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AIRPORT FUNDING

Changes in Aviation Activity Are Reflected in Reduced Capacity Concerns

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GAO Highlights

Highlights of GAO-15-498T, a testimony before the Subcommittee on Aviation Operations, Safety, and Security, Committee on Commerce, Science, and Transportation, U.S Senate

Why GAO Did This Study

U.S. airports are key contributors to the national and regional economies, providing mobility for people and goods, both domestically and internationally. Since 2007 when GAO last reported on airport funding, airports of all sizes have experienced significant changes in aviation activity. Financing for airport capital improvements is based on a mix of federal AIP grants, federally authorized but statutorily-capped PFCs, and locally generated aviation-related and non-aviation-related revenues. As deliberations begin in advance of FAA's 2015 reauthorization, Congress is faced with considering the most appropriate type, level, and distribution of federal support for development of the National Airspace System.

This testimony discusses trends in (1) aviation activity at airports since 2007, (2) forecasted airport capacity needs and airports' planned development costs, and (3) financing for airport development. This testimony is based on previous GAO reports issued from June 2007 through December 2014, with selected updates conducted through April 2015. To conduct these updates, GAO reviewed recent information on FAA's program activities and analyses outlined in FAA reports, including the 2015 aviation forecast, and the 2015–2019 planned airport-development estimates.

View GAO-15-498T. For more information, contact Gerald L.Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

What GAO Found

Economic factors, since 2007, have led to fewer scheduled commercial flights, a trend more pronounced for some types of airports. These economic factors include not just the volatile fuel prices and the 2007 to 2009 recession but also evolving airline practices, such as airline mergers and the adoption of business models that demonstrate capacity management. For example, as GAO reported in June 2014, the number of scheduled flights at medium- and small-hub airports has declined at least 20 percent from 2007 to 2013, compared to about a 9 percent decline at large-hub airports. General Aviation (GA) has also declined in activity, as measured by the number of GA aircraft operations and hours flown, due to similar economic factors. In recent years, however, passenger growth has rebounded. According to the Federal Aviation Administration's (FAA) projections, U.S. airline passenger growth is predicted to grow 2 percent per year through 2035—a growth rate that is slightly lower than that of past forecasts.

According to FAA estimates, the number of airports that require additional capacity to handle flight operations to avoid delays has declined since 2004. Similarly, the future cost of planned airport development has also declined in recent years. Earlier this year, FAA projected that 6 airports will be capacity constrained in 2020 compared to 41 in the 2004 projection. Even with this improvement, some airports—like those in the New York City area region—will remain capacity constrained, according to FAA. The overall improved capacity situation is also reflected in reduced estimates of future airport-development costs that are eligible for federal grants. In September 2014, the FAA estimated that for the period 2015 through 2019, airports have about $33.5 billion in planned development projects eligible for federal Airport Improvement Program (AIP) grants—a 21 percent reduction from the $42.5 billion estimate for the time period 2013 through 2017. The biggest decline in planned development costs among project categories is in capacity projects such as new runway projects. However, an airport industry association estimated planned airport capital project costs, both those eligible and not eligible for AIP, of $72.5 billion for 2015 through 2019, an increase of 6.2 percent from the association's prior 5-year estimate for 2013 through 2017.

As traditional funding sources for airport development have generally declined, airports have increasingly relied on other sources of financing. Specifically, federal AIP grants and Passenger Facility Charges (PFC) are two primary sources of federally authorized funding for airports. The amount made available for AIP decreased from over $3.5 billion for fiscal years 2007 through 2011 to less than $3.4 billion for fiscal year 2015. Further the President's 2016 proposed budget calls for additional reductions in AIP, though it would be offset with a proposed increase in the PFC cap, which is currently $4.50 per flight segment. Airports have sought additional opportunities to collect non-aviation revenues. As a result, according to FAA, non-aviation revenue has increased each year from 2008 through 2014. For example, airports have 1) partnered with the private sector to fund airport improvements; 2) identified new business ventures on airport property including the development of commercial retail, leisure activities, and medical facilities; and 3) explored options for privatization.

Madam Chair Ayotte, Ranking Member Cantwell, and Members of the Subcommittee:

I am pleased to be here today to discuss airport capacity and funding issues in light of a changing aviation industry. U.S. airports are important contributors to our economy, providing mobility for people and goods both domestically and internationally, and contributing to the economic success of the communities they serve.

Aviation activity in the United States experienced a decline since operations and passenger activity peaked in 2007, especially in the amount of commercial aircraft operations at U.S. airports. While passenger activity has rebounded close to 2007 levels, the total number of operations has not, leaving many airports with reduced activity. Even so, airport capacity—that is, the maximum number of flight operations an airport can handle over a period of time—is still a problem for some airports, resulting in significant delays for passengers throughout the National Airspace System (NAS). While, according to Federal Aviation Administration (FAA), only nine new commercial service airports have been built in the United States over the last three decades, billions of dollars have been invested in expanding new capacity, such as runways, and in maintaining and upgrading existing airports during that time.[1] However, since 2007, federal financing sources for airport development have seen small declines, especially when considering inflation. The FAA forecasts that the NAS will need to accommodate more than 1 billion passenger enplanements and almost 57 million aircraft operations annually by 2029—an increase from 756 million enplanements and 49 million aircraft operations in 2014—as FAA forecasts aviation activity to grow by an average of 2 percent per year over the next 20 years.[2] FAA's growth rate for 2015 through 2035 was slightly lower than in previous years.[3] In response to these pressures, airports have sought to increase the statutorily-capped, airport-imposed Passenger Facility Charge (PFC)—which are airport fees collected by the airlines on passenger

[1]Over the last 30 years, 9 commercial airports have opened—Denver International, Austin-Bergstrom, Northwest Arkansas Regional, and 6 other smaller commercial airports.

[2]See FAA, *FAA Aerospace Forecast: Fiscal Years 2015-2035*, OK 15-0814, (Washington, D.C.: 2015).

[3]See FAA, *FAA Aerospace Forecast: Fiscal Years 2014-2034*, OK 14-0723, (Washington, D.C.: 2014).

tickets and remitted to the airports—and have also worked to develop new funding sources.[4]

My statement today focuses on current trends in airport capacity and funding for airport development. Specifically, this statement discusses trends in (1) aviation activity at airports since 2007, (2) airports' capacity needs and planned development costs, and (3) financing for airport development.

This statement draws from our body of work completed from June 2007 through December 2014 examining airport and aviation industry trends. Specific products from this work are cited throughout the statement. The products cited contain descriptions of the methods we used to conduct this work. We have updated our work through April 2015 with FAA's reports and analyses, including FAA's 2015 aviation forecast, the 2015-2019 National Plan of Integrated Airport Systems (NPIAS), and airport funding and cost data spanning from 2004 through March 2015. We also examined the FAA's fiscal year 2016 budget proposal and obtained updated information on FAA program activities from public sources. In addition, we have ongoing work examining airport funding and planned capital development for which we plan to issue a report later this year.

More detailed information on our objectives, scope, and methodology for our prior work can be found in the issued reports. We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The United States has the largest, most extensive aviation system in the world with over 19,000 airports ranging from large commercial transportation centers handling millions of passengers annually to small grass airstrips serving only a few aircraft each year. Of these, roughly 3,300 airports are designated by FAA as part of the national airport system and thus are eligible for federal assistance.

[4]49 U.S.C. 40117.

The national airport system consists of two primary types of airports—commercial service airports, which have scheduled service and enplane 2,500 or more passengers per year, and general aviation (GA) airports, which have no scheduled service and enplane fewer than 2,500 passengers annually. FAA divides commercial service airports into primary airports (enplaning more than 10,000 passengers annually) and commercial service nonprimary airports. The 395 current primary airports are classified by hub type—large-, medium-, small-, and nonhub—based on passenger traffic.[5] Passenger traffic is highly concentrated: 88 percent of all passengers in the United States enplaned at the 63 large- or medium-hub airports in 2013 (see fig. 1).[6]

Figure 1: Airport Categories Based on 2013 Enplanements of U.S. Passengers

Hub type	Percentage of annual passenger boardings	Statistics in 2013			
		Minimum number of boardings	Number of boardings	Percentage of total boardings	Number of airports
Large	1% or more	7,389,354	533,244,713	72.2%	30
Medium	At least 0.25%, but less than 1%	1,847,338	118,472,049	16.0%	33
Small	At least 0.05%, but less than 0.25%	369,468	61,171,740	8.3%	71
Nonhub	More than 10,000, but less than 0.05%	10,001	25,526,814	3.5%	261
Commercial Service Nonprimary	At least 2,500 and no more than 10,000	2,500	520,064	0.1%	111

Source: GAO presentation of FAA data. | GAO-15-498T

Note: The term "hub" is defined in federal law to identify commercial service airports as measured by passenger boardings, and the airports are grouped into four hub categories. (49 U.S.C. § 40102 (29), (31), (42), and (34)).

More than 2,900 airports in the national system are designated as GA airports. These airports range from large business aviation and cargo shipment centers that handle thousands of operations a year to small rural airports that may handle only a few hundred operations per year but

[5]49 U.S.C. § 40102(29), (31), (42), and (34).

[6]Commercial service airports are categorized into hub types based on their share of passenger enplanements.

may provide important access to the national transportation system for their communities.

Generally, the level of aviation activity, whether commercial passenger and cargo or general aviation business and private aircraft, helps to generate the funds that finance airport development. The three primary sources of funding for airport development are Airport Improvement Program (AIP) grants, PFCs, and locally generated revenue. All three sources of funds are linked to passenger aviation activity.

- AIP is supported by the Airport and Airway Trust Fund (AATF), which is funded by airline ticket taxes and fees;[7] GA flights contribute to the AATF through a tax on aviation jet fuel. Airports included in FAA's NPIAS are eligible to receive AIP entitlement (apportionment) grants based on airports' size and can also compete for AIP discretionary grants.[8] AIP grants can only be used for eligible capital projects, generally those that enhance capacity, safety, and environmental conditions, such as runway construction and rehabilitation, airfield lighting and marking, and airplane noise mitigation.[9] The amount made available in AIP appropriations totaled $3.35 billion in fiscal year 2014. The grants generally require matching funds from the local match ranging from 10 to 25 percent depending on the size of the airport and type of project.

- PFCs, another source of funding for airport development projects, are a federally authorized, statutorily-capped, airport-imposed fee of up to a maximum of $4.50 per enplaned passenger per flight segment, and a maximum of $18 per round trip ticket. The PFC is collected by the airline on the passenger ticket and remitted to the airports (minus a

[7]In total, the AATF collected $13.5 billion from various taxes in fiscal year 2014 and appropriated $12.6 billion from the trust fund to fund FAA and its various programs, including AIP grants. The uncommitted AATF balance at the end of fiscal year 2014 was $5.7 billion. The manner in which the trust fund is funded has not changed significantly since it was established in 1970 and several attempts to implement a user fee system have not been successful. See 26 U.S.C. § 9502.

[8]NPIAS airports are public-use airports that are deemed by FAA to be important to the national air transportation system and, therefore, eligible for AIP funding. AIP grants generally consist of two types—(1) entitlement funds that are apportioned to airports or states by formula each year based on the number of airport passengers or state population and (2) discretionary funds that FAA approves based on a project's priority.

[9]49 U.S.C. § 47102(3).

small administrative fee retained by the airline).[10] Introduced in 1991, and capped at $3.00 per flight segment,[11] PFC collections can be used by airports for the same types of projects as AIP grants, but also to pay interest costs on debt issued for those projects.[12] Since its inception, landside development projects—including, for example, new terminal projects—and interest payments on debt used to finance eligible projects have each accounted for 34 percent of total PFC collections spent. The maximum level of PFCs was last increased in 2000.[13] Collections totaled almost $2.8 billion in calendar year 2014. According to FAA, 358 commercial service airports are collecting PFCs as of February 2015.

- Airports also fund development projects from revenues generated directly by the airport. Airports generate revenues from aviation activities such as aircraft landing fees and terminal rentals, and non-aviation activities such as concessions, parking, and land leases. Aviation revenues are the traditional method for funding airport development and, along with PFCs, are used to finance the issuance of local tax-exempt debt. Because of the size and duration of some airport development projects—for example, a new runway can take more than a decade and several billion dollars to complete—long-term debt can be the only way to finance these types of projects.

FAA's main planning tool for identifying future airport-capital projects is the NPIAS.[14] FAA relies on airports, through their planning processes, to identify individual projects for funding consideration. According to FAA officials, FAA reviews input from individual airports and state aviation agencies and validates both eligibility and justification for the project over the ensuing five-year period. Because the estimated cost of eligible airport projects that airports plan to perform greatly exceeds the available grant funding available for these projects, FAA uses a priority system based on airport and project type to allocate the available funds.[15] The

[10]49 U.S.C. § 40117(b)(4).

[11]Pub. L. No. 101-508, § 9110(2), 104 Stat. 1388-357.

[12]49 U.S.C. § 40117(b)(64).

[13]Pub. L. No. 106-181, § 105(a), 114 Stat. 71, 83 (2000).

[14]49 U.S.C. § 47103.

[15]62 Fed. Reg. 45008 (Aug. 25, 1997).

Airports Council International-North America (ACI-NA), a trade association for airports, also estimates the cost of planned airport capital projects.

While almost all airport sponsors in the United States are states, municipalities, or specially created public authorities, there is still a significant reliance on the private sector for finance, expertise, and control of airport assets.[16] For example, we have previously reported that the majority of airport employees at the nation's major airports are employed by private sector firms, such as concessionaires, and some airports are also operated by private companies.[17] Pursuant to statutory authorization, since 1996, FAA has been piloting an airport privatization program that relaxes certain restrictions on the sale or lease of airports to private entities.[18]

Aviation Activity at Many Airports Has Slowed Since 2007

A variety of factors has had a substantial impact on the airline industry. We reported in June 2014 that economic issues such as volatile fuel prices and the economic recession have affected the industry as have airlines' consolidation and an adoption of business models that focus more on capacity management.[19] For instance, the 2007-2009 recession combined with a spike in fuel prices, helped spur industry mergers and a change in airline business models. Specifically, Delta acquired Northwest in 2008, United and Continental merged in 2010, Southwest acquired AirTran in 2011, and US Airways and American Airlines merged in 2014. Although passenger traffic has generally rebounded as the economy has recovered, the number of commercial aircraft operations has not returned to 2007 levels as airlines are flying larger and fuller aircraft.

In June 2014, we found that one outcome of economic pressures and industry changes had been reductions in U.S. passenger aircraft

[16]A sponsor is any public agency or private owner of a public use airport, codified at 49 U.S.C. § 47102(24).

[17]GAO, *Airport Funding: Aviation Industry Changes Affect Airport Development Costs and Financing,* GAO-14-658T (Washington, D.C.: June 18, 2014).

[18]49 U.S.C. § 41734.

[19]GAO, *Airline Competition: The Average Number of Competitors in Markets Serving the Majority of Passengers Has Changed Little in Recent Years, but Stakeholders Voice Concerns about Competition*, GAO-14-515 (Washington, D.C.: Jun 11, 2014).

operations as measured by scheduled flight operations.[20] Many airports lost both available seats and flights since 2007 when aircraft operations last peaked. However, medium- and small-hub airports had proportionally lost more service than large-hub or nonhub airports, as major airlines merged and consolidated their flight schedules at the largest airports. In June 2014, we found—based on our analysis of Department of Transportation's (DOT) data—that there were about 1.2 million fewer scheduled domestic flights in 2007 as compared to 2013 at large-, medium-, small-hub, and nonhub airports.[21] The greatest reduction in scheduled flights occurred at medium-hub airports,[22] which decreased nearly 24 percent from 2007 to 2013, compared to a decrease of about 9 percent at large-hub airports and about 20 percent at small-hub airports. Medium-hub airports also experienced the greatest percentage reduction in air service as measured by available seats[23] (see fig. 2). While 2014 passenger activity as represented by the number of passengers onboard aircraft departing U.S. airports has rebounded nearly back to 2007 levels (down 4 percent), the total number of commercial passenger and cargo aircraft departures (operations) in 2014 is still down 18.5 percent since 2007. Declining operations reduces pressure on airports' airside capacity, while rebounding passenger traffic could put pressure on airports' terminals and gates to accommodate passengers.

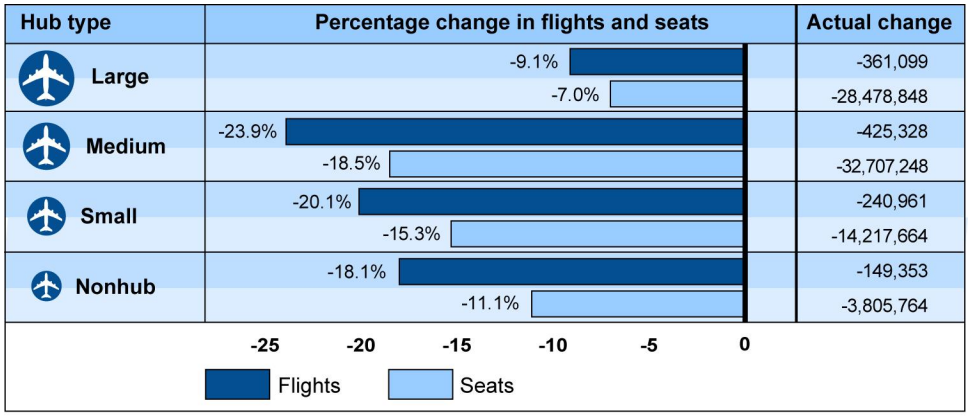
[20]GAO-14-658T.

[21]GAO-14-515.

[22]Medium-hub declines can be partly attributed to airline "dehubbing" after a merger, whereby an airline sharply reduces the number of flights that connect at the airport. For example, Memphis, Cleveland, and Cincinnati all experienced significant loss of traffic after a merger.

[23]GAO-14-515.

Figure 2: Percentage Change in Number of Flights and Available Seats by Airport Category, 2007-2013



Source: GAO analysis of DOT data. | GAO-15-498T

Note: The term "hub" is defined in federal law to identify primary commercial service airports as measured by passenger boardings. These airports are grouped into four hub categories—large-, medium-, small-hub, and nonhub. (49 U.S.C. § 40102(29), (31), (42) and (34)).

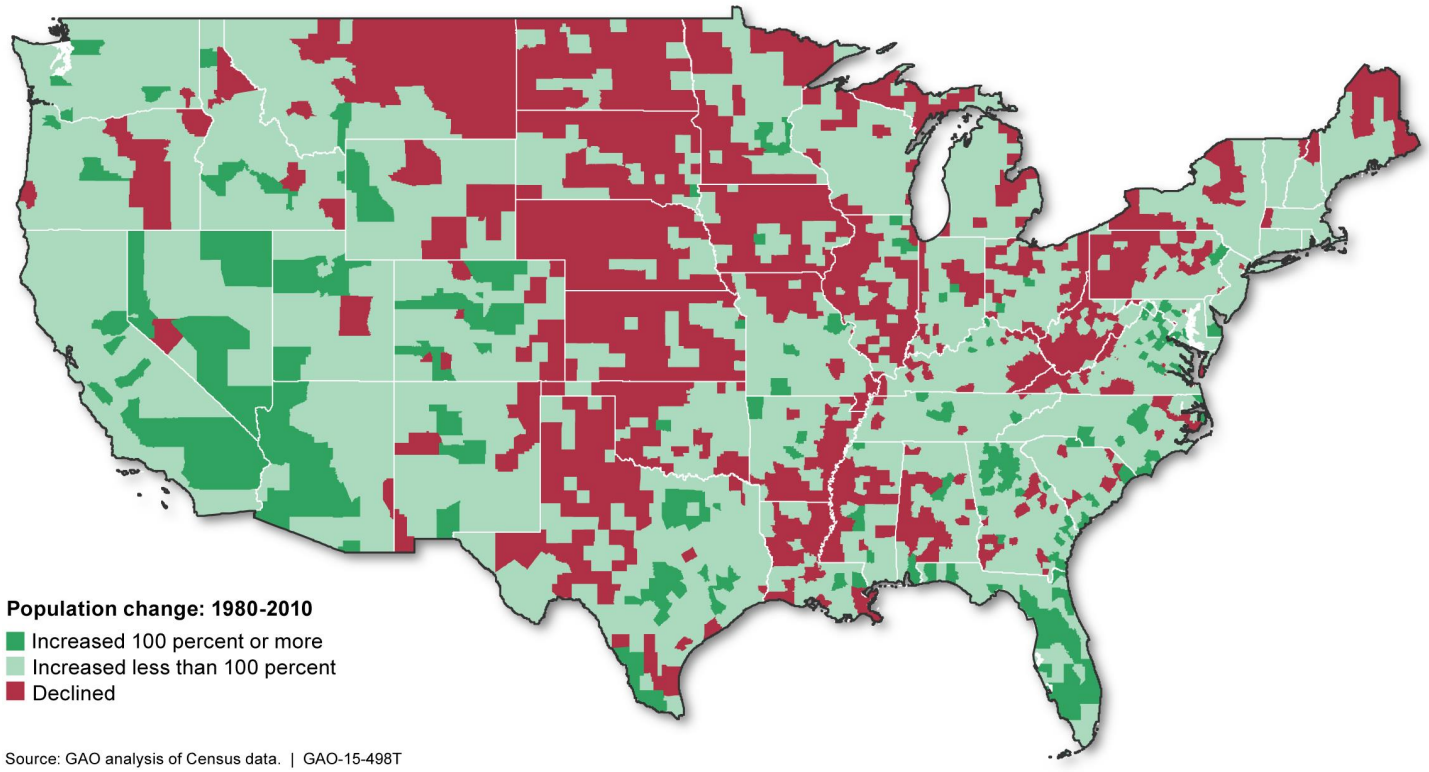
We found in June 2014 that air service to small airports, which generally serve small communities, has declined since 2007 due, in part, to volatile fuel costs and declining populations in small communities.[24] According to a study by the Massachusetts Institute of Technology (MIT), regional aircraft—those mostly used to provide air service to small communities—are 40 to 60 percent less fuel efficient than the aircraft used by mainline carriers at larger hub airports. Further, from 2002 to 2012, fuels costs quadrupled and became the airlines' largest expense at nearly 30 percent of airlines' operating costs. While more recently oil prices have dropped, it remains uncertain whether currently low oil prices will continue. The second major factor affecting small community service is declining population in many regions of the country over the last 30 years. As a result, in previous work, we have found that population movement has decreased demand for air service to certain small communities.[25] For example, geographic areas, especially in the Midwest and Great Plains

[24]GAO, *Commercial Aviation: Status of Air Service to Small Communities and the Federal Programs Involved,* GAO-14-454T (Washington, D.C.: Apr 30, 2014).

[25]See GAO, *National Transportation System: Options and Analytical Tools to Strengthen DOT's Approach to Supporting Communities' Access to the System*, GAO-09-753 (Washington, D.C.: Jul 24, 2009).

states, lost population from 1980 through 2010, as illustrated in figure 3 below. As a result, certain areas of the country are less densely populated than they were 35 years ago when the airlines were deregulated and the Essential Air Service (EAS) was created.[26] For small communities located close to larger cities and larger airports, a lack of local demand can be exacerbated by passengers choosing to drive to airports in larger cities to access better service and lower fares. The EAS program was created in 1978 to provide subsidies to some small communities that had service at the time of deregulation. We reported last year that EAS has grown in cost but did help stem the declines in service to those communities as compared to other airports.[27]

Figure 3: Shift in Population Distributions, from 1980 through 2010



Source: GAO analysis of Census data. | GAO-15-498T

[26]Pub. L. No. 95—504, 92 Stat. 1705 (1978).

[27]GAO-14-454T.

In June 2014, we reported that GA activity has also declined since 2007, particularly affecting airports that rely on general aviation activity for a large share of their revenue.[28] For GA airports—which generate revenues from landing fees, fuel sales, and hangar rents—the loss of traffic can have a significant effect on their ability to fund development. A 2012 MIT study that examined trends for GA operations at U.S. airports with air-traffic control towers indicated that from 2000 to 2010, total GA operations dropped 35 percent.[29] According to the MIT study, the number of annual hours flown by GA pilots, as estimated by FAA, has also decreased over the past decade.[30] Numerous factors affect the level of GA operations including the level of fuel prices, the costs of owning and operating personal aircraft, and the total number of private pilots and GA aircraft. For example, we recently reported on the availability of airline pilots and found that the GA pilot supply pipeline has decreased as fewer students enter and complete collegiate pilot-training programs and fewer military pilots are available than in the past.[31]

[28]GAO-14-658T.

[29]Kamala I. Shetty and R. John Hansman, *Current and Historical Trends in General Aviation in the United States*, Massachusetts Institute of Technology International Center for Air Transportation (August 2012).

[30]Unlike commercial service aviation, GA operators are not required to report flight activity to FAA. To have some idea of the activity, FAA estimates GA flight hours based on estimates derived from its annual survey of GA operators and the Part 135 Activity Survey. We reported in 2012 that the GA survey has long suffered from methodological and conceptual limitations, even with FAA's efforts to improve it over the years.

[31]GAO, *Aviation Workforce: Current and Future Availability of Airline Pilots*, GAO-14-232 (Washington, D.C.: Feb 28, 2014).

Airport Capacity Needs and AIP-Eligible Planned Development Costs Have Mostly Declined

The Projected Number of Future Capacity Constrained Airports Has Declined

Earlier this year, FAA reported on airport capacity needs through 2030.[32] The focus of FAA's analysis was not on the broad range of investments airports make to serve passengers and aircraft, but on the capacity of airports to operate without significant delay. Therefore, the primary focus was on airside capacity, especially runway capacity. To do this, FAA modeled recent and forecasted changes in aviation activity, current and planned FAA investments in air-traffic-control modernization, and airport investments in infrastructure, such as new runways, to determine which airports are likely to be congested or capacity constrained in future years.[33] The FACT3 report is the third such study FAA has conducted, with previous studies in 2004 and 2007 following a similar methodology. The most recent study found that the number of capacity-constrained airports expected in the future has fallen dramatically from the number projected in earlier reports, referred to as FACT1 and FACT2 (see fig. 4). For example, in 2004, FAA projected that 41 airports would be capacity constrained by 2020 unless additional investment occurred. However, in the 2015 report, FAA projected that 6 airports will be capacity constrained in 2020. FAA attributed this improvement to changes in aviation activity, investment in air-traffic-control modernization, and the addition of airport runways.

[32]FAA, FACT3: Airport Capacity Needs in the National Airspace System, (January 2015).

[33]Congested airports are defined as having an average delay per flight of 7 minutes or more and capacity-constrained as having an average delay per flight of 15 minutes or more delay per flight.

Figure 4: Comparison of Capacity Constrained Airports Since 2004

Airport	Location identifier	FACT1			FACT2			FACT3			Legend
		2004	2013	2020	2007	2015	2025	2011	2020	2030	
Albuquerque International Sunport	ABQ		●	●							
Hartsfield - Jackson Atlanta International	ATL	●	◑	●			●	●	●	●	
Bradley International	BDL			●							
Birmingham-Shuttlesworth International	BHM			●							
General Edward Lawrence Logan International	BOS			◑			◑				
Bob Hope	BUR		●	●							
Baltimore/Washington International Thurgood Marshall	BWI		◑	◑							
Charlotte/Douglas International	CLT		◑	◑		◑	◑			●	
Cincinnati/Northern Kentucky International	CVG		◑	◑							
Ronald Reagan Washington National	DCA			◑							◑ Constrained in reference case, but unconstrained if planned improvements are implemented
Denver International	DEN			◑							
Dallas/Fort Worth International	DFW			◑							
Detroit Metropolitan Wayne County	DTW			◑							
Newark Liberty International	EWR	●	●	●	●	●	●	●	●	●	
Fort Lauderdale/Hollywood International	FLL		●	◑	●	◑	●			◑	
William P Hobby	HOU		●	●		◑	◑				
Washington Dulles International	IAD			◑			◑				
George Bush Intercontinental/Houston	IAH		◑	◑		◑	◑			●	
Long Island MacArthur	ISP			●							● Constrained even after all planned improvements are implemented; additional capacity enhancement is needed; or constrained in base year.
John F Kennedy International	JFK		●	◑		◑	●	●	●	●	
McCarran International	LAS		◑	●		◑	●			●	
Los Angeles International	LAX		◑	◑			◑				
La Guardia	LGA	●	●	●	●	●	●	●	●	●	
Long Beach /Daugherty Field/	LGB		●	●		●	●				
Chicago Midway International	MDW		◑	●		◑	●				
Memphis International	MEM			◑							
Miami International	MIA			◑							
Minneapolis-St Paul International/Wold-Chamberlain	MSP		◑	◑			◑				**No Symbol** Not capacity constrained
Metropolitan Oakland International	OAK		●	●		●	●				
Ontario International	ONT			●							
Chicago O'Hare International	ORD	●	●	◑	●	◑	◑			◑	
Palm Beach International	PBI		●	◑		◑	◑				
Philadelphia International	PHL	●	●	◑		●	●	●	●	◑	
Phoenix Sky Harbor International	PHX		◑	◑			●			●	
Theodore Francis Green State	PVD			●		◑	◑				
San Diego International	SAN						●				
San Antonio International	SAT		●	●		◑	◑				
Boeing Field/King County International	SEA			◑			◑				
San Francisco International	SFO						●		◑	●	
Salt Lake City International	SLC			◑							
John Wayne Airport-Orange County	SNA		●	●		●	●				
Lambert-St Louis International	STL		◑	◑							
Tucson International	TUS		●	●		◑	◑				

Source: FAA. | GAO-15-498T

Note: FAA has published three reports—FACT 1 (2004), FACT2 (2007), and FACT3 (2015)—that examined current and future capacity needs throughout the national airspace system.

As noted above, FAA's most recent capacity report forecasts that 6 airports will need additional investment to improve capacity by 2020, 5 of which are expected to remain capacity constrained even if planned investments are made (See Table 1). Five of the airports identified in the FAA analyses—including the 3 in the New York City area—have experienced capacity constraints since 2004 when FAA first published its analysis. These 6 airports continue to have among the worst on-time performance of U.S. airports. In our May 2010 report on air-traffic-control delays, we identified these same 6 airports plus Chicago O'Hare as being responsible for 80 percent of all departure delays in the NAS.[34] Since 2001, the $8.7-billion Chicago O'Hare modernization program has helped to increase capacity and reduce congestion there.

Table 1: Six Airports Identified by the Federal Aviation Administration as Needing Additional Capacity in 2020

Airport name (location identifier)	No further improvements beyond near-term NextGen	After planned improvements with midterm NextGen and runways
Hartsfield-Jackson Atlanta International (ATL)	X	X
Newark Liberty International (EWR)	X	X
John F. Kennedy International (JFK)	X	X
LaGuardia (LGA)	X	X
Philadelphia International (PHL)	X	X
San Francisco International (SFO)	X	
Total	**6**	**5**

Source: FAA FACT3 Report | GAO-15-498T

Note: NextGen is an advanced technology air-traffic management system that FAA anticipates will replace the current ground-radar-based system.

As we concluded in our April 2013 report, an important factor to reducing congestion is air-traffic-control modernization. FAA is collaborating with other federal agencies and the aviation industry on the implementation of the Next Generation Air Transportation System (NextGen), a complex,

[34]GAO, *National Airspace System: Setting On-Time Performance Targets at Congested Airports Could Help Focus FAA's Actions*, GAO-10-542, (Washington, D.C.: May 26, 2010).

multi-year, multi-billion dollar, and incremental process to implement an advanced technology air-traffic management system that will eventually replace the current ground-radar-based system. NextGen capabilities are expected to help airports accommodate the demand for additional capacity in a safe, efficient, and more environmentally responsible manner. While FAA anticipates that NextGen improvements will keep airport delays from getting worse than would be expected without the improvements, the transformation to NextGen will depend on the ability of airports to handle greater capacity.[35] For example, the improved efficiency in runway and airspace use that is projected to result from some NextGen technologies may require more capacity in other areas, such as taxiways, terminal gates, or parking areas for aircraft.

FAA's *NextGen Priorities Joint Implementation Plan* released in October 2014 identified two NextGen improvements that FAA asserts would help increase airport capacity. The *Joint Implementation Plan* summarizes the high-level commitments that FAA and the aviation community collectively agreed to accomplish in the next 3 years and provides a timeline of capability milestones and locations.[36] The first improvement under the plan is to improve airport surface operations, including the improved data sharing and coordination as well as surface-metering methods that help efficiently queue airplanes to better predict hourly departure demand and assigning airlines departure slots in a queue based on the data. For example, an MIT report on metering programs at JFK airport in New York found that metering significantly reduced taxi times, fuel burned, and carbon emissions.[37] The second improvement agreed to in the plan is to increase the use of parallel runway operations. In April 2013, we concluded that revised standards for using closely spaced parallel runways and integration of airborne- and surface-traffic management will

[35]GAO, *FAA Has Made Some Progress in Midterm Implementation, but Ongoing Challenges Limit Expected Benefits*, GAO-13-264 (Washington, D.C.: Apr 8, 2013).

[36]The high-priority capabilities also include implementing performance based navigation procedures and data communication improvements. The data communications program—referred to as DataComm—has an approved cost, schedule, and performance baseline with a longer timeline.

[37]Alex Nakahara and Tom G. Reynolds, Massachusetts Institute of Technology Lincoln Laboratory Thomas White, Chris Maccarone, and Ron Dunsky, PASSUR Aerospace, Stamford, CT. *Analysis of a Surface Congestion Management Technique at New York JFK Airport.*

be important to ensuring NextGen benefits are realized, since benefits from the various capabilities are interdependent.[38]

The FAA Modernization and Reform Act of 2012 (2012 Act)[39] included a number of provisions aimed at accelerating NextGen benefits through the creation of performance-based navigation (PBN) procedures, such as following precise routes that use the Global Positioning System that can save airlines and other aircraft operators money through reduced fuel and flight time. As part of the 2012 Act, FAA was granted a categorical exclusion from environmental review for PBN procedures in cases that could demonstrate measurable reductions in fuel consumption, carbon dioxide emissions, and noise, on a per-flight basis, as compared to aircraft operations that follow existing procedures.[40] However, our April 2013 report found that, according to FAA, potential noise impacts are measured cumulatively for all flights not on a per-flight basis. In 2014, FAA sought public comments on how to implement this exclusion, and according to an FAA official, the agency plans to issue a notice later this year on how to apply this new categorical exclusion.[41]

Some airports remain capacity constrained despite significant investment and operational improvements. For example, despite investments in capacity, operational improvements, and an airspace redesign for the entire New York metroplex, the three New York area airports remain capacity constrained.[42] As we found in July 2008, these constraints impose a considerable economic burden on the region, while the delays that emanate from those airports propagate throughout the NAS.[43] FAA

[38]GAO-13-264.

[39]Pub. L. No. 112-95 §213, 126 Stat. 11, 46.

[40]A federal action may be categorically excluded—thus exempting it from further federal environmental review—if, based on agency experience, the agency has determined that the proposed action is within a category of actions that do not individually or cumulatively have a significant effect on the environment and there are no extraordinary circumstances in which a normally excluded action may have a significant environmental effect. See 40 C.F.R. § 1508.4.

[41]79 Fed, Reg. 49141 (Aug. 19, 2014).

[42]GAO, *FAA Airspace Redesign: An Analysis of the New York/New Jersey/Philadelphia Project*, GAO-08-786 (July 31, 2008).

[43]GAO-08-786.

imposed operating authorizations to take-off or land, called slot controls, at those airports in the late 1960s to reduce airport and system delays.[44] At times when slot controls have been relaxed or suspended as a result of statutory changes and FAA actions, delays have ballooned. For example, in 2000, the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century required the High Density Rule to be phased out at JFK and LaGuardia by January 1, 2007,[45] and as a result, airlines scheduled more flights at LaGuardia than the airport could handle without unreasonable delays. FAA subsequently issued temporary orders limiting scheduled operations at LaGuardia, JFK, and Newark, which have been in place since 2007.

In our 2012 report on slot controls, we found problems with certain aspects of the slot control rules, including FAA's management of them at the New York City area airports.[46] These problems contribute to not using existing capacity or using it inefficiently at these airports. This situation may hinder the ability of some new entrant airlines to obtain slots that they could use to offer new service destinations and lower fares.[47] Because opportunities to build new capacity at these airports are limited, optimizing the available capacity is paramount. We made six recommendations to FAA and the DOT to improve the management of the slots to maximize the use of available capacity at these airports, enhance competition through greater airline access to slots,[48] and enhance transparency of slot information. DOT partly or fully concurred with the recommendations, but has not yet fully addressed them. On January 8, 2015, DOT proposed new rules to replace the temporary FAA orders for managing the slots at these airports and comments are now being submitted to DOT and are currently due May 8, 2015. The new rules, as proposed, do not provide for increased capacity at these

[44]34 Fed. Reg. 2603 (Feb. 26, 1969).

[45]Pub. L. No. 106-181, 231(b)(2), 114 Stat. 108 (2000).

[46]GAO, *Slot-Controlled Airports: FAA's Rules Could Be Improved to Enhance Competition and Use of Available Capacity*, GAO-12-902, (Washington, D.C.: Sep 13, 2012).

[47]GAO-12-902.

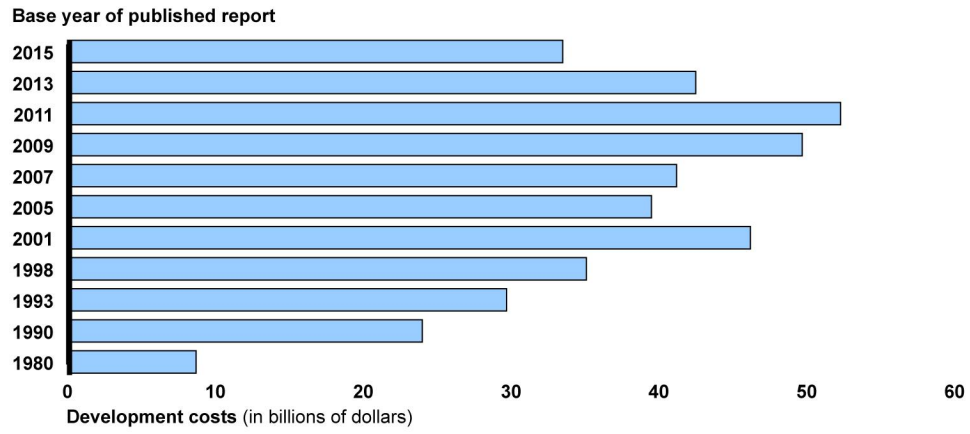
[48]Pub. L. No. 106-181, 231(b)(2), 114 Stat. 108 (2000).

airports, keeping hourly slot limits at the same level and introducing a new daily slot limit.[49]

Estimated AIP-Eligible Development Costs for Next 5 Years Are Lower, Though Estimates of Overall Development Costs Have Increased

In the September 2014 NPIAS, FAA estimated that airports have roughly $33.5 billion in planned development projects for the period 2015 through 2019 that are eligible for federal support in the form of AIP grants.[50] This estimate is roughly 21 percent less than FAA's previous estimate of $42.5 billion for the period 2013 through 2017 (see fig. 5). FAA reported a decrease in estimated needs for most hub-airport categories and all types of airport development except projects to reconstruct or rehabilitate airport facilities, security related infrastructure projects, and safety projects (see fig. 6). Notably, according to FAA, planned capacity-related development decreased to $4.9 billion, a 50-percent decrease. Planned terminal-related development also saw a major decline, down by 69 percent from the previous estimate.

Figure 5: The Federal Aviation Administration's (FAA) estimates of Airport Improvement Program (AIP) Eligible Planned Development



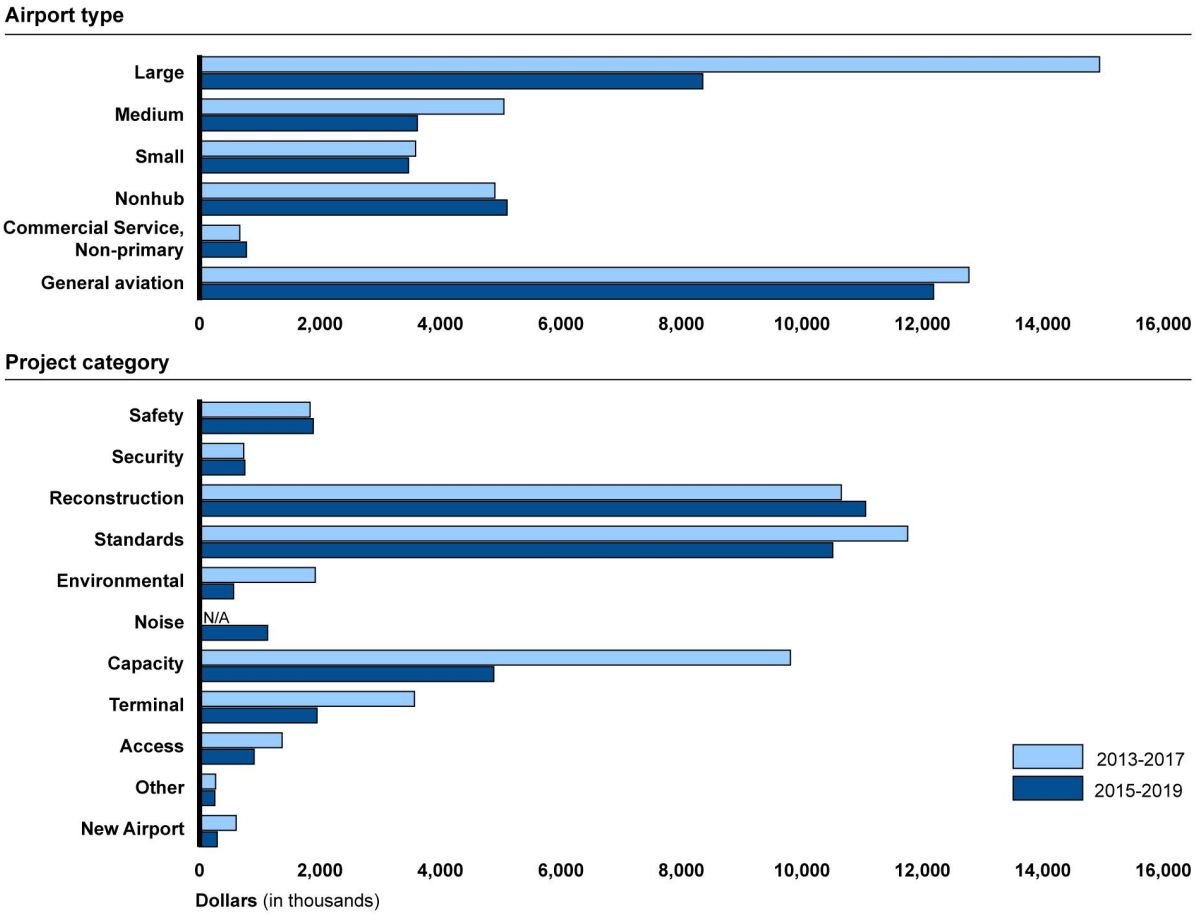
Source: GAO presentation of FAA data. | GAO-15-498T

Note: Dollars expressed in the year of estimate.

[49]Slot Management and Transparency for LaGuardia Airport, John F. Kennedy International Airport, and Newark Liberty International Airport, 80 Fed. Reg. 1274 (Jan. 8, 2015).

[50]National Plan of Integrated Airport Systems for 2015-2019, FAA, September 2014. AIP and PFC project eligibility standards are similar; however, some PFC uses (such as debt service) are not eligible for AIP.

Figure 6: Federal Aviation Administration's (FAA) Estimates of Airport Improvement Program (AIP)-Eligible Planned Development by Airport and Project Category, 2013–2017 and 2015–2019



Source: GAO presentation of FAA data. | GAO-15-498T

Note: Dollars expressed in the year of estimate. N/A means not applicable.

The ACI-NA also estimated airports' planned development for the 2015 through 2019 period for projects both eligible and not eligible for AIP funding. According to ACI-NA, the total estimated planned-development cost for 2015 through 2019 is $72.5 billion, more than twice FAA's estimate for just AIP eligible projects.[51] ACI-NA's estimate increased 6.2 percent over its prior estimate of $68.7 billion for the prior 2013–2017

[51]ACI-NA reported $75.7 billion over 5 years, or $15.1 billion per year but that included an inflation adjustment.

estimating period. According to ACI-NA, the difference in the respective estimates is attributable to ACI-NA's including all projects rather than just AIP-eligible projects like the NPIAS, as well as including projects with identified funding sources, which the NPIAS excludes. For example, ACI-NA's estimate includes AIP-ineligible projects such as parking facilities, airport hangars, and commercial space in large passenger terminal buildings. ACI-NA attributed more than half of the development costs to the need to accommodate growth in passenger and cargo activity. ACI-NA estimated that 36 percent of planned development costs were for terminal projects. We are currently analyzing FAA and ACI-NA's most recent plan estimates and will be reporting later this year on the results.

Federal Support for Airport Development Has Decreased, While Debt Levels May Leave Little Room for New Development at Some Airports

Federal Funding for Airport Development Has Declined in Recent Years

In Fiscal Year 2015, Congress made $3.35 billion available in appropriations acts for AIP funding, a reduction from the annual appropriations of $3.52 billion for fiscal years 2007 through 2011.[52] The President's 2016 budget proposal calls for a reduction in annual AIP funding to $2.9 billion in conjunction with an increase in the PFC cap. As

[52]Congress sets an amount FAA can obligate during a fiscal year in appropriations acts. For fiscal year 2009, in addition to the amount made available of $3.5 billion, AIP received appropriation of $1.1 billion under the American Recovery and Reinvestment Act of 2009 (Pub. L. No. 111-5, 123 Stat. 115, 205 (2009). The amount made available for each fiscal year includes amounts for AIP grants to airports as well as for other components of the AIP program. For example, of the $3.515 billion made available for the AIP program in fiscal year 2010, $3.4 billion was for AIP grants, $93.4 million was for administrative expenses of the FAA's Office of Airports, $22.5 million was for the Airport Technology Research Program, $15 million was for the Airport Cooperative Research Program, and $6 million was used for the Small Community Air Service Development Program.

we testified in June 2014, if amounts made available in appropriations acts for AIP fall below the $3.2 billion level established in the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century of 2000[53] and no adjustments are made, under the 2000 Act the amount of AIP entitlement grants would be reduced, but more AIP discretionary grants could be made as a result. The larger amount of AIP funding that would go to discretionary grants would give FAA greater decision-making power over the development projects that receive funding.

Previous proposals have considered changing how GA airports are allocated their share of AIP funds, which represented approximately one-quarter of total AIP funds in fiscal year 2014. For example, in 2007, the Administration's FAA reauthorization proposal suggested changing the funding structure for GA airports. Specifically, FAA would have tiered GA airports' funding based on level of and type of aviation activities. AIP entitlement funding would then range, based on the tier, up to $400,000. While this proposal was not adopted, FAA recently undertook an exercise to classify GA airports based on their activity levels.[54] In 2014, FAA reported that 281 airports remained unclassified because they did not meet the criteria for inclusion in any of the new categories, thus having no clearly defined federal role.[55] This figure included 227 publicly owned airports with few or no based aircraft. According to the most recent NPIAS report, many of these 227 airports have received AIP funding in the past and may be considered for future funding if and when their activity levels meet FAA's criteria for inclusion.

We also found that the federal PFC cap of $4.50 has not increased since 2000 and thus has not kept pace with inflation; accordingly, total collections have remained flat since 2007.[56] PFC collections peaked in 2006 at over $2.93 billion and in 2014 totaled $2.78 billion. Approximately 90 percent of PFC collections go to large- and medium-hub airports, but

[53]49 U.S.C. § 47114.

[54]In a 2012 report, FAA categorized GA airports as National (84), Regional (467), Local (1,236), and Basic (668). In addition, another 497 GA airports were unclassified. Federal Aviation Administration, *General Aviation Airports: A National Asset (ASSET 1)*, May 2012.

[55]FAA, *ASSET 2: In-Depth Review of 497 Unclassified Airports*, March 2014.

[56]GAO, *Commercial Aviation: Raising Passenger Facility Charges Would Increase Airport Funding, but Other Effects Less Certain*, GAO-15-107 (Dec 11, 2014).

large- and medium-hub airports collecting PFCs must return a portion of their AIP entitlement grants, which are then redistributed to smaller airports through the AIP.[57] As previously noted, 68 percent of PFCs have been used to pay for landside development (terminals) and interest charges on debt. In addition, many airports' future PFC collections are already committed to pay off debt for past projects, leaving little room for new development. For example, at least 50 airports have leveraged their PFCs through 2030 or later, according to FAA data.

The President's fiscal year 2016 budget proposal and airports have called for increasing the PFC cap to $8—which is intended to account for inflation since 2000, when the maximum PFC cap was last raised—and eliminate AIP entitlements for large-hub airports.[58] Earlier this year, we reported on the effects of increasing PFCs on airport revenues and passenger demand.[59] Specifically, we found that increasing the PFC cap would significantly increase PFC collections available to airports under the three scenarios we modeled but could also marginally slow passenger growth and therefore the growth in revenues to the AATF. We modeled the potential economic effects of increased PFC caps for fiscal years 2016 through 2024 as shown in figure 7 below. Under all three scenarios, trust fund revenues, which totaled $12.9 billion in 2013 and fund FAA activities, would likely continue to grow overall based on current projections of passenger growth; however, the modeled cap increases could reduce the growth in total AATF revenues by roughly 1 percent because of reduced passenger demand if airlines pass the full amount of the PFC increase along to consumers in the form of increased ticket prices.

[57]Medium- and large-hub airports return 50 percent of their AIP entitlement funds if their PFC level is $3.00 or less and 75 percent of their entitlement if their PFC level is above $3.00 (49 U.S C § 47114(f)). FAA's Small Airport fund—for use by small-hubs, nonhubs, general aviation, and reliever airports—receives 87.5 percent of the total returned amount, and the other 12.5 percent goes toward AIP discretionary funds (49 U.S.C § 47116).

[58]Airport trade associations, the ACI-NA and the American Association of Airport Executives, have made prior proposals to raise the PFC cap to $8.50 with periodic adjustments for inflation.

[59]GAO, Commercial Aviation: Raising Passenger Facility Charges Would Increase Airport Funding, but Other Effects Less Certain, GAO-15-107, (Washington, D.C.: Dec 11, 2014).

Figure 7: Estimated Change in Passenger Facility Charge (PFC) Collections Available to PFC Approved Airports and Associated Changes to Airport and Airway Trust Fund (AATF) Revenues, 2016-2024 (Annual Dollars in Millions)

Scenario	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Current PFC collections baseline estimate										
$4.50 cap	PFC	3,073	3,149	3,225	3,301	3,373	3,437	3,498	3,561	3,628
Estimated changes to PFC baseline and AATF revenues										
$6.47 cap ($4.50 cap adjusted for CPI)	PFC	+1,341	+1,375	+1,409	+1,444	+1,476	+1,505	+1,533	+1,561	+1,592
	AATF	-90	-93	-95	-97	-99	-100	-102	-103	-105
$8.00 cap (President's budget)	PFC	+2,364	+2,424	+2,485	+2,546	+2,604	+2,655	+2,705	+2,756	+2,810
	AATF	-161	-164	-168	-172	-175	-178	-180	-183	-186
$8.50 cap, CPI adjusted (ACI/AAAE proposal)	PFC	+2,696	+2,886	+3,093	+3,316	+3,551	+3,787	+4,033	+4,291	+4,562
	AATF	-184	-196	-210	-225	-240	-255	-271	-287	-304

Definitions
- CPI=Consumer Price Index
- ACI-NA/AAE=Airports Council International-North America/American Association of Airport Executives
- AATF= Airport and Airway Trust Fund

Source: GAO analysis of DOT data. | GAO-15-498T

Note: Model assumptions are (1) an elasticity rate of -0.8; (2) airlines would pass the total fee increase to passengers through higher ticket prices; and (3) airports that currently impose a PFC would raise it to the maximum allowed in the first year. ACI-NA/AAAEE did not specify which inflation index it used in its proposal; therefore, we used the CPI as it is the federal inflation-index standard.

As with any modeling exercise, these projected effects depend on key assumptions regarding consumers' sensitivity to a fare increase caused by an increase in the PFC, whether airlines would pass on the full increase to consumers, and the rate at which airports would adopt the increased PFC cap. First, there is uncertainty associated with demand analysis, because the estimated reductions in air travel are highly dependent on the assumptions about consumers' sensitivities to changes in price. Second, we assumed that the entire PFC increase would be fully passed on to consumers and not absorbed by the airlines by adjusting their base fares downward. Airline statements and experts with whom we spoke largely supported our assumption that airlines would attempt to pass the PFC increase on to consumers. Finally, we assumed that airports that currently impose a PFC would raise it to the maximum allowed amount in the first year. While all airports likely would not immediately raise their PFC level in the first year, based on near universal adoption of the current maximum by nearly all of the largest airports, it is not unrealistic to expect that most airports would be at the maximum by 2024.

Airlines have historically opposed PFC increases because they assert that higher ticket prices could reduce demand for air travel and, therefore, airline revenues. While we have reported that a PFC increase could marginally slow passenger demand, another issue in this debate is how

increasing PFCs could affect the airlines' ability to influence airport investment decisions.[60] PFCs were introduced in 1991, in part, to give airports greater independence from airlines over investment decisions. While airports must notify and consult with the airlines on how they spend PFCs, as long as FAA approves, airlines cannot block these decisions. Airlines can choose to serve other airports, however, so airports have an incentive to listen to airline concerns. However, all else being equal, an increase in PFC collections would provide airports with more influence over airport infrastructure decisions while a lower PFC would make airports more reliant on airlines to help fund local capital-funding decisions.

Congress directed GAO to study alternative methods to collect PFCs as part of the last Reauthorization.[61] As part of our work for this report, we interviewed officials from airports and airlines. Officials from some of these airports and airlines said they would consider removing airport fees from the airline ticket altogether and allowing airports to collect fees themselves. We examined alternative collection mechanisms, such as airport kiosks and internet-enabled devices such as smartphones that could be used to collect PFCs separate from the ticket. We determined that none of these alternatives were better than the current method. Specifically, we determined that each of the alternatives negatively impacted the passenger experience and the transparency of fees relative to the current method.[62] While airports have generally supported the current collection method, some told us they might consider using an alternative method if it allowed them to remove the PFC cap.

Airports Rely on a Variety of Local Revenues, Which Have Increased since 2004

We also found in 2014 that to help fund airport development, commercial service airports increasingly rely on a variety of locally generated revenues.[63] Airports receive nearly as much non-aviation revenue as revenue from passengers and aircrafts. According to FAA, in 2014, at commercial service airports for which they have data, aviation revenues

[60]GAO-15-107.

[61]Pub. L. No. 112-95, § 112, 126 Stat. 11, 18 (2012).

[62]GAO, *Transportation: Alternative Methods for Collecting Passenger Facility Charges*, GAO-13-262R, (Washington, D.C.: Feb 14, 2013).

[63]GAO-14-658T.

totaled $5.2 billion, while nonaviation revenues were just over $5 billion.[64] According to ACI-NA, non-aviation revenue has grown faster than passenger growth since 2004, over 4 percent on average for non-aviation revenue versus 1.5 percent average growth in passenger boardings over the same period. Further, some airports have developed unique commercial activities with stakeholders from local jurisdictions and the private sector to help develop airport properties into retail, business, and leisure destinations.[65] Some examples include:

- **Non-aviation development on airport property:** Airports have turned to an increasing range of unique developments on airport property, including high-end commercial retail and leisure activities, hotels and business centers, and medical facilities for non-aviation revenues.[66] For example, airports in Denver, Miami, and Indianapolis have built cold storage facilities on airport property in an effort to generate revenue by leasing cold storage space to freight forwarders and businesses that transport low-volume, high-valued goods, including pharmaceuticals, produce, and other time-sensitive or perishable items.

- **Public-private partnerships:** Airports can fund airport improvements with private sector participation. Public-private partnerships, involving airports and developers, have been used to finance airport development projects without increasing the amount of debt already incurred by airports. For example, the Port Authority of New York and New Jersey has recently received responses for its request for proposals for the private sector to demolish old terminal buildings and construct, partially finance, operate, and maintain a new Central Terminal Building for LaGuardia Airport in New York City.

- **Privatization:** FAA's Airport Privatization Pilot Program (APPP), which was established in 1997 to reduce barriers to airport

[64]FAA, CATS financial reports of 442 commercial service airports.

[65]Airport-centric development—development at and around airports, in part, to generate non-aviation revenue and stimulate regional development—has taken place at airports around the world. This form of development has also been referred to as aerotropolis or airport-city. For more information on factors that may support this form of development, see: GAO, *National Airspace System: Airport-Centric Development*, GAO-13-261 (Washington, D.C.: March 28, 2013).

[66]GAO-13-261.

privatization that we identified in 1996, has generated limited interest from the public and private sectors.[67] As we reported in November 2014, 10 airports have applied to be part of the pilot program and one airport—San Juan Luis Muñoz Marín International Airport in Puerto Rico—has been privatized (see fig. 8).[68] In our report, we noted that several factors reduce interest in the APPP—such as higher financing costs for privatized airports, the lack of state and local property tax exemptions, and the length of time to complete a privatization under the program. Public sector airport owners have also found ways to gain some of the potential benefits of privatization without full privatization, such as entering airport management contracts and joint development agreements for managing and building an airport terminal.

Figure 8: Airports That Applied to the Airport Privatization Pilot Program

Source: GAO analysis of FAA data. | GAO-15-498T

In conclusion, last year commemorated one century since the first commercial airline flight,[69] and in that relatively short time span commercial aviation has grown at an amazing pace to become an

[67]GAO/RCED-97-3.See 49 U.S.C. § 47134.

[68]GAO, *Airport Privatization: Limited Interest despite FAA's Pilot Program*, GAO-15-42, (Washington, D.C.: Nov 19, 2014). Stewart Airport in New York was privatized in 1999 under a 99-year lease to a private sector operator, but in 2007 the lease was assumed by the Port Authority of New York and New Jersey after the private sector operator ceased to operate the airport.

[69]On Jan. 1, 1914, the St. Petersburg-Tampa Airboat Line became the world's first scheduled passenger airline service, operating between St. Petersburg and Tampa, Fla. It was a short-lived endeavor—only 3 months.

ubiquitous and mature industry in the United States. While commercial aviation still has many exciting growth prospects for its second century, it also faces many challenges—among them how to ensure that the aviation system can accommodate millions of flights and hundreds of millions of passengers every year in the midst of shifting aviation activity and constrained federal funding. Despite recent declines in airport operations, it remains important for airports to be maintained as well as upgraded to maintain safety and accommodate future growth. Declines in airport operations have reduced demands on AIP, but rebounded passenger activity could continue to put pressure on PFCs to finance terminal and other projects. Developing airports will require the combined resources of federal, state, and local governments, as well as private companies' capital and expertise. Effectively supporting this development involves focusing federal resources on FAA's key priorities of maintaining the world's safest aviation system and providing adequate system capacity, while allowing sufficient flexibility for local airport sponsors to maximize local investment and revenue opportunities. In deciding the best course for future federal investment in our national airport system, Congress is faced with weighing the interests of all aviation stakeholders, including airports, airlines, other airport users, and most importantly passengers, to help ensure a safe and vibrant aviation system.

Madam Chair Ayotte, Ranking Member Cantwell, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contacts and Staff Acknowledgments

For further information about this testimony, please contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Key contributors to this testimony include Paul Aussendorf (Assistant Director), Amy Abramowitz, David Hooper, Delwen Jones, Josh Ormond, Melissa Swearingen, and Russell Voth.

Appendix I: Accessible Data

Data Table for Figure 1: Airport Categories Based on 2013 Enplanements of U.S. Passengers

Hub type	Percentage of annual passenger boardings	Statistics in 2013			
		Minimum number of boardings	Number of boardings	Percentage of total boardings	Number of airports
Large	1% or more	7,389,354	522,244,713	72.2%	30
Medium	At least 0.25%, but less than 1%	1,847,338	118,472,049	16.0%	33
Small	At least 0.05%, but less than 0.25%	369,468	61,171,740	8.3%	71
Nonhub	More than 10,000, but less than 0.05%	10,001	25,526,814	3.5%	261
Commercial Service Nonprimary	At least 2,500 and no more than 10,000	2,500	520,064	0.1%	111

Source: GAO presentation of FAA data. GAO-15-498T.

Data Table for Figure 2: Percentage Change in Number of Flights and Available Seats by Airport Category, 2007-2013

Hub type	Percentage change in flights	Percentage change in seats	Actual change in flights	Actual change in seats
Large	-9.1%	-7%	-361,099	-28,478,848
Medium	-23.9%	-18.5%	-425,328	-32,707,248
Small	-20.1%	-15.3%	-240,961	-14,217,664
Nonhub	-18.1%	-11.1%	-149,353	-3,805,764
Commercial Service Nonprimary	1%	-2.9%		

Source: GAO analysis of DOT data. GAO-15-498T.

Data Table for Figure 5: The Federal Aviation Administration's (FAA) estimates of Airport Improvement Program (AIP) Eligible Planned Development

Base year of published report	Development costs (in billions of dollars)
2015	33.5
2013	42.5
2011	52.3
2009	49.7
2007	41.2
2005	39.5

Base year of published report	Development costs (in billions of dollars)
2001	46.2
1998	35.1
1993	29.7
1990	24
1980	8.7

Source: GAO presentation of FAA data. GAO-15-498T.

Note: Dollars expressed in the year of estimate.

Data Tables for Figure 6: Federal Aviation Administration's (FAA) Estimates of Airport Improvement Program (AIP)-Eligible Planned Development by Airport and Project Category, 2013–2017 and 2015–2019

Dollars (in thousands)

Airport type	2013-2017	2015-2019
Large	14,941	8,355
Medium	5,055	3,617
Small	3,589	3,471
Nonhub	4,906	5,106
Commercial Service, Non-primary	670	782
General aviation	12,773	12,187

Project category	2013-2017	2015-2019
Safety	1,838	1,889
Security	736	755
Reconstruction	10,656	11,058
Standards	11,756	10,513
Environmental	1,923	569
Noise	N/A	1,133
Capacity	9,811	4,886
Terminal	3,571	1,954
Access	1,374	909
Other	270	257
New Airport	610	295

Source: GAO presentation of FAA data. GAO-15-498T.

Data Table for Figure 7: Estimated Change in Passenger Facility Charge (PFC) Collections Available to PFC Approved Airports and Associated Changes to Airport and Airway Trust Fund (AATF) Revenues, 2016-2024 (Annual Dollars in Millions)

Scenario	Year								
	2016	2017	2018	2019	2020	2021	2022	2023	2024
Current PFC collections baseline estimate									
$4.50 cap - PFC	3,073	3,149	3,225	3,301	3,373	3,437	3,498	3,561	3,628
Estimated changes to PFC baseline and AATF revenues									
$6.47 cap ($4.50 cap adjusted for CPI) - PFC	+1,341	+1,375	+1,409	+1,444	+1,476	+1,505	+1,533	+1,561	+1,592
$6.47 cap ($4.50 cap adjusted for CPI) - AATF	-90	-93	-95	-97	-99	-100	-102	-103	-105
$8.00 cap (President’s budget) - PFC	+2,364	+2,424	+2,485	+2,546	+2,604	+2,655	+2,705	+2,756	+2,810
$8.00 cap (President’s budget) - AATF	-161	-164	-168	-172	-175	-178	-180	-183	-186
$8.50 cap, CPI adjusted (ACI/AAAE proposal) - PFC	+2,696	+2,886	+3,093	+3,316	+3,551	+3,787	+4,033	+4,291	+4,562
$8.50 cap, CPI adjusted (ACI/AAAE proposal) - AATF	-184	-196	-210	-225	-240	-255	-271	-287	-304

Source: GAO analysis of DOT data. GAO-15-498T.

Note: Model assumptions are (1) an elasticity rate of -0.8; (2) airlines would pass the total fee increase to passengers through higher ticket prices; and (3) airports that currently impose a PFC would raise it to the maximum allowed in the first year. ACI-NA/AAAEE did not specify which inflation index it used in its proposal; therefore, we used the CPI as it is the federal inflation-index standard.

Definitions: CPI=Consumer Price Index, ACI-NA/AAE=Airports Council International-North America/American Association of Airport Executives, AATF=Airport and Airway Trust Fund