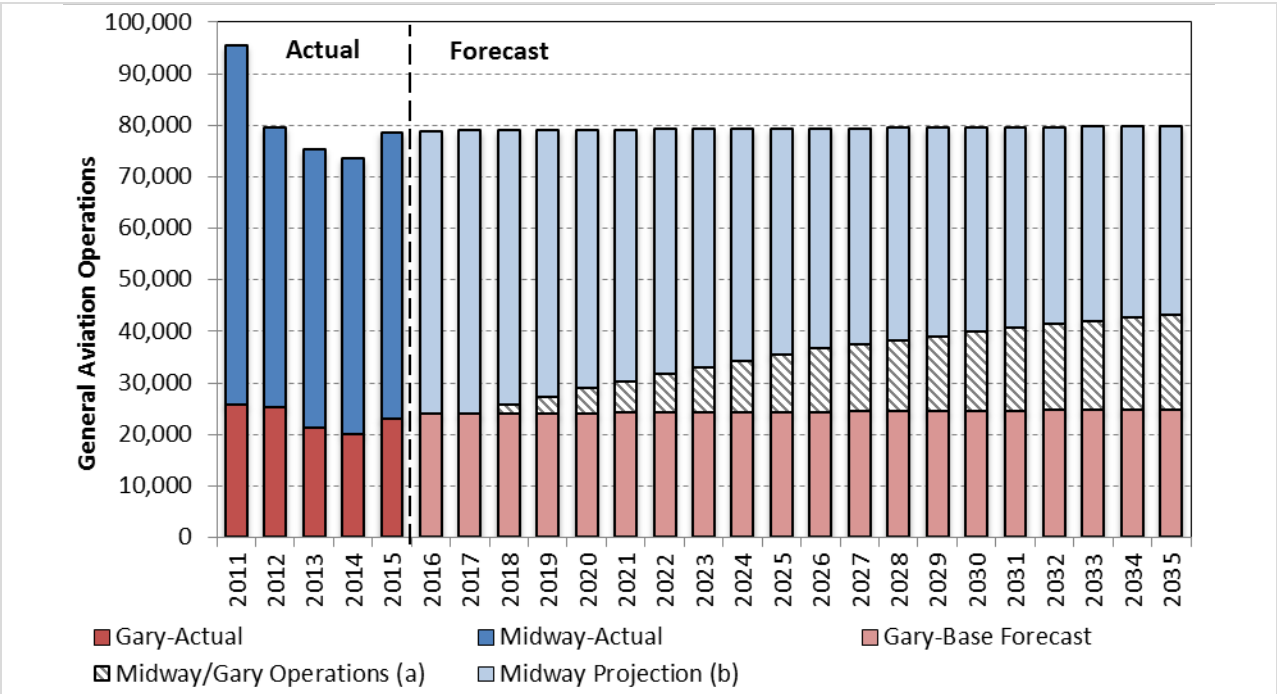
3.5.2.3 HIGH SCENARIO GA ACTIVITY—MARKET-SHARE ANALYSIS

In addition to the passenger service component of the High Scenario development approach, it was assumed that GYY would gain market share of the Greater Chicago GA market, specifically at the expense of MDW. FAA TAF rates of growth were applied to MDW's most recent actual GA operations to create a projection of potential future GA activity at that airport. This approach resulted in a projection of 55,000 potential GA flight operations per year at MDW during the forecast period. For the High Scenario, it was assumed that GYY would gain share of the regional GA market, eventually accommodating one-third of the operations that would otherwise have been accommodated at MDW. Exhibit 3-9 – GYY and MDW General Aviation Operations Forecasts (calendar years) shows the forecasts of GA operations at the Airport and at MDW.

Given the fleet mix of aircraft based at MDW—86% jet aircraft according to data provided by the City of Chicago—it is reasonable to expect that jet aircraft would account for an increasing percentage of GA operations at GYY in the High Scenario relative to the Base Forecast.

All-cargo and military activity in the High Scenario remained the same as forecast in the Base Forecast.

Exhibit 3-9 – GYY and MDW General Aviation Operations Forecasts (calendar years)



Note: Includes general aviation, as well as flights that are not otherwise classified as passenger airline, all-cargo airline, or military.

(a) These operations are accommodated at Midway in the Base Forecast, but at Gary in the High Scenario.

(b) FAA TAF rates of growth were applied to Midway's most recent actual GA operations to create a projection of GA activity.

Sources: Actual—Gary/Chicago International Airport records; Midway International Airport records.
Forecast—LeighFisher, December 2016.

3.6 Forecasts of Passengers

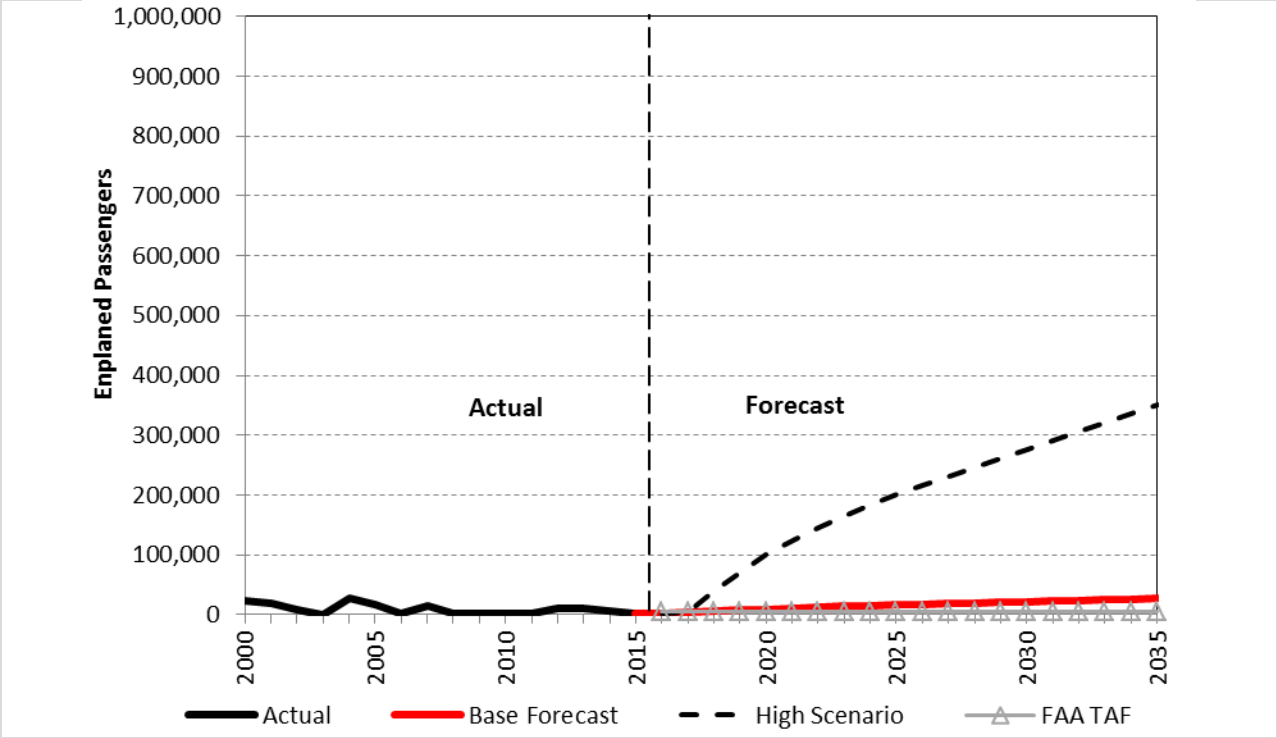
Exhibit 3-10 – GYY Enplaned Passenger Forecast (calendar year, unless otherwise noted) and Table 3-9 – GYY Enplaned Passenger Forecast (calendar year, unless otherwise noted) presents the Base Forecast and the High Scenario forecast of enplaned passengers, which bracket the likely range in variation of traffic levels that could occur through 2035. The substantial degree of future uncertainty is reflected in the wide spread between the Base Forecast and the High Scenario—a difference of 323,000 enplaned passengers in 2035. The High Scenario projection of 350,000 enplaned passengers in 2035 would put the Airport at the approximate current size of Quad City International Airport in Moline, IL, or Fort Wayne International Airport in Fort Wayne, IN. Both of these airports are classified as Nonhub airports by FAA, i.e., those that accommodate less than 0.05% of annual passenger boardings nationwide.

The Airport is actively marketing and seeking potential airline service opportunities. Scheduled commercial air service is an assumption underlying both the Base Forecast and the High Scenario. While the volume of such service differs significantly between the two forecasts, the type of service envisioned is similar.

Domestically, the Airport is best suited to support service to leisure destinations in Florida or to Las Vegas, at frequencies up to daily on narrowbody aircraft such as the Airbus A319/320, by charter or ultra-low-cost carriers not currently serving the Chicago market. Internationally, the Airport is best suited to support low-cost transatlantic service to London or to secondary European markets lacking nonstop service to Chicago, at frequencies up to twice weekly, on narrowbody or widebody aircraft such as the Airbus A321neo, Boeing 767, or Boeing 787 Dreamliner. Other international opportunities include charter or LCC service to the Bahamas or Mexico at frequencies up to twice weekly on narrowbody aircraft such as the Boeing 737 or Airbus A319/320.

The Airport is unlikely to secure service by any of the “big four” airlines (American Airlines, Delta Air Lines, Southwest Airlines, United Airlines), because of their current operations and investments at other regional airports, primarily Midway and O’Hare. As such, that type of service is not assumed in either the Base Forecast or the High Scenario.

Exhibit 3-10 – GYY Enplaned Passenger Forecast (calendar year, unless otherwise noted)



Note: The FAA TAF is in Federal Fiscal Years ended September 30.
Sources: Actual—U.S. DOT, Schedule T100. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.

Table 3-9 – GYY Enplaned Passenger Forecast (calendar year, unless otherwise noted)

Enplaned Passengers	2015	2020	2025	2035
Base Forecast	2,547	9,500	17,000	27,000
High Scenario	2,547	100,000	200,000	350,000
Average annual growth rate		**2015-2020**	**2020-2025**	**2025-2035**
Base Forecast		30.1%	12.3%	4.7%
High Scenario		108.4	14.9	5.8

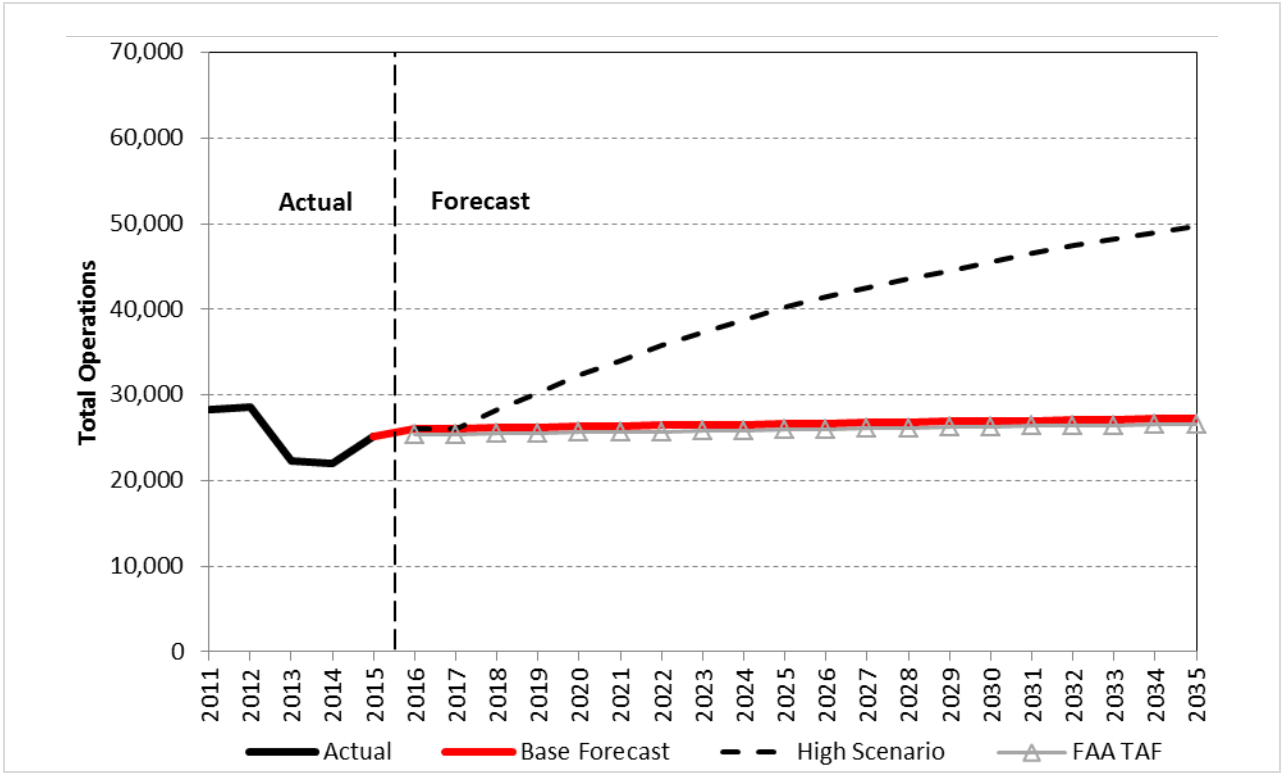
Note: The FAA TAF is in Federal Fiscal Years ended September 30.
Sources: Actual—U.S. DOT, Schedule T100. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.

3.7 Forecasts of Flight Operations and Based Aircraft

Forecasts of flight operations (i.e., the sum of landings and takeoffs) at the Airport were developed by category of operator (passenger airlines, all-cargo carriers, general aviation, and military) for the Base Forecast and the High Scenario forecast.

The two flight operations forecasts are presented graphically in **Exhibit 3-11 – GYY Operations Forecast (calendar years, unless otherwise noted), Table 3-10 - GYY Operations Base Forecast, by Aircraft Design Group (calendar years) and Table 3-11 – GYY Operations High Scenario Forecast, by Aircraft Design Group (calendar years)**, along with a comparison to the FAA Terminal Area Forecast issued in January 2016. Both Tables 3-10 and 3-11 break down the forecast by aircraft design group as well as milestone year and activity segment.

Exhibit 3-11– GYY Operations Forecast (calendar years, unless otherwise noted)



Note: The FAA TAF is in Federal Fiscal Years ended September 30.

Sources: Actual—Gary/Chicago International Airport records. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.

Table 3-1 - GYY Operations Base Forecast, by Aircraft Design Group (calendar years)

	Aircraft Design Group	Aircraft Type	Actual	Forecast			Average Annual Growth Rate		
			2015	2020	2025	2035	2020	2025	2035
Total Operations			25,229	26,322	26,648	27,263	0.9%	0.2%	0.2%
Passenger Airline			89	192	268	383	16.7%	6.9%	3.6%
	II	Jet	4	14	22	30	28.5	9.5	3.2
	III	Jet	85	173	236	333	15.3	6.4	3.5
	IV	Jet	-	5	10	20	n.a.	14.9	7.2
All-Cargo Airline			244	265	290	340	1.7%	1.8%	1.6%
	II	Jet	48	50	50	50	n.a.	-	-
	III	Jet	170	184	204	246	1.6	2.1	1.9
	III	Turboprop	24	23	21	16	(0.8)	(1.8)	(2.7)
	IV	Turboprop	2	3	5	8	8.4	10.8	4.8
	IV	Jet	-	5	10	20	n.a.	14.9	7.2
General Aviation & Other (a),(b)			22,915	23,885	24,110	24,560	0.8%	0.2%	0.2%
	I	Jet	2,857	2,978	3,006	3,062	0.8	0.2	0.2
	I	Piston	5,151	5,369	5,419	5,521	0.8	0.2	0.2
	I	Turboprop	1,291	1,345	1,358	1,383	0.8	0.2	0.2
	II	Jet	9,305	9,562	9,422	9,143	0.5	(0.3)	(0.3)
	II	Piston	30	31	31	32	0.8	0.2	0.2
	II	Turboprop	2,221	2,294	2,291	2,286	0.6	(0.0)	(0.0)
	III	Jet	1,929	2,150	2,400	2,900	2.2	2.2	1.9
	III	Turboprop	73	95	120	170	5.4	4.8	3.5
	IV	Turboprop	5	5	5	5	0.8	0.2	0.2
	Other	Helicopter	55	57	58	59	0.8	0.2	0.2
Military (b)			1,981	1,980	1,980	1,980	(0.0%)	-%	-%
	I	Jet	1,035	1,035	1,035	1,035	-	-	-
	I	Piston	33	33	33	33	-	-	-
	I	Turboprop	234	234	234	234	-	-	-
	II	Jet	122	122	122	122	-	-	-
	II	Turboprop	11	10	10	10	(1.9)	-	-
	IV	Jet	67	67	67	67	-	-	-
	IV	Turboprop	45	45	45	45	-	-	-
	V	Jet	45	45	45	45	-	-	-
	Other	Helicopter	390	390	390	390	-	-	-

(a) Includes general aviation, as well as flights that are not classified in any other category shown.

(b) Operations by aircraft type were allocated based on the FAA's Traffic Flow Management Systems data. This data is available for flights operated under Instrument Flight Rules and excludes flights operated under Visual Flight Rules.

Sources: Actual—Passenger and All-Cargo airlines: U.S. DOT, Schedule T100; GA & Other Military: Gary/Chicago International Airport records; FAA, Traffic Flow Management System (TFMS). Forecast—LeighFisher, January 2017.

Table 3-10 - GYY Operations Base Forecast, by Aircraft Design Group, continued (calendar years)

Aircraft Design Group	Actual	Forecast			Average Annual Growth Rate		
	2015	2020	2025	2035	2020	2025	2035
Design Group Summary							
I	10,600	10,994	11,085	11,268	0.7%	0.2%	0.2%
II	11,741	12,083	11,949	11,673	0.6	(0.2)	(0.2)
III	2,281	2,625	2,981	3,665	2.9	2.6	2.1
IV	118	129	141	164	1.8	1.8	1.5
V	45	45	45	45	-	-	-
Other	444	447	447	448	0.1	0.0	0.0

(a) Includes general aviation, as well as flights that are not classified in any other category shown.

(b) Operations by aircraft type were allocated based on the FAA's Traffic Flow Management Systems data. This data is available for flights operated under Instrument Flight Rules and excludes flights operated under Visual Flight Rules.

Sources: Actual—Passenger and All-Cargo airlines: U.S. DOT, Schedule T100; GA & Other Military: Gary/Chicago International Airport records; FAA, Traffic Flow Management System (TFMS). Forecast—LeighFisher, January 2017.

Table 3-11- GYY Operations High Scenario Forecast, by Aircraft Design Group (calendar years)

	Aircraft Design Group	Aircraft Type	Actual	Forecast			Average Annual Growth Rate		
			2015	2020	2025	2035	2020	2025	2035
Total Operations			25,229	32,298	40,286	49,781	5.1%	4.5%	2.1%
Passenger Airline			89	1,395	2,659	4,484	73.4%	13.8%	5.4%
	II	Jet	4	25	50	100	44.3	14.9	7.2
	III	Jet	85	1,119	2,130	3,577	67.4	13.7	5.3
	IV	Jet	-	251	479	807	n.a.	13.8	5.4
All-Cargo Airline			244	265	290	340	1.7%	1.8%	1.6%
	II	Jet	48	50	50	50	n.a.	-	-
	III	Jet	170	184	204	246	1.6	2.1	1.9
	III	Turboprop	24	23	21	16	(0.8)	(1.8)	(2.7)
	IV	Turboprop	2	3	5	8	8.4	10.8	4.8
	IV	Jet	-	5	10	20	n.a.	14.9	7.2
General Aviation & Other (a),(b)			22,915	28,658	35,358	42,977	4.6%	4.3%	2.0%
	I	Jet	2,857	3,573	4,408	5,358	4.6	4.3	2.0
	I	Piston	5,151	6,442	7,948	9,660	4.6	4.3	2.0
	I	Turboprop	1,291	1,614	1,991	2,420	4.6	4.3	2.0
	II	Jet	9,305	11,252	13,538	15,274	3.9	3.8	1.2
	II	Piston	30	37	46	56	4.6	4.3	2.0
	II	Turboprop	2,221	2,746	3,366	4,028	4.3	4.2	1.8
	III	Jet	1,929	2,800	3,800	5,800	7.7	6.3	4.3
	III	Turboprop	73	120	170	270	10.5	7.2	4.7
	IV	Turboprop	5	6	7	9	4.6	4.3	2.0
	Other	Helicopter	55	68	84	103	4.6	4.3	2.0
Military (b)			1,981	1,980	1,980	1,980	(0.0%)	-%	-%
	I	Jet	1,035	1,035	1,035	1,035	-	-	-
	I	Piston	33	33	33	33	-	-	-
	I	Turboprop	234	234	234	234	-	-	-
	II	Jet	122	122	122	122	-	-	-
	II	Turboprop	11	10	10	10	(1.9)	-	-
	IV	Jet	67	67	67	67	-	-	-
	IV	Turboprop	45	45	45	45	-	-	-
	V	Jet	45	45	45	45	-	-	-
	Other	Helicopter	390	390	390	390	-	-	-

(a) Includes general aviation, as well as flights that are not classified in any other category shown.

(b) Operations by aircraft type were allocated based on the FAA's Traffic Flow Management Systems data. This data is available for flights operated under Instrument Flight Rules and excludes flights operated under Visual Flight Rules.

Sources: Actual—Passenger and All-Cargo airlines: U.S. DOT, Schedule T100; GA & Other Military: Gary/Chicago International Airport records; FAA, Traffic Flow Management System (TFMS). Forecast—LeighFisher, January 2017.

Table 3-11- GYY Operations High Scenario Forecast, by Aircraft Design Group, continued (calendar years)

Aircraft Design Group	Actual	Forecast			Average Annual Growth Rate		
	2015	2020	2025	2035	2020	2025	2035
Design Group Summary							
I	10,600	12,931	15,649	18,741	4.1%	3.9%	1.8%
II	11,741	14,243	17,182	19,640	3.9	3.8	1.3
III	2,281	4,246	6,325	9,909	13.2	8.3	4.6
IV	118	376	612	955	26.1	10.2	4.6
V	45	45	45	45	-	-	-
Other	444	458	474	492	0.6	0.7	0.4

(a) Includes general aviation, as well as flights that are not classified in any other category shown.

(b) Operations by aircraft type were allocated based on the FAA's Traffic Flow Management Systems data. This data is available for flights operated under Instrument Flight Rules and excludes flights operated under Visual Flight Rules.

Sources: Actual—Passenger and All-Cargo airlines: U.S. DOT, Schedule T100; GA & Other Military: Gary/Chicago International Airport records; FAA, Traffic Flow Management System (TFMS). Forecast—LeighFisher, January 2017.

For the Base Forecast, Airplane Design Group III (e.g., Boeing 737 and DC-9) was designated the critical aircraft. The Airport currently accommodates Airplane Design Group III based aircraft and has previously accommodated scheduled passenger service on such aircraft. This is shown in **Table 3-10 - GYY Operations Base Forecast, by Aircraft Design Group (calendar years)**. For the High Scenario, Airplane Design Group IV (e.g., Boeing 757 and 767) was designated the critical aircraft during the latter half of the forecast period. As shown in **Tables 3-11 – GYY Operations High Scenario Forecast, by Aircraft Design Group (calendar years),** Airplane Design Group IV activity is forecast to exceed 500 operations per year by 2025.

Several of the peer benchmarking airports previously discussed accommodate a material level of activity by Boeing 757s and 767s (e.g., Rockford, Rickenbacker, and Stockton). Future providers of service at the Airport, whether scheduled passenger airlines, domestic or international charter carriers, or all-cargo airlines, could utilize similar aircraft during the forecast period. Regular service by aircraft larger than Airplane Design Group IV is not forecast in either the Base Forecast or High Scenario.

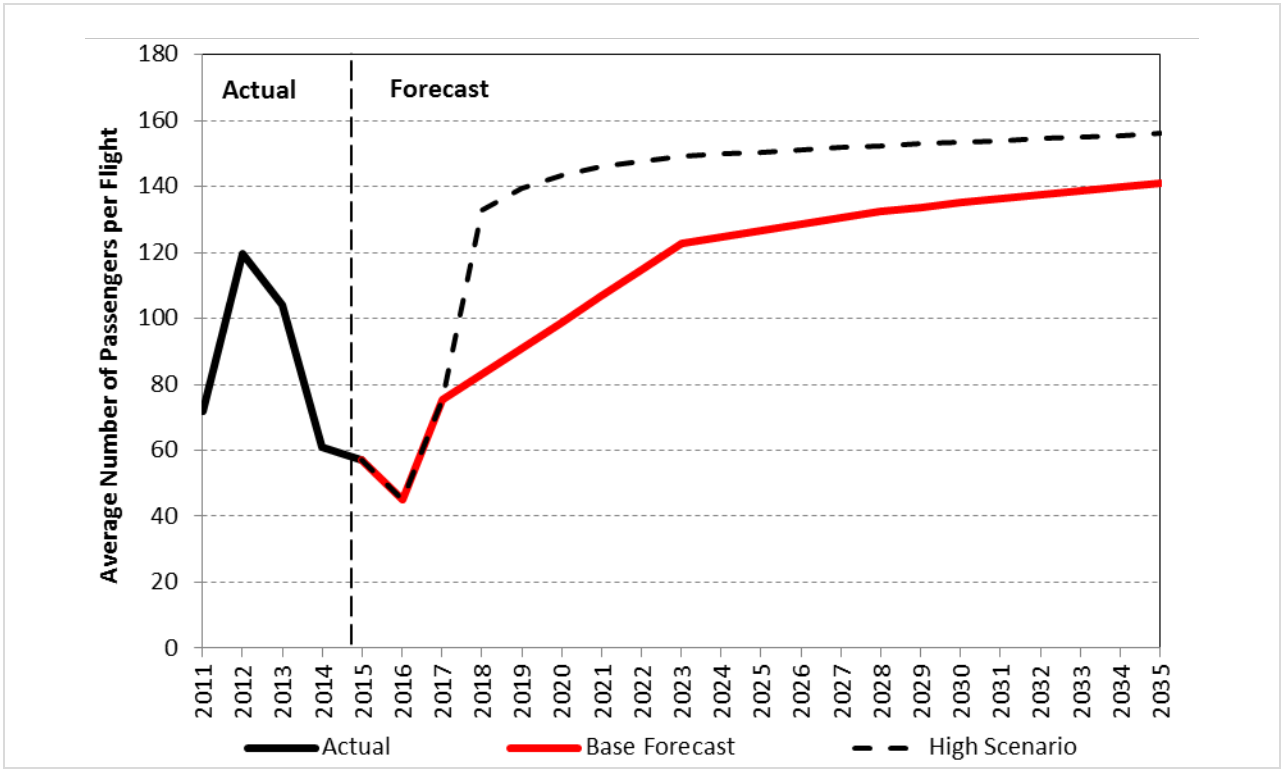
Forecasts of passenger airline flights were derived from the passenger forecasts by projecting future aircraft load factors and average seats per flight—both expected to increase over time. Average numbers of passengers per flight are depicted graphically in **Exhibit 3-12 – Average Number of Passengers per Flight (calendar years)** for both the Base Forecast and the High Scenario. As shown, average numbers of passengers per flight are higher in the High Scenario than in the Base Forecast, due to assumptions of higher aircraft load factors and greater average seats per flight.

All-cargo flights were forecast to increase at rates generally in line with economic growth. General aviation flights were forecast to experience only minimal growth in the Base Forecast but stronger growth

in the High Scenario, driven by the market share shift from MDW to GYY described previously. No increase in military flight activity was forecast in either the Base Forecast or the High Scenario.

Like the forecasts of passenger enplanements, the forecasts of passenger airline operations span a wide range of future activity. In the Base Forecast, notwithstanding any effect of seasonality, passenger airlines are forecast to account for approximately one operation per day in 2035, while in the High Scenario they are forecast to account for 12 operations per day.

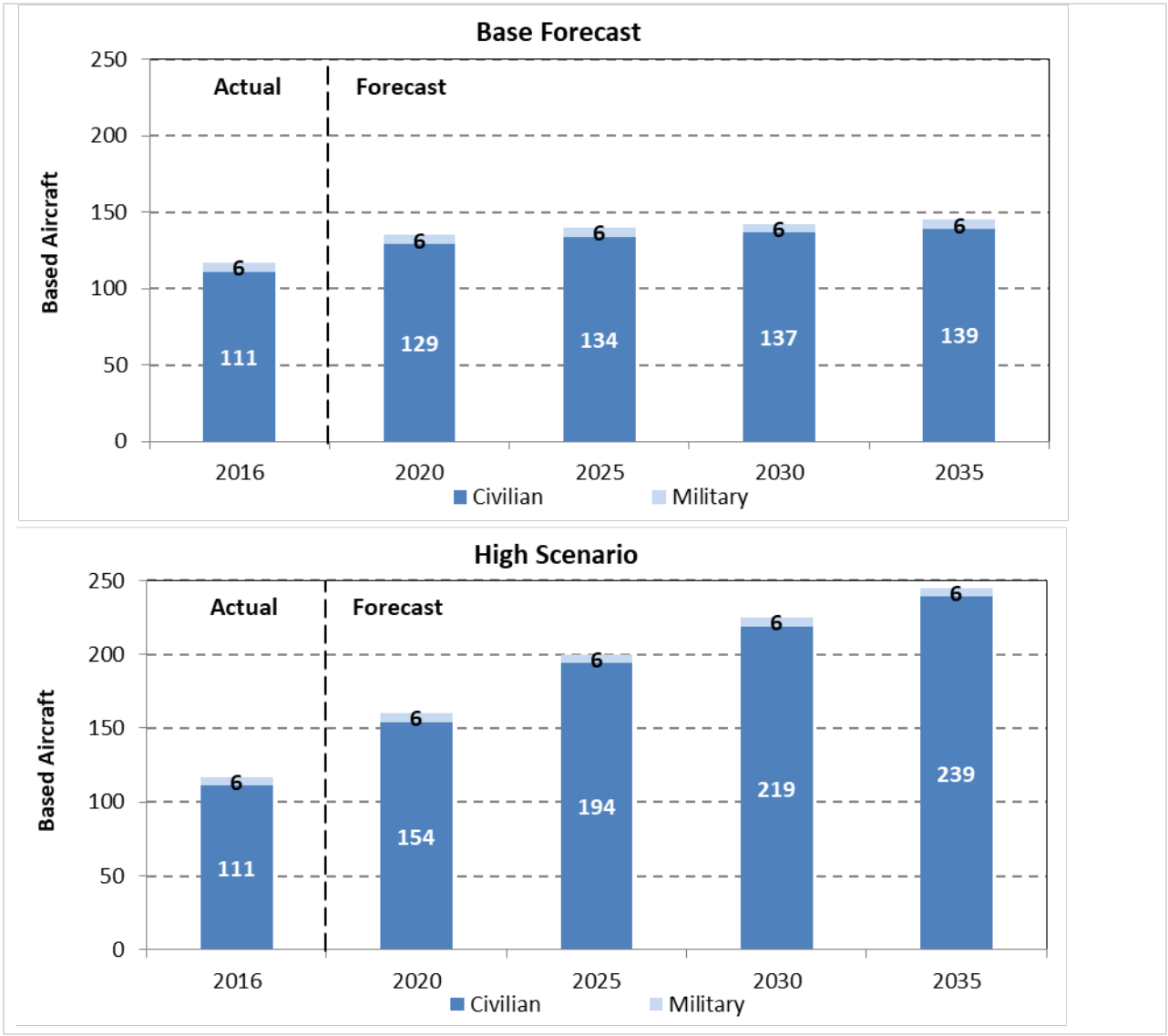
Exhibit 3-1 – GYY Average Number of Passengers per Flight (calendar years)



Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records. Forecast—LeighFisher, January 2017.

Based aircraft increased substantially at the Airport, from 97 in 2015 to 117 in 2016. In the Base Forecast, between 2016 and 2020, based aircraft were forecast to increase 3.6% per year, on average, to 135, driven by near-term fixed base operator growth. Thereafter, increases in based aircraft were forecast to decelerate to 0.5% per year, on average. In the High Scenario, the based aircraft are forecast to be higher, driven by the relocation of some GA activity previously accommodated at MDW. In this case, based aircraft are forecast to increase to 245 by 2035. For both forecasts, all future growth in based aircraft was forecast to be attributable to civilian aircraft; military based aircraft were not forecast to increase during the forecast period. The based aircraft forecasts are presented graphically in Exhibit 3-13 – GYY Based Aircraft Forecasts (calendar years).

Exhibit 3-2 – GYY Based Aircraft Forecasts (calendar years)



Sources: Actual—Gary/Chicago International Airport records. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.

3.8 Average Day Peak Month Forecasts

For airport planners, it is often the peak level, rather than the average level, of activity that is the critical design factor in planning for new or expanded facilities. Forecasts of peak period activity at GYY, for both passengers and flight operations, are presented below.

3.8.1 Passenger Peaking Forecasts

Forecasts of peak passenger flows were derived from both the Base Forecast and High Scenario forecast of enplaned passengers.

The analysis of passenger peaking began by obtaining, from DOT, a monthly time series of enplaned passenger data covering the period 2011 through 2015. The peak month was determined for each year and the percentage of annual enplanements that occurred in that month was calculated. The average of the peak-month percentages for the 5 years was used as the Peak Month factor in the Base Forecast of monthly enplanement peaks. For the High Scenario, the Peak Month factor was reduced somewhat in future years, to approximate the reduction in seasonal variation expected to occur with increases in scheduled passenger service.

Daily peak passenger flows were calculated by dividing the peak monthly flows by 31 (days in the month).

The passenger peaking forecasts for the Base Forecast and High Scenario are presented in Table 3-12 – GYY Passenger Peaking Forecast (calendar years).

Table 3-12 – GYY Passenger Peaking Forecast (calendar years)

	Actual	Forecast		
	2015	2020	2025	2035
Base Forecast				
Total Enplaned Passengers	2,547	9,500	17,000	27,000
Peak Month	543	1,666	2,981	4,735
% of Total	21.3%	17.5%	17.5%	17.5%
Average Day	18	54	96	153
High Scenario				
Total Enplaned Passengers	2,547	100,000	200,000	350,000
Peak Month	543	16,500	30,000	52,500
% of Total	21.3%	16.5%	15.0%	15.0%
Average Day	18	532	968	1,694

Sources: Actual—U.S. DOT, Schedule T100. Forecast—LeighFisher, January 2017.

3.8.2 Operations Peaking Forecasts

As was the case with the peak passenger forecasts, forecasts of flight operations peaks were derived from both the Base Forecast and High Scenario forecast of annual flight operations.

Similar to the approach employed for passengers, the analysis of flight operations peaking began by obtaining, from Airport tower records, a monthly time series of flight operations covering the period 2011

through 2015. The peak month was determined for each year and the percentage of annual operations that occurred in that month was calculated. The average of the peak-month percentages for the 5 years was used as the Peak Month factor in the forecasts of monthly enplanement peaks.

Daily peak operations flows were calculated by dividing the peak monthly flows by 31 (days in the month).

The operations peaking forecasts for the Base Forecast and High Scenario are presented in Table 3-13 - GYY Operations Peaking Forecast (calendar years).

Table 3-13 - GYY Operations Peaking Forecast (calendar years)

	Actual	Forecast		
	2015	2020	2025	2035
Base Forecast				
Total Operations	25,229	26,322	26,648	27,263
Peak Month	3,160	3,559	3,603	3,686
% of Total	12.5%	13.5%	13.5%	13.5%
Average Day	102	115	116	119
High Scenario				
Total Operations	25,229	32,298	40,286	49,781
Peak Month	3,160	4,366	5,446	6,730
% of Total	12.5%	13.5%	13.5%	13.5%
Average Day	102	141	176	217

Sources: Actual—Gary/Chicago International Airport records. Forecast—LeighFisher, January 2017.

3.9 Comparison to FAA Terminal Area Forecast

A summary of the master plan forecasts and a comparison to the FAA's 2016 TAF are presented in **Table 3-14 - GYY Base Forecast Summaries by FAA Categories (calendar years)** and **Table 3-15 - GYY Forecast Comparisons to FAA TAF (calendar years, unless otherwise noted)**, respectively. The format of the two tables is based on the templates provided by the FAA for presentation of airport planning forecasts for review by the FAA. FAA approval is being sought for the Base Forecast. The High Scenario supports the Airport's ultimate development plan, thus it is included as well for informational purposes.

As required, the results are presented for the base year of 2015 and forecast horizon years which are equal to the base year, plus 5, 10, and 20 years (i.e., 2020, 2025, and 2035). A direct comparison of the forecasts to the TAF required the conversion of the forecasts' aviation activity categorization of enplaned passengers and flight operations into FAA categories, namely, (1) air carrier and (2) commuter, for enplaned passengers, and (1) air carrier and (2) commuter/air taxi, for flight operations.[2]

There is one minor difference between the time periods used in the master plan forecasts and those reflected in the TAF. The master plan forecasts were prepared on a calendar year basis, while the TAF was prepared on the basis of federal fiscal years ending September 30.

In addition, because the master plan forecasts were developed on the basis of total, rather than air carrier and commuter enplaned passengers, a direct comparison by FAA passenger category could not be made. For the purpose of these comparative tables, the air carrier-commuter split of enplaned passengers and flight operations forecast by FAA was adopted and applied to the master plan forecasts.

The second page of Table 3-15 presents a side-by-side comparison of the master plan forecasts and the TAF released in January 2016. Both the Base Forecast and the High Scenario envisage more passengers, operations, and based aircraft than the TAF. The FAA considers forecasts that differ from the TAF by less than 10% in the 5-year period and less than 15% in the 10-year period to be consistent. By this measure, only the Base Forecast of commercial operations would be considered consistent with the January 2016 TAF. However, the Base Forecast presented herein assumes a resumption of levels of scheduled service previously accommodated at the airport during the forecast period. Given that passenger levels are not forecast to exceed the Airport's previous 2004 peak throughout the planning horizon, the forecast was considered reasonably conservative for planning purposes. The High Scenario, while assuming an unprecedented level of commercial service during the forecast period, is projected to grow at a pace no greater than peer airports with generally comparable market characteristics, as described previously. Finally, the forecasts of based aircraft reflect the incorporation of a recent significant increase in based aircraft at GYY that was not available to FAA when the TAF was prepared.

[2] The commuter/air taxi category relies upon FAA's definition per its 2016 TAF Summary Report that: "Commuter operations include takeoffs and landings by aircraft with 60 or fewer seats that transport regional passengers on scheduled commercial flights. Air taxi operations include takeoffs and landings by aircraft with 60 or fewer seats conducted on non-scheduled or for-hire flights."

Table 3-14- GYY Forecast Summaries by FAA Categories (calendar years)

	Actual	Forecast			Average Annual Growth Rate		
	2015	2020	2025	2035	2015-2020	2020-2025	2025-2035
Base Forecast							
Passenger Enplanements	**2,547**	**9,500**	**17,000**	**27,000**	**30.1%**	**12.3%**	**4.7%**
Air Carrier	2,458	9,167	16,404	26,054	30.1	12.3	4.7
Commuter	89	333	595	945	30.1	12.3	4.7
Aircraft Operations	**25,229**	**26,322**	**26,648**	**27,263**	**0.9%**	**0.2%**	**0.2%**
Commercial Operations	1,748	1,920	1,995	2,145	1.9	0.8	0.7
Air Carrier	494	600	650	750	4.0	1.6	1.4
Commuter/Air Taxi	1,254	1,320	1,345	1,395	1.0	0.4	0.4
General Aviation	21,500	22,422	22,673	23,138	0.8	0.2	0.2
Military	1,981	1,980	1,980	1,980	(0.0)	-	-
Based Aircraft	**97**	**135**	**140**	**145**	**6.8%**	**0.7%**	**0.4%**
High Scenario							
Passenger Enplanements	**2,547**	**100,000**	**200,000**	**350,000**	**108.4%**	**14.9%**	**5.8%**
Air Carrier	2,458	99,667	199,404	349,054	109.7	14.9	5.8
Commuter	89	333	595	945	30.1	12.3	4.7
Aircraft Operations	**25,229**	**32,298**	**40,286**	**49,781**	**5.1%**	**4.5%**	**2.1%**
Commercial Operations	1,748	3,123	4,385	6,247	12.3	7.0	3.6
Air Carrier	494	1,803	3,040	4,852	29.5	11.0	4.8
Commuter/Air Taxi	1,254	1,320	1,345	1,395	1.0	0.4	0.4
General Aviation	21,500	27,195	33,921	41,555	4.8	4.5	2.1
Military	1,981	1,980	1,980	1,980	(0.0)	-	-
Based Aircraft	**97**	**160**	**200**	**245**	**10.5%**	**4.6%**	**2.1%**

Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records; FAA TAF. Forecast—LeighFisher, January 2017.

Table 3-15 - GYY Forecast Comparisons to FAA TAF (calendar years, unless otherwise noted)

			Base Forecast		High Scenario	
	Year	2015 FAA TAF	GYY Master Plan Forecast	% Variance GYY Master Plan vs. 2015 TAF	GYY Master Plan Forecast	% Variance GYY Master Plan vs. 2015 TAF
Passenger Enplanements						
Base yr.	2015		2,547		2,547	
Base yr. + 5yrs.	2020	4,255	9,500	123.3%	100,000	2250.2%
Base yr. + 10yrs.	2025	4,255	17,000	299.5	200,000	4600.3
Base yr. + 15yrs.	2035	4,255	27,000	534.5	350,000	8125.6
Average Annual Growth Rates:						
2015-2020		- %	30.1%		108.4%	
2020-2025		-	12.3		14.9	
2025-2035		-	4.7		5.8	
Commercial Operations						
Base yr.	2015	1,760	1,748		1,748	
Base yr. + 5yrs.	2020	1,795	1,920	7.0%	3,123	74.0%
Base yr. + 10yrs.	2025	1,830	1,995	9.0	4,385	139.6
Base yr. + 15yrs.	2035	1,900	2,145	12.9	6,247	228.8
Average Annual Growth Rates:						
2015-2020		0.4%	1.9%		12.3%	
2020-2025		0.4	0.8		7.0	
2025-2035		0.4	0.7		3.6	
Total Operations						
Base yr.	2015		25,229		25,229	
Base yr. + 5yrs.	2020	25,615	26,322	2.8%	32,298	26.1%
Base yr. + 10yrs.	2025	25,953	26,648	2.7	40,286	55.2
Base yr. + 15yrs.	2035	26,638	27,263	2.3	49,781	86.9
Average Annual Growth Rates:						
2015-2020		1.7%	0.9%		5.1%	
2020-2025		0.3	0.2		4.5	
2025-2035		0.3	0.2		2.1	

Note: The FAA TAF is in Federal Fiscal Years ended September 30.

Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records; FAA TAF. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.

Table 3-15 - GYY Forecast Comparisons to FAA TAF, continued (calendar years, unless otherwise noted)

			Base Forecast		High Scenario	
	Year	2015 FAA TAF	GYY Master Plan Forecast	% Variance GYY Master Plan vs. 2015 TAF	GYY Master Plan Forecast	% Variance GYY Master Plan vs. 2015 TAF
Based Aircraft						
Base yr.	2015		97		97	
Base yr. + 1 yr.	2016		117		117	
Base yr. + 5yrs.	2020	102	135	32.4%	160	56.9%
Base yr. + 10yrs.	2025	109	140	28.4	200	83.5
Base yr. + 15yrs.	2035	119	145	21.8	245	105.9
Average Annual Growth Rates:						
2015-2020		1.0%	6.8%		10.5%	
2020-2025		1.3	0.7		4.6	
2025-2035		0.9	0.4		2.1	

Note: The FAA TAF is in Federal Fiscal Years ended September 30.

Sources: Actual—U.S. DOT, Schedule T100; Gary/Chicago International Airport records; FAA TAF. Forecast—LeighFisher, January 2017; FAA TAF, issued January 2016.