



Annual Privatization Report 2017

Air Transportation

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1. Airport Privatization

1.1 Overview

In 1987 the British Airports Authority was privatized via an initial public offering (IPO) of shares. That stimulated a global phenomenon of airports shifting from government enterprises to partial or full management and operation by the private sector.

In 2016 Airports Council International-Europe released a report which found that over 40% of European airports have at least some private shareholders, and that these airports handle three out of every four passengers.¹

Sale of all or part of an airport is observed mostly in Europe. Elsewhere in the world, most airport privatization takes the form of a long-term lease or concession. This is the case in Australia, Latin America and the Caribbean (and to some extent in Europe, as well). Some of the larger privatized airport companies have acquired full or partial ownership of other airports or airport concessions, becoming global airport companies. Today, airport investors include pension funds, infrastructure investment funds, and sovereign wealth funds.

Table 1 is excerpted from a table of the world's largest (by revenue) airport groups as of 2015 (the most recent year for which financial data were available at the time of this writing). Some of these global airport groups also manage overseas airports on a contract basis without actually obtaining an ownership share. Several smaller airport companies had 2015 revenues below the threshold for inclusion in the top 100, so are not included in the table. Total 2015 revenue for the 40 airport companies was \$38.2 billion, which is 47% of the revenue of the entire top 100 airport groups. About two dozen of these airport companies are listed on stock exchanges around the world.

As Table 1 shows, the world's five largest airport groups—Heathrow Airport Holdings, AENA Aeropuertos, Aeroports de Paris, Fraport, and New Kansai—are all fully or partially investor-owned companies with annual gross revenues totaling \$15.7 billion. Eight other privatized airport groups are in the billion-dollar range of annual revenues.

Table 1: Largest Investor-Owned Airport Companies, 2015

Airport Company	Global Rank	Main Airport(s)	2015 Revenue (in millions US\$)	Privatization Status
Heathrow Airport Holdings	1	London Heathrow	\$4,217	Full
Aena Aeropuertos	2	Madrid	\$3,885	Partial
Aéroports de Paris	3	DeGaulle	\$3,216	Partial
Fraport	4	Frankfurt	\$2,866	Partial
New Kansai International Airport Co.	13	Kansai, Osaka	\$1,500	Full
Airports of Thailand	16	Bangkok	\$1,361	Partial
Beijing Capital International	17	Beijing	\$1,353	Partial
TAV Airports	19	Istanbul, Ankara	\$1,190	Full
Manchester Airports Group	20	Manchester, London Stansted	\$1,168	Partial
Aeroporti di Roma	22	Rome Fiumicino, Rome Ciampino	\$1,038	Full
Flughafen Zürich	23	Zürich	\$1,025	Full
Gatwick Airport	25	London Gatwick	\$1,009	Full
GMR Airports	27	New Delhi, Hyderabad	\$999	Partial
Malaysia Airport Holdings	28	Kuala Lumpur	\$984	Partial
Sydney Airport Group	30	Sydney	\$916	Full
Guangzhou Baiyun International	31	Guangzhou	\$894	Partial
SEA Group	35	Milan Malpensa, Milan Linate	\$766	Partial
Flughafen Wien	39	Vienna	\$722	Full
Aeroportos de Portugal	43	Lisbon	\$649	Full
Australia Pacific Airports	44	Melbourne	\$636	Full
Aeropuertos Argentina 2000	45	Buenos Aires EZE and AEP	\$633	Full
Brussels Airport	46	Brussels	\$610	Full
Copenhagen Airports	47	Copenhagen	\$600	Partial
Airports Company South Africa	48	Johannesburg, Cape Town	\$599	Partial
ASUR Aeropuertos Del Sureste	50	Cancún	\$563	Full
GAP Grupo Aeroportuario del Pacifico	53	Guadalajara, Tijuana	\$507	Full
Brisbane Airport Corp.	54	Brisbane	\$503	Partial
Düsseldorf Airport	55	Düsseldorf	\$495	Partial
Athens International Airport	64	Athens	\$410	Partial
Auckland International	66	Auckland	\$388	Partial
Perth Airport	69	Perth	\$370	Full
Budapest Airport	77	Budapest	\$325	Full
Hamburg Airport	79	Hamburg	\$318	Partial
Aéroports de la Côté d'Azur	85	Nice	\$268	Partial
Operadora Mexicana de Aeropuertos	86	Acapulco, Monterrey	\$259	Full
Edinburgh Airport	90	Edinburgh	\$222	Full
Birmingham Airport Holdings	95	Birmingham	\$196	Partial
SAVE Group	97	Venice	\$184	Partial
Aéroports de Lyon	98	Lyon	\$177	Partial
London City Airport	100	London City Airport	\$163	Full
Total (40 Companies)			\$38,184	

Source: "Airport Group Financials," *Flight Airline Business*, November 2016.

1.2 Airport Industry Changes

There was little airport ownership turnover within the airport industry in 2016–2017 compared with prior years, but here are the principal transactions.

- Global Infrastructure Partners sold London City Airport to a pension fund consortium headed by Canada’s Ontario Teachers’ Pension Plan (OTPP) and Borealis, plus Wren House and Aimco. The price was \$3.05 billion, finalized in the first quarter of 2016.
- In early 2017, OTPP appointed financial advisors on the potential partial sale of its ownership in the Birmingham and Bristol airports.
- Mexican airport owner/operator ASUR has engaged in two major transactions. First it joined with Canada’s Public Sector Pension Board (PSP Investments) to buy out the interest of Oaktree Capital Management in the 40-year concession for Puerto Rico’s San Juan International Airport. ASUR now owns 60% of the concession and PSP the other 40%. Oaktree received \$430 million for its stake in the concession.
- ASUR has also invested in two airport companies in Colombia, acquiring majority interests in both Airplan and Aeropuertos de Oriente for \$262 million. The two firms operate 12 airports in Colombia under long-term concession agreements.
- Italian toll road owner/operator Atlantia acquired a 21.3% stake in SAVE, the concessionaire for five airports, including Venice and Treviso in Italy and Brussels Charleroi in Belgium. In mid-2017, Atlantia bought a 29.3% stake in the Bologna Airport concession company, paying \$194 million.
- Russian bank VTB Capital is divesting its stake in the concession that has rebuilt (for \$1.2 billion) the Pulkovo Airport in St. Petersburg, the third-largest airport in Russia. Other partners in the concession company are Germany’s Fraport and Greek developer Copelouzos Group. The Qatar Investment Authority is purchasing part of Fraport’s and VTB’s stakes in the airport, with additional stakes being acquired by investment fund AEON. And Sheremetyevo International Airport in Moscow sold Vladivostok International Airport to a consortium of Russian firm Basic Element, the Russian Direct Investment Fund, and Singapore’s Changi Airports International.
- Belfast City Airport in Northern Ireland is being acquired by a new fund managed by 3i Group. The previous owner was Eiser Global Infrastructure Fund.
- India’s GVK Power and Infrastructure is selling its remaining 10% stake in Bangalore International Airport to Fairfax India Holdings for \$200 million. Its priority will now be development of the greenfield Navi Mumbai International Airport.
- Vancouver Airport Authority in 2016 sold to its co-owner (Gateway Airports) its 50% stake in Vantage Airport Group, which owns and operates airports worldwide. It had launched Vantage in 1994 to provide management services at other airports. Vantage/Gateway manages eight airports in Canada, Cyprus, and Nassau, Bahamas.

Additionally, pension funds continue to target airports as promising investments. A 2015 article in *The Economist* explained why pension funds and infrastructure investment funds find airports so attractive:

What sets airports apart from most investments in infrastructure is their dual income stream: they bring in money both on the aeronautical side (landing fees, contracts with carriers) and from passengers (parking, shopping, hotels). . . . “We love them because they pay a steady income for our retirees, protect against inflation, and are a diversifier,” says Andrew Claerhout of the Ontario Teachers’ Pension Plan (OTPP), which is an investor in four European airports including Birmingham and Copenhagen. . . . When an airport has been in public hands the non-aeronautical parts of the business have often been especially neglected. Buyers often invest in good parking (i.e., under a roof and close by), which can become one of the biggest sources of income. . . . Ensuring the airport is not dominated by a single carrier is another golden rule, as this makes it vulnerable to strikes and bankruptcy. Buying a stake in an airport of which the government owns a controlling share is risky, as public and private interests are not always aligned.²

1.3 Global Airport Privatizations in 2016–2017

In contrast to recent years, there were no blockbuster airport privatizations during the past year. Rather, there was a continuous “deal flow” as smaller airports continued to privatize.

European Developments

In addition to a change in private ownership, (see: “Airport Industry Changes,” above) “**Britain’s** London City Airport received planning permission to increase its capacity, resulting in a \$476-million project, announced in June and led by American construction firm Bechtel. The project includes expansion of the terminal and the addition of a taxiway parallel to its single runway, which will increase the airport’s capacity from 4.5 million passengers in 2016 to 6.5 million annual passengers, and from 80,449 landings and takeoffs in 2016 to 120,000 landings and takeoffs per year. It will also permit slightly larger aircraft to use the airport, such as the Bombardier C series and Embraer’s E2 regional jets. These changes increased the airport’s value to its former owner, GIP, which increased the sale price above \$3 billion.

France completed the planned privatization of two airport groups: Aéroports de Lyon (Lyon Saint-Exupéry and Lyon Bron) and Aeroports de Côte d’Azur (comprising the airports of Cannes, Nice, and Saint Tropez). The privatization involved the sale of the national government’s 60% stake in each group. Winner of the Lyon group was a group led by Vinci Airports, offering €535 million, and the winner for the Côte d’Azur airports was a group led by Italian toll roads and airports company Atlantia, which bid €1.2 billion. The French government said it would use the proceeds to expand state-owned Électricité de France.

In **Germany**, the only privatization development was the sale of a majority (82.5%) stake in Frankfurt Hahn Airport to China's HNA Airport Group for €15.1 billion. The airport is Frankfurt's secondary airport, located 75 miles west of the city. The remaining 17.5% interest is owned by the state of Hesse.

Greece saw several airport privatization developments. Germany's Fraport completed the acquisition of 14 Greek regional airports for €1.234 billion in April 2017. The concession is for 40 years, and will include around €400 million in upgrades to the airports. Fraport holds 73.4% of the concession, with the balance held by Greece's Copelouzos Group. The Greek government also accepted a bid of €480 million from a consortium of Indian firm GMR Infrastructure and Athens-based GEK Terna to build a new airport serving Heraklion on Crete. The concession is for 35 years. Finally, the Greek government accepted a proposal from the current developer/operator of Athens International Airport to extend its concession for 20 more years. The company will make €2.35 billion worth of improvements to the airport during this period.

Italy was the scene of two airport privatization developments in the first half of 2017. InfraVia Capital Partners and Deutsche Asset Management have acquired a controlling stake in SAVE Group, which owns and operates five Italian airports, including Venice Marco Polo. SAVE has a market valuation of €1.2 billion. Also, Italian infrastructure fund F2i SGR has acquired a majority stake in the Alghero Riviera del Corallo Airport in Sardinia. The fund also owns stakes in the airports of Bologna, Milan, Naples, and Turin.

Lithuania's Transport Ministry and Lithuanian Airports have contracted with a consortium headed by InterVistas to advise on potential privatization of the country's three commercial airports: Kaunas, Palanga, and Vilnius. The 2016 contract is scheduled for 22 months.

In **Spain**, a new airport has been planned in Murcia, called Corvera Airport. A previous concession to develop the airport, awarded in 2008, was cancelled after the company and the government could not reach agreement. Three groups are now bidding for the 25-year concession, including Spain's AENA (partially privatized in 2014), operator of 60 airports; Argentina's Corporación América, operator of 53 airports; and Edeis Management, operator of 19 airports. In May 2017, all three submitted preliminary bids.

Finally, there were two developments in Eastern Europe. **Serbia** has accepted bids for the government's majority interest in the Belgrade Airport, which is partly listed on the Belgrade Stock Exchange, with selection of the winner expected by the end of 2017. In April 2017, **Bulgaria's** government halted the process that had been under way to offer a 35-year concession for the Sofia Airport. The proceeds from the expected up-front fee of €280 million were to be used to pay off debt incurred by the state railway system.

Asian and Pacific Developments

Australia, where all major airports have been privatized, has seen two new developments in the first half of 2017. First, in response to the New South Wales government's decision to proceed with a second airport for Sydney (in the western suburb of Badgerys Creek), the already-privatized Sydney Airport declined to exercise its option to build and own the new airport, apparently considering the project too risky. The government has not decided who will develop and operate the new Western Sydney Airport. Second, the Queensland city of Sunshine Coast signed a 99-year lease of its airport to Palisade Investment Partners. Palisade, which owns and operates the airports at Darwin, Alice Springs, and Tennant Creek, invests on behalf of Australian pension funds. In addition to an up-front payment, Palisade will make annual rent payments of 5% of the airport's gross revenues, and will cover most of the cost of a runway extension to permit international flights.

Following the successful privatization of the Kansai and Osaka Airports in 2016, **Japan** has begun a third round of airport privatization. In April 2017 the government accepted expressions of interest for Fukuoka Airport in Kyushu in the south of Japan; the airport handles over 21 million annual passengers. A preferred bidder for the planned 30-year concession is to be selected by May 2018. Also, in July 2017, a Vinci Airports consortium was selected as the preferred bidder for a 42-year concession to manage and improve the Kobe Airport. Other airports that have been proposed for concessions include Hiroshima, Shizuoka, and Takamatsu.

India has selected the winning bidder for a greenfield airport to be developed in North Goa. GMR Airports will develop and operate the airport under a 40-year concession, at a projected cost of \$700 million. It is expected to be opened to air traffic in 2019. GMR Group operates the Delhi and Hyderabad Airports in India, and has developed and operates the Sabiha Gokoen Airport in Istanbul and the Mactan Cebu Airport in the Philippines. In mid-2017, the government granted "in-principal approval" for another greenfield airport. The \$3-billion facility will supplement capacity-constrained Gandhi International Airport serving the national capital region. India's government has recently announced that, in future privatizations of existing airports, full foreign ownership of concessions will be allowed.

Middle East and Africa

Saudi Arabia awarded three airport concessions during the first half of 2017. A consortium of Germany's Munich Airport teamed with Saudi firm ASYAD Holding and Lebanon's Consolidated Contractors won the greenfield Taif International Airport concession. Separately, Turkey's TAV Airports and Saudi Arabia's Al Rajhi Holding Group have formed a 50/50 joint venture that is negotiating to acquire the existing Hail and Prince Nayef in Abdulaziz Airports.

In **Madagascar**, a consortium of Meridiam, Bouygues, and Aéroports de Paris have reached agreement with Aéroports de Madagascar to acquire the Ivato and Fascene Airports. The consortium will expand and operate

the two airports under a public-private partnership (PPP) concession, with a required investment of €200 million.

Latin America

Brazil privatized four more airports in the first quarter of 2017, in its third round of airport privatization. For the first time, it allowed 100% foreign ownership of the concession companies. Germany's Fraport won two of the concessions, for Fortaleza Airport (30 years, \$485 million) and Porto Alegre Airport (25 years, \$123 million). France's Vinci won the Magalhaes Airport in Salvador (30 years, \$214 million). And Zürich Airport won Florianopolis Airport (30 years, \$27 million). The winners are expected to invest \$2.13 billion in airport improvements during the terms of their concessions.

Chile's \$900-million project to expand Santiago International will add a new international terminal and expand the existing terminal for domestic flights, while also expanding parking structures, taxiways, and aircraft parking. The winning team reached financial close in July 2016, and work on the project is now under way, via a 20-year concession. The consortium consists of Aéroports de Paris (45%), Vinci Airports (40%), and Astaldi (15%). They won by offering the government 77.5% of airport revenue. Their concession term began in October (the expiration of the previous concession), at which point they took over operation of the existing terminals and adjacent areas. In addition, the government has launched a \$1.1-billion improvement program for smaller airports, several of which will be upgraded under PPP concessions.

Colombia's National Infrastructure Agency is planning a second airport for the capital city of Bogotá, likely to be procured via a long-term concession. El Dorado 2 will be located 10 miles from the existing El Dorado Airport and connected with it via a rail line. The second airport's terminal will be designed to handle 7.5 million annual passengers. A detailed consulting study is under way, with the aim of launching the procurement process by January 2018. The existing El Dorado Airport is operated under a 20-year PPP concession led by Flughafen Zürich.

In the **Dominican Republic**, Vinci Airports has refinanced the bonds of its local concession company, Aerodom, amounting to \$533 million. Vinci acquired Aerodom in December 2015, with 15 years remaining on its concession to operate six of the country's nine airports, accounting for five million passengers per year.

Honduras has awarded a \$140 million, 30-year concession to Germany's Flughafen München to develop and operate a new international airport in conjunction with a local investor group, Inversiones EMCO. The project will convert part of a U.S. military airport, Palmerola, into the new civilian airport by building a passenger terminal and adding a runway. Once the new airport is completed, the existing Toncontin Airport serving Tegucigalpa will be shut down. That airport is notorious among pilots for its short runway and encircling mountains.

Jamaica is trying again to privatize its second-largest airport: Norman Manley International in the capital city of Kingston. The airport needs both a new terminal and an upgraded main runway. In 2015, none of the five prequalified bidders ended up submitting a proposal. The same result occurred in spring 2017. As of May 2017, the Development Bank of Jamaica and the International Finance Corporation are working on restructuring the project to make it more attractive to potential concessionaires.

In **Paraguay**, three teams submitted bids for a 30-year concession to upgrade the terminal and runways at the airport in Asunción, the capital city. The teams were led by CEDICOR, Sacyr, and Vinci.

In 2014 the government of **Peru** awarded a 40-year, \$635-million concession to design, finance, build, and operate a replacement airport for the tourist city of Cuzco, which is, for most tourists, the jumping-off point for visits to the historic Inca ruins of Machu Picchu. The consortium is a joint venture of Argentina's Corporación America and Andino Investment Holdings. The new Chinchero Cuzco International Airport will be built on a greenfield site 18 miles from Cuzco. Before construction began, however, the Peruvian Transport Ministry cancelled the contract, for reasons that were not disclosed. It intends to proceed with the project, either with a new consortium or with a revised concession agreement for the incumbent concessionaire.

Canada and the North Atlantic

As of early 2016, the federal government of **Canada** began considering an asset recycling program, under which major revenue-producing infrastructure assets would be sold or leased long-term, with the proceeds used to upgrade infrastructure that does not generate significant revenues. A 2016 review of the Canada Transportation Act suggested that the country's largest airports—still owned by the federal government but operated by local nonprofit airport authorities—could be good candidates for privatization. That report included an appendix, written by the then-CEO of the Montréal airport authority, supporting the idea, partly because it would free the airports from having to make onerous annual lease payments to the federal government. The government commissioned Credit Suisse to assess the feasibility of airport privatization and estimate the potential market value of the eight largest airports.

Several of the largest airports' governing bodies—in particular Calgary, Ottawa, and Vancouver—mobilized to oppose privatization. The government has not released the results of the Credit Suisse study, but the C.D. Howe Institute, an economic think tank, did its own study, estimating a market value of the eight airports as high as C\$16.6 billion. More recently, the Toronto Airport's board has suggested it may be open to private investment, in part to help finance its planned rail link with downtown Toronto.

Privatization qualms did not deter the government of **Bermuda** from proceeding with privatization. It has entered into a concession to finance, develop, and operate the planned new \$274-million passenger terminal under a 30-year concession. The concession company, Bermuda Skyport Corporation, consists of Canadian

Commercial Corporation and subcontractor Aecon. Skyport will also operate the airport for the full term of the concession.

1.4 U.S. Airport Privatization

Airport privatization on the global model has never taken off in the United States. This is partly because public-sector airports have access to tax-exempt revenue bonds, unlike their counterparts in other countries. And it is also partly due to all passenger airports receiving federal grants under the Airport Improvement Program (AIP). As a condition of receiving the grants, airports must agree to a number of “grant assurances,” including that they will not make a profit from airport operations or transfer any airport revenues to the government that owns the airport.

Federal Pilot Program

Congress enacted an Airport Privatization Pilot Program in 1996 to test the idea that private capital and management could improve U.S. airports. The legislation created a limited set of exceptions to the AIP grant assurances, which would otherwise make long-term lease or sale of airports impossible. There are 10 slots in the program, which airport sponsors can apply for permission to use. One slot in the program is reserved for a general aviation (non-airline) airport, and only one of the remaining slots can be used for an airport meeting the FAA’s definition of a “large hub.”

The only airport currently privatized under the program is Luis Muñoz Marín International Airport in San Juan, Puerto Rico. Mexican airport company ASUR and Highstar Capital submitted the winning proposal in 2012, and the deal was finalized in early 2013. Under the 40-year lease agreement, the consortium (called Aerostar) made an up-front payment of \$615 million and agreed to invest \$1.4 billion in the airport over the term of the lease. Aerostar will also share airport revenue with the government, estimated at \$552 million. During 2014 and 2015, Aerostar made major renovations to the airport’s two aging terminals, including new retail stores and restaurants, new automated baggage scanners, and other improvements. An article by *New York Times* science correspondent John Tierney provided a detailed review of the transformation of the airport under its new owner/operators, including “sleek and airy” new concourses, new boarding bridges at the gates, and new stores and restaurants bringing in more than twice the revenue under state ownership. Aerostar also solved a long-standing problem with the airport’s Instrument Landing System (ILS).³

Chicago tried twice to lease its Midway Airport via the Pilot Program. The first effort advanced to the selection of a winning team in 2007, but the overly optimistic deal could not be financed during the credit markets crunch that occurred that year. A second attempt, under new Mayor Rahm Emanuel, ended up with only a single bidder, apparently due to overly restrictive conditions attached to the city’s proposed lease.

Without competing bids, Mayor Emanuel decided it was politically unwise to continue the process, and Chicago gave up its slot in the Pilot Program in 2013.

Until late 2016, only one other slot in the Pilot Program was currently active—for the general aviation airport of Hendry County, Florida, just south of Lake Okeechobee in a rural agricultural area. The business plan is to convert this small, under-utilized general aviation airport into a large cargo reliever airport for Miami International, focused initially on perishable cargo from Latin America, as well as aircraft maintenance, repair, and overhaul. The plan has won the support of the county commission, and two major agribusiness firms adjacent to the airport are part of the Airglades International Airport LLC group that seeks to buy and develop the airport under the pilot program. In August 2014 the FAA approved the company's proposal to manage and operate the airport on behalf of Hendry County, while the final stages of its plan to purchase the airport are being reviewed. During 2016 Airglades International Airport, LLC received the completed Environmental Assessment (EA) for the proposed perishable air cargo complex at the airport, to be submitted to the FAA as part of the application process.

In November 2016, the Chief Executive of Westchester County, New York's government announced a preliminary deal with Oaktree Capital Management for a 40-year lease of the Westchester County Airport. The airport/airline relationship broadly followed the principles used in the San Juan PPP agreement, and the principal carriers using the airport—American, JetBlue, and United—agreed to its tenets. The FAA approved the county's preliminary application to the Pilot Program in December. However, the county legislature objected to the lack of a competitive selection process. Early in 2017 it selected Frasca & Associates to devise and manage a competition process for the airport's privatization. The RFP was released in April, with proposals due by July. The goal is to finish the competition and select the winner by the end of 2017.

April 2017 brought news that St. Louis had filed an application with the FAA for a slot in the Pilot Program for Lambert St. Louis Airport. This airport is categorized by the FAA as a medium hub, handling 16 million passengers in 2016. If this privatization goes through, it would be the largest one to date, with 75% more annual passengers than San Juan. The two largest airlines serving St. Louis are Southwest and American, both of which have approved previous privatization plans (Chicago Midway for Southwest and both San Juan and Westchester for American).

Infrastructure investors are seriously interested in U.S. airports, but the Pilot Program is seen by some as more of an obstacle course than an invitation to do so. Susan Gray, global head of the infrastructure practice at S&P Global Ratings, says "Private investors would love to invest in U.S. airports. But the regulatory construct significantly limits their capacity to do that in a way that works for private investors."⁴

Airport Facility Public Private Partnerships (PPPs)

A small but growing U.S. trend is private-sector finance, development, and operation of airport terminals. The Port Authority of New York & New Jersey pioneered this concept in the late 1990s for the new Terminal 4 at Kennedy International Airport. The secondary airport serving Orlando—Orlando Sanford—also used this model for both its domestic and international terminals.

The Port Authority (PA) is making use of this model again, for a replacement for the aging, under-sized central Terminal B at LaGuardia Airport. In May 2015 the PA announced that a consortium headed by Vantage Airport Group, Skanska, and Meridiam would do the LaGuardia central terminal, investing some \$2.5 billion in the project, with the PA investing another billion dollars into parking structures and adjacent improvements. The deal reached financial close in mid-2016, with \$2.35 billion in tax-exempt bonds and about \$200 million in equity. The PA is also providing \$1.2 billion to pay for a grandiose entry hall added to the project by New York Gov. Andrew Cuomo. The revenue bonds experienced a demand ten times as great as the amount of bonds on offer. In January 2017, Gov. Cuomo announced a \$10 billion upgrade program for Kennedy International Airport, to be financed largely with private capital using a PPP approach similar to that of the LaGuardia project.

Los Angeles World Airports is under way on its \$5-billion Landside Access Modernization Program for LAX, involving both a consolidated rental car center and an automated people mover linking it to the central terminal area. Both of those projects are being pursued as design-build-finance-operate-maintain PPP projects.

Another major terminal PPP deal is moving closer to being implemented at Denver International Airport. Under a planned 34-year PPP concession, Ferrovial Airports (a major shareholder in London Heathrow Airport) will redesign, renovate, operate, and maintain DIA's main terminal in a project whose total costs over the life of the agreement are estimated at \$1 billion. The project would rearrange where security checkpoints are located and would triple the terminal's concessions space. Cost-overrun risk would be shifted from the city to the concessionaire, and the project is aimed at increasing the terminal's passenger capacity from the current 50 million to 80 million passengers per year. The deal is scheduled to go to the city council for approval in July 2017.

A less-ambitious PPP deal has revamped the South Terminal at Austin-Bergstrom International Airport. The old South Terminal lost its low-fare airline tenants during the Great Recession, leaving the airport with a lot of empty space. Oaktree Capital Management came to the rescue with a \$12.5-million renovation aimed at attracting ultra-low-fare carriers like Allegiant by charging them only half as much as gates in the main terminal cost. The concession company doing the project, LoneStar Airport Holdings, is branding the revamped terminal as “a fun, funky spot,” possibly with outdoor food trucks. LoneStar will operate the terminal under a 30-year PPP lease agreement. The new terminal opened in April 2017, with Allegiant and Texas Sky signed up as its first airline tenants.

PPP Airports Outside the Pilot Program

Propeller Investments has made great progress at Paine Field in Everett, a suburb north of Seattle. Airport officials want to attract airline service to provide an alternative to the metro area's sole commercial airport, SeaTac. A three-year FAA study released in 2012 found that adding airline service would have no significant adverse impact on the surrounding area, but there was significant NIMBY opposition. That opposition has been overcome, and the construction of Propeller's planned terminal was scheduled to begin in June 2017. Propeller is using its own funds to build and operate a commercial terminal, as well as paying rent to airport owner Snohomish County for 30 years. Paine Field has a 9,100-foot main runway, consistent with its serving an adjacent Boeing large-airliner assembly plant. In May 2017, Alaska Airlines announced that it will launch service at Paine Field once the new terminal opens in autumn 2018. Initial plans call for nine daily flights, using Boeing 737 and Embraer 175 aircraft. In August 2017, United Airlines also announced plans for scheduled service at Paine Field.

The proposed third Chicago airport at Peotone, 40 miles south of the Loop, is intended as a PPP in which the state DOT will own the land and be responsible for the airside (runways, taxiways, control tower) while the private sector would finance, develop, and operate the landside (terminal, parking, etc.). In 2013 the Illinois Legislature enacted a bill (Senate Bill 20) formally authorizing a 75-year design-build-finance-operate-maintain concession for the airport. In June 2014, IDOT purchased 288-acre Bult Field, a general aviation airport adjacent to the land the agency has been acquiring for the airport. In September 2014 IDOT held an "industry day" to test private sector interest in the project; about 150 people attended. And in spring 2015 the FAA released its finding that if the planned airport is built, it would have "minimal impact" on the traffic patterns of O'Hare and Midway Airports. But very little has happened since then. In November 2016, a spokesman for Illinois DOT told a local gathering that the project is "still alive. It's still a project." And he said the agency has only three more parcels of land to acquire beyond the 145 parcels already obtained, covering 4,000 acres.

In May, a de-facto bidding war emerged for replacement of the outdated terminal at Kansas City International Airport. Engineering firm Burns & McDonnell (headquartered in Kansas City) made an unsolicited proposal to finance and build a new \$1 billion terminal for the airport. As a design-build-finance deal, it would not require a slot in the federal Pilot Program, since the company would not be leasing or operating the airport. But two weeks later, AECOM (ranked in 2016 as the nation's top airport design firm) sent the city a letter asking to be considered for a design-build-finance-operate-maintain concession—which would require a slot in the pilot program. AECOM's letter led to considerable debate and discussion.

At the end of May, Kansas City Mayor Sly James announced that the city would issue an RFP for a company or team to design, build, and privately finance the new terminal, with responses due by August 1st. That approach would not require obtaining a slot in the Pilot Program.

The Gary, Indiana, airport several years ago was renamed Gary/Chicago Airport. Having lost its only airline (Allegiant) in 2013, city officials embarked on a PPP approach in the hope that professional airport development and management could transform the airport. In February 2014 the Gary Airport Authority finalized a deal with Aviation Facilities Company (AFCO) as its preferred developer. Under a 40-year contract, AFCO committed to invest \$100 million in the airport. The company's subsidiary, AvPorts, has a 10-year contract to manage the airport, with six possible five-year renewals. So far, the agreement has not led to any new scheduled airline service.

Finally, privately developed Branson Airport, in Branson, Missouri, has subsisted on public charter flights for several years. But it announced good news in March 2017: an agreement with Via Airlines, a regional carrier whose existing service was north-south routes near the east coast. It will locate a second hub at Branson, serving Austin, Chicago, Dallas, Denver, and Houston. Its service from Branson Airport began on May 25, 2017.

2. U.S. Airport Security

The private sector is involved in two aspects of airport security: marketing the Transportation Security Administration's PreCheck trusted traveler program and operating passenger and baggage screening under the TSA's Screening Partnership Program.

2.1 PreCheck Program Marketing

TSA's PreCheck program continued its healthy growth in 2016. The agency announced in March 2017 that membership had doubled from the previous year, growing from 2.3 million to 4.6 million. The total number of passengers using the expedited PreCheck lanes was considerably more than that, since it also includes holders of Global Entry or other trusted traveler cards issued by sister agency Customs & Border Protection (CBP), as well as members of the military.

TSA has for a number of years contracted with Morpho Detection to set up and operate PreCheck application points, many at airports and others at other locations where CBP has screening operations (such as seaports). Morpho's application centers focus on recruiting individuals, who are fingerprinted and pay \$85 for a five-year membership. For several years, TSA also held discussions with data/security companies interested in recruiting PreCheck members on a "wholesale" basis, via marketing to companies, trade associations, etc. The idea was to expand PreCheck membership considerably, enabling the agency to process far more people per hour through its checkpoints, while focusing more of its attention on non-"known" travelers.

That effort, called Third Party Pre-Screening, made no progress in 2014, despite the fact that three companies had pre-qualified in 2013 and developed algorithms for pre-screening large numbers of people, in accordance with standards provided by the TSA. Live prototype testing was supposed to have taken place in spring 2014, but in March of that year the TSA put the program on hold, primarily due to expressed concerns from privacy organizations. Eventually at an Industry Day in Washington, D.C. in October 2014, the TSA released a new schedule and set of steps that companies had to go through: a new round of proposals, TSA assessment of their pre-screening algorithms, and then TSA end-to-end testing of their infrastructure and enrollment methods. That procurement was later cancelled, in February 2015.

Under the next administrator, the TSA once again reviewed the privacy questions. That process took until October, when the agency issued another RFP, this time with further restrictions on the types of data companies could use in their vetting algorithms, plus a requirement for all applicants to be fingerprinted as part of the process. That procurement was put on hold in 2016 due to a lawsuit challenging its legality, filed

by monopoly provider Morpho. The TSA appeared to have abandoned the Third Party recruitment effort in 2016, but in November of that year, Bloomberg reported that the agency “plans a fresh effort next year to secure new PreCheck vendors—and probably hopes it doesn’t draw a legal challenge like the now-defunct RFP did.”⁵ As of this writing in mid-2017, no such new effort has appeared.

2.2 Outsourced Airport Screening

Leaked findings from Inspector General “Red Team” testing of TSA passenger checkpoints led to major media and congressional critiques in June 2015. I.G. testers were able to get prohibited items through checkpoints in 67 out of 70 tests. One consequence was the dismissal of the TSA’s acting administrator and harsh statements by members of Congress in the subsequent hearings. But this legacy of failures only underscored the TSA’s built-in conflict of interest: it is both the regulator of aviation security and the operator of a major portion of it (passenger and baggage screening). The remedy ought to be removing the screening function from the security regulator (TSA) and devolving it to individual airports, at arm’s length from the TSA. But so far, there has been no serious effort in Congress to even discuss that solution.

During Spring Break 2016, checkpoint lines at many airports reached historically long proportions. The cause was apparently a decline in full-time screener ranks from 47,630 in 2011 to just 41,928 in 2016, despite an 11% increase in airline passengers. The TSA had been counting on much-faster enrollment in PreCheck to enable processing a larger number of passengers with fewer screeners, but due to the Third Party recruiting effort not being implemented, PreCheck growth was well below projections.

The agency’s seeming inability to cope, and memories of the Red Team’s findings still fresh in airport managers’ minds, led to a number of airport boards and managements considering a switch from TSA screeners to outsourced screening, as allowed by the TSA’s Screening Partnership Program (SPP). Large hub airports where applying for SPP participation was seriously discussed included Atlanta, Charlotte, Minneapolis/St. Paul, San Jose, and Seattle. But thanks to heroic efforts by airports and airlines to add temporary staff at affected airports, and the TSA gaining extra funds from Congress to convert part-time screeners to full time, the ultra-long lines were largely gone by Memorial Day, and none of the major airports applied to join the SPP.

By early 2017, only one new airport had signed up and been approved for outsourced screening under SPP: Atlantic City, New Jersey. With around 600,000 annual enplanements, Atlantic City is about half the size of the larger recent SPP entrants, Orlando Sanford and Sarasota, Florida, each with 1.2 million annual passengers. As of mid-2017, there were 22 airports in the program, including original participants San Francisco (SFO), Kansas City (MKC), Rochester (ROC), Jackson Hole (JAC), and Tupelo (TUP).

2.3 Airport Employee Screening

After several well-publicized instances of airport employees being involved in shipping contraband on commercial planes, the question arose about whether all such employees should be screened each time they enter secure areas of airports. As of the start of 2015, two major U.S. airports where such incidents had occurred—Miami and Orlando—had implemented 100% employee screening. The others relied on the required FBI background checks at the time of hiring plus random screening. An article on the subject in *The Wall Street Journal* cited a contractor study for the TSA last decade estimating that 100% screening at all TSA-served airports would cost between \$5.7 billion and \$14.9 billion per year.⁶ With that as background, an industry working group advising the TSA concluded that 100% employee screening would not be cost-effective, but recommended 28 other measures in five categories, such as perpetual vetting against criminal history information (rather than only at hiring) and enhanced random screening.

But when Atlanta's Hartsfield-Jackson International Airport endured two employee-security exposés in the span of four months (December 2014 and March 2015), its officials decided to move to 100% employee screening. But they did not ask the TSA to provide it. Instead, like Miami and Orlando, they turned to a private security company. MIA's employee screening contract costs it \$3.1 million per year, while Orlando's is \$3.5 million. Atlanta's new contract, begun in summer 2015, cost \$5.5 million. Doing a rough extrapolation of these figures to all 450 TSA-served airports, the annual cost of 100% employee screening by contractors would be about \$135 million—a far cry from the \$6–\$15 billion estimate provided by TSA.

And in spring 2017, the Atlanta airport announced that it would shift to “continuous background checks” for airport workers. Via the FBI's Rap Back system, the agency retains the fingerprints provided when employees undergo the initial background check upon hiring. The FBI regularly reviews those employees for any new evidence of criminal activity and reports those findings to the airport.

3. Air Traffic Control

3.1 Global ATC Trends

In 1987 New Zealand became the first country to “corporatize” its air traffic control system. Since then, some 60 other countries have followed suit. While the models differ from country to country, nearly all have the following features:

- The ATC system is separated from the transportation agency and reorganized under corporate law.
- Funding is derived directly from the users of the airspace under that country’s jurisdiction, via fees and charges for terminal-area, en-route, and overflight services. The International Civil Aviation Organization (ICAO) provides guidelines for ATC charging systems.
- In most cases, no tax funding is involved, though in some cases governments pay the corporation to provide services in remote areas.
- The revenue stream is bondable and can be used for financing large-scale capital projects, similar to the way U.S. airport projects are financed.
- The corporation reports to a board of directors, rather than to a legislative body.
- Safety regulation is provided by a government agency, at arm’s length from the ATC corporation.

The most common organizational model is a government corporation, in which the national government is generally the sole shareholder (and therefore appoints its board members). In Canada, the corporation (Nav Canada) was chartered as a private non-profit, non-share corporation governed by a board nominated by aviation stakeholders—a kind of user co-op. And in the U.K., the corporation (NATS) was set up as a public-private partnership in which aviation stakeholders owned 46%, employees 5%, and the government 49%. Subsequently, the airline group sold a large fraction of its shares to a U.K. pension fund.

The global trade association for what are now called air navigation service providers (ANSPs) is the Civil Air Navigation Services Organization (CANSO). It represents ANSPs in international discussions on aviation policy, just as IATA represents international airlines and ACI represents airports. As of early 2017, CANSO had 87 full members (ANSPs) and 77 associate members (aerospace companies). Some 60 of the full members are self-supporting ATC corporations, including those of Australia, New Zealand, Thailand, India, Canada, the U.K., Germany, Italy, Austria, Switzerland, Portugal, Spain, and South Africa. Governmental ANSPs include Cyprus, Luxembourg, Greece, the Maldives, and the FAA’s Air Traffic Organization, which is part of the FAA.

3.2 U.S. Air Traffic Control

The impact of the federal government budget sequester in spring 2013—with furloughs of controllers and the near shut-down of 149 smaller control towers—changed the debate about the U.S. ATC system. The negative impacts fostered serious discussion among aviation stakeholders, beginning in 2013 and continuing through 2015, about funding and governance reforms to the ATC system.

Two Washington, D.C. organizations—the Business Roundtable and the Eno Center for Transportation—convened working groups to develop and recommend serious reforms. The Roundtable group was composed of former federal aviation officials and outside experts, while the latter comprised primarily key aviation stakeholder organizations. Both recommended that the FAA’s Air Traffic Organization be separated from the FAA and reorganized as a self-supporting ANSP.

The House Transportation & Infrastructure Committee drafted provisions for such a corporation to be included in the FAA reauthorization bill, which it has planned to introduce in July 2015. But due to other congressional priorities, this was delayed until February 2016. It was debated and then passed by the House Transportation & Infrastructure Committee, on a party-line vote with only Republicans in favor. No companion bill reducing aviation excise taxes (to account for shifting the ATO from tax-funded to user-fee support) was passed, and the Senate decided to avoid the corporatization issue in its own bill to reauthorize the FAA. With the Sept. 30, 2016 expiration of the FAA’s previous authority fast approaching, the two houses compromised on a one-year extension of the existing law.

Efforts to promote corporatization, led primarily by the airline trade group A4A but also supported by controllers’ union NATCA, continued, and when the Trump administration took office in January 2017, ATC corporatization became part of its promised infrastructure investment program. New Transportation Secretary Elaine Chao supports the effort, and Chairman Bill Shuster (R, PA) held a series of hearings in the first half of 2017 on ATC corporatization and other FAA reforms. A revised corporatization proposal was included in the House Transportation & Infrastructure Committee’s FAA reauthorization bill, introduced in June 2017. On June 27th the committee passed it, and in July House leadership began rounding up votes to bring the bill to the House floor. That effort had not produced the required total by the time of the August recess. The Senate FAA bill, like last year’s, does not include ATC corporatization, and had not reached the Senate floor by the August recess. Expectations are that Congress will not complete action on reauthorization by the Sept. 30, 2017 deadline, which would require another extension of current FAA authorization.

About the Author

Robert Poole is director of transportation policy and the Searle Freedom Trust Transportation Fellow at Reason Foundation, a public policy think tank based in Los Angeles and Washington, D.C.

In aviation security, Poole advised the White House and House Republican leaders on what became the Aviation & Transportation Security Act of 2001, enacted in response to the 9/11 attacks. He has authored a number of Reason policy studies on aviation security and is the author of a paper on risk-based aviation security for the OECD's International Transport Forum.

He was among the first to propose the commercialization of the U.S. air traffic control system, and his work in this field has helped shape proposals for a U.S. ATC corporation. A version of his nonprofit corporation concept was implemented in Canada in 1996. He has advised the Office of the Secretary of Transportation, the White House Office of Policy Development, the National Performance Review, the National Economic Council, and the National Civil Aviation Review Commission on ATC commercialization. He is a member of the Air Traffic Control Association and of the GAO's National Aviation Studies Advisory Panel.

Poole's Reason studies helped launch a national debate on airport privatization in the United States. He advised both the FAA and local officials during the 1989–90 controversy over the proposed privatization of Albany (NY) Airport. His policy research on this issue helped inspire the privatization of Indianapolis airport management under Mayor Steve Goldsmith and Congress' 1996 enactment of the current Airport Privatization Pilot Program.

Poole has testified on airports, aviation security and air traffic control on a number of occasions before House and Senate aviation and homeland security subcommittees, and he has spoken on these subjects before numerous conferences over the past decade. He has also done consulting work on several airport privatization feasibility studies.

Poole also edits monthly Reason Foundation e-newsletters on airport and air traffic control policy issues. He received his B.S. and M.S. in mechanical engineering at MIT and did graduate work in operations research at NYU.

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