



## Finance and Revenue Generating Innovations



# FINANCE

Assessment and Options

April 2021

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## FINANCE WORKING GROUP

### 1. Executive Summary

- ◆ AAAE and ACI requested Congress to provide \$17 billion to cover US airports' lost revenue and additional expenses tied to health and safety improvements intended to slow the spread of the novel coronavirus between April 2021 and March 2022.
- ◆ As a result of the COVID-19 pandemic, airports face a serious cash flow issue.
- ◆ The majority of revenues at most airports are passenger driven—diversification is crucial.
- ◆ Airports have substantial fixed costs; reductions in costs can help but not entirely solve revenue shortfalls.

### Financing Options

Short-term financing options must address two separate issues for airports: (1) providing increased liquidity and (2) providing longer term funding for capital projects:

- ◆ In the current low interest rate environment, refunding existing debt may provide savings and/or restructuring existing debt may reduce current debt service payments.
- ◆ Short-term borrowings may be able to provide funds for operating expenses.
- ◆ There is an opportunity for considerable savings in construction if projects can be undertaken in the current-low interest rate and lower activity environment.
- ◆ A summary of the pros and cons of various short-term financing options available to airports is set forth in **Section 3**.

Over the longer term, airports may want to restructure some aspects of airport financings.

The use of private capital may allow the sharing of risks associated with revenues dependent on passengers and adoption of a longer-term planning horizon.

### Revenue Enhancement

- ◆ Airports must develop new and additional streams of revenues.
- ◆ A summary of the pros and cons of revenue enhancement opportunities is included in **Section 4**.
- ◆ Airports will also need to recover reserves over the medium to long term as traffic returns and costs per passenger return to normal ranges.
- ◆ Long term, airports need to diversify their revenues and extend the sources beyond passenger-driven revenues.
- ◆ In addition to actions that can be taken by individual airports, changes to the regulatory environment can allow increased revenues and reduced operating expenses; **Section 5** is a summary of the pros and cons of a number of such potential changes.

## Leveraging Private Sector Partnerships: An Avenue to Control Risk and Project Financing Solutions

Some airports may be looking to address select needs relative to operational resiliency, reduced operational cost volatility, procurement risks, and constrained capital. Concepts and examples (Case Studies) are provided in **Section 6** for reference and consideration.

### Aeronautical Charges

- ◆ Some aeronautical charges are directly tied to operations (or passengers), while others are relatively fixed.
- ◆ Airports can seek a better balance between revenues based upon passenger activity and those allocated by use.
- ◆ These trends also point out the potential benefits of partnering with “patient capital” provided by investors with longer-term return horizons.

### Concession Revenues

- ◆ Concession revenues are generally tied almost directly to passenger traffic.
- ◆ More nuanced arrangements that reflect concessionaires’ fixed costs through sliding scale percentage rents and MAGs are worth considering.

## Executive Summary

Airports find themselves at a financial hinge point where critical analysis should be given to their dependency on legacy solutions for revenue generation and sources of leveraged finance. A broader scope of alternative approaches and partnering strategies should be considered for opportunities to manage cash-flow volatility and mitigate risks via a more predictive structuring of liquidity and capital expenditures.

## 2. Overview of Finance Issues

### Introduction

As a result of the COVID-19 pandemic, airports around the U.S. and the world have seen dramatic reductions in passengers and revenues. The Airport Consortium on Customer Trust (ACT) has developed an analysis that identifies and evaluates options for airports both to increase revenues and to decrease expenses in order to respond to the financial challenges resulting from the pandemic.

### Problem Statement

As a result of the COVID-19 pandemic, airports face a serious cash flow issue. We've learned from this crisis that the majority of revenues at most airports are passenger driven. That obviously means that a precipitous drop in passengers causes an equally dramatic reduction in revenues at most airports. Expenses have not been similarly reduced because airports, especially Part 139 certificated commercial airports, have substantial fixed costs to support their existing terminal, airfield and landside infrastructure, and to provide the resources required to operate and maintain their facilities at the high level of safety and security required by the FAA and the traveling public. Many costs such as personnel, law enforcement, airfield maintenance, and aircraft rescue and firefighting services are not easily scalable in terms of passenger levels because airports are required to meet FAA minimum standards. However, some airports were able to temporarily close underutilized runways, taxiways, terminal concourses, and parking facilities to reduce ongoing operating expenses. Furthermore, most larger U.S. airports have borrowed money through the municipal bond market and, accordingly, must not only pay debt service on time and in full, but also meet certain financial and operational covenants that require a minimum level of cash flow. Federal CARES Act, CRSSA and upcoming ARP Act grants have provided assistance to airports in the short term, but those funds are insufficient to cover fully the current revenue shortfalls, and restrictions in bond documents on the use of such grant funds can result in them not being usable to meet necessary covenants.

Accordingly, this white paper is intended to assist U.S. airports by providing guidance on best practices in the short term for reducing costs and increasing liquidity, and also looking to medium and longer-term diversification of airport revenues beyond passenger-based revenues of the current system. The chairs of ACT's Finance Track have prioritized two topics:

1. Financing considerations and alternatives in a COVID and post-COVID recovery environment. Alternative financing methods such as sale and leaseback, pay-per-use, availability payment structures, and private partnerships should be considered and evaluated. These structures could help in offloading or sharing traffic risk and use the financial strength of other sources of capital to which risk is offloaded. Furthermore, diversification of funding sources such as bank financing, the USDOT Transportation Infrastructure Finance and Innovation Act (TIFIA) program, and taxable debt can create flexibility and play an important role in airport financings (refunding and new money) and support general airport revenue bond (GARB) tax-exempt issuances.
2. Airline charges and associated lease issues, concession revenues including minimum annual guarantees and percentage rents relative to COVID, and the effect of the pandemic on activity levels.

## Financing Considerations and Sources

### Short Term Financing Options

Short-term financing options, meaning those that can be accessed within the next six months, must address two separate issues for airports: (1) providing increased liquidity and (2) providing longer term funding for necessary capital projects.

**Increased liquidity.** Given the reductions in passengers and revenues, airports need to increase liquidity. One option is to reduce debt service. In the current low interest rate environment, there are a number of ways to accomplish that goal, including refunding existing debt for savings, or restructuring existing debt to reduce debt service payments over the period of time of the projected recovery of passenger air traffic, or a combination of the two. Another means to provide additional liquidity is through short term borrowings to provide funds for operating expenses (“working capital”) for airports with authority to borrow for other than capital needs.

**Project funding.** Airports are also seeking to access new capital in order to undertake or complete capital projects necessary to maintain facilities in good repair and to upgrade facilities to accommodate projected passenger demand when traffic recovers. Given the impacts of COVID-19 on the construction industry, as well as the substantial reduction in passengers and aircraft operations, there is an opportunity to realize considerable savings in construction of needed projects if they can be undertaken in the near future. Additionally, the current interest rate environment is very advantageous with interest rates near all-time lows. However, airports undertaking projects designed to increase capacity may find that they need to make a business case to the financing markets for projects such as terminal expansion (especially international gates), additional runways and expanded parking facilities.

Using debt to finance capital projects rather than excess revenues can help preserve cash for liquidity purposes and under federal tax law (and current practice), interest can be capitalized for the construction period, reducing (or eliminating) debt service during a period when the asset can’t generate revenue, and allowing financing charges to better match the useful life of the asset.

A summary of the pros and cons of various short-term financing options open to airports is set forth in **Section 3** of this white paper.

### Longer Term Financing Options

Over the longer term, airports may want to work with the financing industry to reconsider some aspects of airport financings that are considered standard, such as annual coverage covenants, limited definitions of revenues available for debt service and prohibitions on issuing debt for working capital. Furthermore, the use of private capital may allow the sharing of the risks associated with passengers and adoption of a longer-term planning horizon. As one political leader commented in another context, “never let a good crisis go to waste.” The current pandemic provides an opportunity to review the fundamental structures of airport financings and to address some of the inherent issues that have made it unnecessarily difficult for airports to manage financial matters, even as they maintain sufficient liquidity to continue operations.

Airports must be able to charge sufficient base rent to cover expenses (both operating and debt service) and to build reserves. One benefit of structures developed for private investment in terminals and other airport infrastructure (e.g., San Juan and Chicago Midway) is certainty of base revenue sufficient to cover fixed costs through entering into longer term, fixed rate agreements with the carriers serving that market. This type of structure can have the effect of discouraging new service, however, so sophisticated gate allocation protocols that provide the ability of the airport operator to retain control of and recapture gates for new entrants and expanding service are essential.

## Increased Revenues

### Short Term Revenue Solutions

Airports almost uniformly cut costs as soon as it became apparent that the pandemic would adversely affect passengers and revenues, but given airports' fixed costs, such cuts provide only limited relief. Airports must also develop new and additional streams of revenues. Ideally, these will not be tied as closely to passenger activity, since many observers are projecting that it will take several years for passenger traffic to recover to 2019 levels.

For airports, their largest operating costs are typically personnel, cleaning, repairs/maintenance, technology, and utilities. Although personnel are the largest expense category for airports, under the Federal relief grant programs airports have been required to retain at least 90% of the number of individuals employed (after adjustments for retirements or voluntary employee separations) as of March 27, 2020. Most airports implemented hiring and pay freezes, and a number of airports instituted staff furlough days and set up early retirement programs to comply with the staff retention requirement in the Federal grants. Early retirements resulted in near-term increases in payments, but long-term savings. Many airports are looking at additional reductions in force (RIF). These can save money and there may be opportunities to consolidate positions, outsource certain activities and provide for early retirement to take advantage of a new and younger workforce. However, airports are also prudently concerned about the loss of institutional memory and expertise if a RIF is targeted largely to a retirement program. Designing an effective RIF requires careful and thoughtful planning.

In contrast, airports had to augment cleaning and janitorial expenses, and many accelerated the implementation of various technological improvements (such as touchless technology) to mitigate the spread of pathogens. Both resulted in increased expenses. One area where airports were able to quickly implement operating savings expenses was in the temporary consolidation of parking facilities, including suspending shuttle bus service. However, this necessitated a complementary reduction in parking rates to avoid losing the leisure parkers. Some airports were also able to temporarily close concourses and other facilities that were underutilized, reducing, but not eliminating, associated O&M costs. Other O&M reduction strategies included stopping work on nonessential professional service and contractor projects, freezing travel and training, closing restrooms and non-critical escalators, and meeting with department heads to identify other means for comprehensive expense reductions.

In summation, given the largely fixed nature of operating expenses for airports, operating expense reductions achieved ranged from approximately 10% to 20% of the pre-pandemic amounts.

Capital costs, in particular debt service, can account for a large part of an airport's annual budget for airports that have significant amounts of outstanding debt. As noted earlier, many airports have refunded existing debt for savings, or restructured existing debt to reduce debt service payments over the period of time of the projected recovery of passenger air traffic. Many airports deferred facility renewal and replacement projects to preserve cash.

Concession revenues are generally tied almost directly to passenger traffic—the greater the number of passengers, the greater the revenues the concessionaires can derive and share with the airport. Most concessions agreements in recent years have been awarded through requests for proposals that allocated these opportunities, and prime space, on the basis of the minimum annual guarantee (MAG) and percentage of sales. After the drop in traffic following 9/11, it was not unusual to see provisions for reduction or waiver of MAG if passenger traffic was reduced below a certain level (in particular for rental car MAGs), but as we have become more removed from the events of 9/11, many contemporary airport concession agreements have moved away from or watered down such MAG abatement provisions (such as through establishment of a MAG floor amount).

In the immediate future, we are likely to see concessionaires demanding MAG abatement provisions or insisting that they pay percentage rent only. Some airports have instituted a two-part test for MAG abatement consisting of a threshold reduction in passengers and threshold reduction in sales relative to the same month in the prior year. This is because rental car companies, in particular, have been able to generate higher sales revenue per passenger under the pandemic. As a result, the ability to pay the MAG needs to consider both the passenger and sales volumes.

The two main factors to be balanced are increased share/percentage of revenue and the level of the MAG. If concessionaires want to retain a higher share of sales revenue, the minimum MAG must be raised. It is likely that more nuanced arrangements that reflect concessionaires' fixed costs, such as buildouts, personnel and inventory, through sliding scale percentage rents and MAGs will be the result of the next wave of concessions agreements.

Concessionaires have been aggressive in seeking multiple forms of relief to address the impacts of the pandemic, from MAG waivers, to reduced percentage fees, deferrals of rent, waivers of requirements regarding inventory or menus, reductions in operating hours, waivers of street pricing requirements and extended terms. Many airports have worked with their concessionaires to mitigate the impacts of the pandemic and, especially, to ensure that ACDBE partners are not disparately impacted, but as a result, airports have seen a substantial reduction in concession revenues. For airports with a residual rate methodology, this has put additional strain on airline rates, since the shortfall in concession revenues flows through to the airlines, while at airports with compensatory rate models, this has reduced or eliminated funds used for pay-as-you-go capital projects, operating expenses for non-aeronautical facilities and aeronautical rate reductions or new service incentive programs as well as reduced debt service coverage levels and unrestricted cash balances.

Going forward, concessionaires are likely to object to large MAGs and instead will seek to limit most rents to percentage fees and tie the level of such fees to the level of passengers in order to help assure that they can meet their fixed costs. Providing short term relief that can be recouped when passenger traffic returns is one way to provide assistance to concessions, but that does not address airports' cash flow needs. For the near term, airports may consider working with concessionaires to allow some to "go dark" while passenger traffic is so low that it will not support the full panoply of concessions, thereby helping maximize the revenue-per-square-foot of the operating concessions. For rental cars, some brands have consolidated local operations, increasing traffic above the historic relationship to passengers. Some airports have used dormant resources, such as surface parking lots for drive in movie theaters, creating a small source of additional revenue and a larger source of good will with local residents. Others have leased unused parking garage space for covered equipment storage.

**Section 4** provides a checklist of potential revenue enhancement opportunities along with the associated pros and cons of the various actions taken to supplement revenue streams in both the near and long term.



## Long-Term Revenue Solutions

In the mid-term, airports need to rebuild reserves. Over the longer term, it has been argued that airports need to diversify their revenues and extend the sources beyond passenger-driven revenues that constitute the majority of most airport revenue. Examples of such revenues include non-aeronautical development of airport land not needed for aeronautical purposes and development of complementary aeronautical facilities that are not passenger-dependent, such as air cargo and logistics/fulfillment centers. Ideal uses are those that can benefit from the heightened security provided by airport locations as well as those that require aeronautical facilities. Another potential source of revenues for airports with sufficient operational capacity is increased general and corporate aviation facilities, which have proved to be less subject to the effects of the pandemic.

As shown in the table below that was compiled from FAA Form 127, in FY 2019, passenger-related revenues accounted for roughly 41% of total operating revenues for all airports and 45% of total revenues (after including non-operating revenues which include PFCs). The degree of vulnerability to passenger-related revenues varies by hub size with medium and small hubs more at risk than large hubs. Landing fees were included under non-variable since almost all airports charge landing fees on a breakeven/cost recovery basis regardless of the amount activity.

In 2020, many airports did not raise landing fees, and in many cases used CARES Act grants to offset the shortfalls in landing fee revenues, but airports have the legal ability to recoup all of their airfield costs with or without an airline agreement. Terminal rents are, by and large, also fixed although some of them are variable such as gate use fees. It is possible that terminal rents could decline when leases come up for renewal, but in the table below they are included as non-variable, but it should be noted that residual terminal rents will increase with reduced concessions revenues.

In recognition of the resiliency of the U.S. airport business model, Moody's noted in a January 2021 publication:

*AULAs are an important credit strength for U.S. airports compared to global peers because they reduce revenue volatility and allow for recovery of non-aeronautical revenue losses from airlines.*

Non-passenger related revenues are shown in **yellow highlight** in the following table and account for a relatively small fraction of revenues today, 1.3 to 3.5%. The total passenger related revenues are in **turquoise highlight** and constitute about 41% for all airports and over 50% of revenues for small and medium airports.

Large, Medium, Small, and Non-Hub Airport Operating and Non-operating Revenues - FY 2019					
<b>OPERATING REVENUES</b>					
<b>Non-variable</b>	Large	Medium	Small	Non-Hub	All Airports
Passenger Airline Landing Fees	18.3%	12.9%	9.9%	7.9%	16.1%
Cargo Carrier Landing Fees	0.8%	3.4%	3.6%	1.5%	1.5%
GA/Military Landing Fees	0.1%	0.3%	0.3%	1.3%	0.2%
Passenger Airline Terminal Rents <sup>1</sup>	27.8%	18.3%	14.5%	10.9%	24.2%
TSA Reimbursement	0.3%	0.2%	0.4%	1.2%	0.3%
Non-Passenger Aero	1.4%	1.0%	1.1%	6.2%	1.6%
Cargo/Hangar Rents	3.1%	2.3%	4.3%	6.6%	3.3%
Hotel <sup>2</sup>	1.7%	0.3%	0.5%	0.1%	1.3%
Land & Building Rents (Non-Aero)	2.8%	2.9%	4.8%	12.9%	3.5%
Subtotal	54.4%	41.4%	39.4%	48.7%	52.0%
<b>Non-Passenger Related</b>					
FBO Rents and Fees	0.8%	1.3%	2.3%	5.9%	1.3%
Fuel Flowage	1.0%	1.2%	2.4%	9.8%	1.6%
Other Non-Aero Revenue	4.0%	3.6%	5.2%	5.5%	4.1%
Subtotal	5.8%	6.1%	10.0%	21.2%	7.0%
<b>Passenger Related</b>					
Passenger Airline Apron Fees	0.6%	1.7%	1.3%	0.7%	0.9%
FIS Fees	2.4%	0.6%	0.1%	0.0%	1.8%
Other Passenger Aero	0.2%	4.8%	1.1%	1.3%	1.1%
Fuel Tax	0.3%	0.0%	0.1%	0.5%	0.2%
Terminal Concessions	10.6%	7.7%	7.1%	2.7%	9.4%
RAC, excluding CFCs <sup>3</sup>	6.6%	10.2%	13.6%	10.6%	8.0%
Parking & Ground Transportation	17.3%	27.5%	27.4%	14.3%	19.6%
Subtotal	39.8%	52.5%	50.7%	30.1%	40.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Aeronautical	57.0%	47.9%	41.4%	53.9%	54.1%
Non-aeronautical	43.0%	52.1%	58.6%	46.1%	45.9%
<b>Passenger-Related incl Non-operating Revenues<sup>4</sup></b>	<b>44.5%</b>	<b>55.9%</b>	<b>52.4%</b>	<b>32.3%</b>	<b>45.3%</b>
1. Some of these revenues are passenger-related such as gate use fees, but majority are not.					
2. Some of these revenues are not passenger-related.					
3. Small amount of these revenues are passenger-related, but most are fixed rents or MAGs.					
4. Includes PFCs.					
Source: FAA Form 127 for FY 2019, accessed February 14, 2021.					

Airline charges typically are broken into two or three categories

1. Charges for the use of the airfield, with such costs generally recovered through the landing fee per weight of aircraft landed at the airport.
2. Charges for the use of terminal space, which are typically recovered through a combination of rent (for leased space) and per passenger fees (for common use areas).
3. For many airports, charges for the use of additional facilities, such as hangars, cargo facilities or fuel farms. These are typically based on rental rates intended to recover the costs of providing the facilities, although fuel facilities often recover these costs through a per gallon fee, another activity-based fee. Federal law and policy has encouraged (but not required) establishing rates and charges that capture the annual capital and operating costs of providing these facilities; but those policies do not necessarily address the need to establish reserves for economic downturns and future capital needs.

Thus, some typical aeronautical charges are directly tied to operations, such as per passenger fees, landing fees and fuel flowage fees, while others are relatively fixed, based on the amount of space or land that is occupied. All these charges and rate methodologies, however, are dependent upon the airlines' ability to pay them. Historically, the variations in activity were addressed through a year-end true up and relatively flexible rate-setting methodologies. A shock to the system as substantial as the COVID-19 pandemic has demonstrated that activity-based fees may not permit full recovery of all costs, at least in the year that they are incurred, when the cost-per-activity (e.g., a landing fee or cost-per-enplaned-passenger) can become prohibitively high when activity levels drop dramatically. Therefore, federal relief grants represented such an important bridge for airport financial health in 2020.

The trend in recent years has increasingly been to negotiate airline agreements that are based on activity-based fees, often based on passengers. In the pre-COVID environment, this approach typically provided a more stable, not unjustly discriminatory methodology when applied to the disparate business models of both lower frequency ultra-low-cost carriers and high-volume legacy carriers. The pandemic has demonstrated, however, that airports may benefit from seeking a better balance between revenues based upon passenger activity and those allocated by use. Furthermore, while airports and airlines often engage in heated discussions regarding the airports' stated need for liquidity and cash reserves, the impacts of COVID-19 have clearly demonstrated the necessity of developing and maintaining more conservative cash reserves once traffic recovers.

#### Time Horizon of Concern

Each airport has a unique set of financial resources and must plan accordingly to meet its operating expense needs, debt service payments and completion of ongoing capital programs and major maintenance.

Rating agency reports have noted the strong rebound in recent months of passenger activity, especially to and from domestic leisure markets, and are estimating that the recovery for the airport sector is still not likely to reach pre-pandemic levels until 2024 or 2025. The rating agencies also note that the differing traffic characteristics at airports will result in an uneven pace of recovery, with leisure markets likely to see more robust growth in the short term, compared to international gateways and markets heavily dependent upon business travelers. Thus, each airport will have to develop its own projections of passenger traffic recovery and, accordingly, the need to preserve capital and liquidity pending such return.

The accelerated vaccine rollout, which rose to an average of over 3 million doses per day in late March, has created a step jump in domestic travel demand. According to the Imperial College of London, every million US citizens vaccinated leads to 14,000 people boarding a plane three weeks later, which is equivalent to 90 additional flights. The timing is critical, just before the all-important summer season when airlines make most of their profit; and to curb further develop of variants within the U.S.

Due to the substantial number of aircraft retired by major U.S. domestic carriers, as well as international bankruptcies, there is some question regarding whether there will be sufficient capacity in the near term to return to 2019 traffic levels. According to Swelbar/Zhang (*Landed in a Pandemic, Leaving in a Recession*, December 2020 updated), aircraft fleets announced as being permanently parked indicate that traffic generating capacity in 2020 was 8.5% less than in 2019. Network carriers have 17% less traffic generating capacity than in 2019. In addition, in 2019, international traffic generated 15% of passengers flying on a domestic service. Combining the impacts of airlines' discontinued aircraft and the dearth of international travel, the US market is structurally 18% smaller (Swelbar, December 2020). Swelbar's forecast recovery is, therefore, later showing achievement of actual 2019 activity in 2027-2028.

Some analysts believe that low-cost carriers including Southwest, Allegiant and Spirit will drive the recovery, which may have the effect of maintaining revenue pressure on airlines and airports.

New forecasts from ACI World in January 2021 show the path to recovery in 2021 will be slow and uncertain and, without government policy support and assistance, the industry continues to face collapse. Over the next five years, ACI predicts that global passenger traffic worldwide is expected to grow at an annualized rate of +2.4%, affected negatively in the short term by the continuing effects of the pandemic. Markets with significant domestic activity are expected to recover to pre-COVID levels before 2023, markets with a significant share of international traffic will likely recover much more slowly. ACI believes this slow recovery will only be possible, however, if governments introduce a consistent approach to testing to promote travel and do away with restrictive quarantine measures with a coordinated and risk-based approach to combining testing and vaccination going forward.

## Regulatory Reform or Relief

In addition to actions that can be taken by individual airports, the industry can seek changes to the regulatory environment that can allow increased revenues and reduced operating expenses. These opportunities tend to fall into three broad categories: (1) changes to policies of FAA, TSA and other regulators that do not require formal amendments to regulations, but simply call for reinterpretation of existing standards; (2) formal regulatory reform that does not require Congressional action but requires formal notice-and-comment rulemaking; and (3) amendments to federal (and sometimes state) law. Regulatory reform can take longer to achieve but can have a substantial impact, while Congressional action could provide new or increased sources of revenues through funding for infrastructure development, increased COVID-19 financial relief and an increase in the PFC cap.

**Section 5** includes a summary of the pros and cons of a number of such potential changes to the regulatory regime affecting airports.

## Risk Transfer and Alternative Project Delivery

Lastly, seeking new partners and continuing to work with existing private stakeholders can offer airports additional sources of capital, as well as more flexibility in designing appropriate project delivery and financing structures that meet airports' operational and financial goals and realities. More importantly, the private sector partnerships can help airports better control and appropriately allocate risks associated with both capital development as well as operational matters. These arrangements with private stakeholders can be tailored to fit the unique requirements of each airport.

Looking to private sources of capital or expertise may also assist airports in reducing or otherwise containing increases in O&M expenses. For example, use of solar panels to generate electricity may be more efficient, provide environmental benefits and enhance resiliency. Private solar developers are often willing to use their capital to provide such facilities. Private service providers, such as information technology (IT), telecommunications or janitorial services, may also bring savings and certainty, as well as reduce obsolescence associated with IT hardware and software.

The trends discussed in this white paper also point out the potential benefits of partnering with "patient capital" provided by investors with longer-term return horizons. These arrangements are capable of substantial flexibility and can be structured to allocate identified risks to the party best able to absorb or hedge it. Recent examples demonstrate that there are opportunities for more nuanced public-private arrangements well beyond privatization of the entire airport.

Set forth in **Section 6** is a review of means and methods of leveraging private sector partnerships at airports that can assist over both the shorter and the longer terms.

## Conclusions

Adaptability is required in this dynamic situation. Developing backup plans and bolstering financial resources are prudent courses of action given the volatility and uncertainty of activity during 2021 and throughout the recovery period.

Given the opportunity, U.S. airports may consider very different lease and commercial structures. While the Chicago Midway privatization in 2013 did not reach financial close due an inability to secure financing, the airlines did in fact agree to fixed payments, subject to inflation. A 15-year forecast was used to generate average annual revenues and an agreed payment. (Actual payments by Southwest in subsequent years significantly exceeded what they would have paid under the negotiated agreement.)

Section 163 of the FAA Reauthorization Act of 2018 provides substantial flexibility for non-aeronautical development and airports should fully leverage that opportunity. In order to do so, it is possible that airports will need outside expertise in order to develop viable commercial plans and market them to maximize revenue.

## Financing Considerations and Sources

The pandemic's impact has underscored the critical dependencies within airport's legacy financial ecosystem and the level of retained risks inherent within its business model. Recovery is expected to vary across the aviation network requiring both tactical and strategic planning to generate a mix of short-term and long-term action plans to align with forecasted traffic and local rate of upturn. While short-term measures are necessarily dependent on existing financial constructs, it will be prudent to consider a migration to more transformative options for the longer term to enhance financial resilience, including scenarios with incremental revenue from other commercial streams and private capital through risk-transferring concession or ground-lease partnerships.

### 3. Finance Options

#### Financing Alternatives—Pros and Cons

This section provides an overview of known and potential finance options as proposed by the working group. Most will be helpful to some, but not all airports. The intention is to ensure that as many financial avenues as possible are known and considered by airports.

Financing Structure	Pros	Cons
<b>Traditional General Airport Revenue Bonds (GARB)</b>	<p>Well established market that allows airports to borrow for long term and to amortize repayment over life of the asset.</p>	<p>In general, bonds require semiannual payments of interest and annual payment of amortized principal, so ongoing cash flow is needed to service debt and meet coverage ratios.</p>
	<p>Airports have flexibility to defer repayment of principal which may reduce debt service for a period of time, especially in early years.</p> <p>Can capitalize interest related to new capital projects until placed in service date. Taxable borrowing can be used to provide additional funds, including additional capitalized interest, for liquidity or working capital purposes.</p>	<p>There are structural alternatives to allow for accretion rather than current payment of interest, but these carry higher interest rates and may be limited due to current IRS tax regulations.</p>
	<p>Current interest rates ~3.00% for 30-year tax exempt GARBs. Current interest rates ~3.50% for 30-year taxable GARBs which may provide airports with greater latitude on use of bond proceeds and repayment profile</p>	<p>For tax exempt bonds, there is currently no ability to refinance on a tax-exempt basis before a first call date (an “advance refunding”), generally a period of ten years. Taxable bonds can be refinanced prior to call date but may be costly depending on call period and market conditions. Airports have used taxable GARBs to advance refund outstanding tax- exempt bonds prior to stated call date. Pending in Congress is a bill that would, again, allow tax exempt advance refundings.</p>

Financing Structure	Pros	Cons
		<p>Bond documents include covenant requirements that require airport to maintain minimum net revenue levels (debt service coverage) and limit future borrowing (additional bonds test). Other than failure to make timely payments, failure to meet these covenants is generally considered a “technical default” which generally can be cured over a period of time. Incurrence of a technical default may not necessarily preclude market access for additional bonding during the cure period.</p>
<p><b>Bond Restructuring for Debt Service Relief</b></p>	<p>Airports have refinanced and restructured outstanding bonds to generate both interest rate savings and cash flow savings.</p> <p>Restructuring may provide opportunity to defer scheduled principal to later years, matching future costs with expected post-recovery revenues.</p>	<p>Federal law governs the ability to advance refund bonds on a tax-exempt basis. Attractive taxable borrowing rates have presented opportunities for airports to advance refund on a taxable in a cost-effective manner.</p> <p>Subject to IRS restrictions related to asset useful life, restructured bonds may have a longer average life, meaning that, on average, the debt will remain outstanding for longer period of time.</p>
<p><b>Commercial Paper (CP)</b></p>	<p>Historically has provided lower cost funding than long-term bonds because of shorter maturity period of CP.</p>	<p>CP term is limited to a maturity date of 270 days and is then “rolled” (refinanced with new CP) exposing airport to future tax requirements and interest rate volatility.</p> <p>May be subject to remarketing risk in periods of extreme market volatility.</p>

Financing Structure	Pros	Cons
	Can be structured to not pay any current interest but to roll over interest due into new commercial paper providing immediate cash flow flexibility.	But for those airports with highest credit quality, CP is supported by an outside bank letter of credit at an annual cost. Availability and cost of bank credit based on airport's credit profile and prevailing market conditions. Banks will require covenant package (similar but potentially more restrictive than for bonds above).
	Use of CP on a lien subordinate to airport's outstanding bonds is conventional in the marketplace and serves to insulate airport's bond credit rating, but this may impact availability and cost of credit support.	May be state law limitations/prohibitions on ability to use CP for working capital purposes.
<b>Interim Borrowing (Bond Anticipation Notes, Revenue Anticipation Notes, Grant Anticipation Notes)</b>	Provides lower cost funding than long-term bonds. Secured by future "takeout" of identified funding source.	Takeout financing is subject to future tax law, interest rate and credit conditions at the time of takeout (which may be less favorable than today).
	Can be structured with interest capitalized through the note period eliminating requirement for current payment of debt service from operations.	Rating agencies will consider future takeout financing in assessing an airport's current credit.
<b>Direct Bank Loans</b>	Direct negotiation with third party commercial lending institution. Lending from financial institution does not require public disclosure. Have been structured with pledge of general airport revenues, or with more limited security stream (e.g., future PFC collections).	Cost and covenant package limited to lender bank appetite. Generally, bank loans are for shorter length (maturity) than traditional bond financing. May be provisions that result in higher cost to the airport should its credit quality or financial position worsen.



Financing Structure	Pros	Cons
<b>Bonds secured by other Revenue Sources (PFCs, tourist taxes, general funds, revenues from other enterprises)</b>	Use of alternative revenue sources to bootstrap airport revenues will ameliorate short-term credit concerns over airport revenues.	Credit uplift will depend on nature of the additional revenues. Note that PFC collections fell off as a result of fewer enplaned passengers.
	May be structured to provide for ancillary revenues to fall away in the future (may be tied to airport credit ratings, specific time period, specific dollar amount).	Need to secure political agreement to use revenues for airport purposes. May require voter referendum or statutory approvals.
		Use of alternate revenues will serve to reduce airport costs and related cost recovery mechanism at the airport (i.e., may reduce payments otherwise coming from airlines).
		To extent that targeted revenues are already pledged to other bonds, will need to free up those revenues from existing pledge which may involve paying off/restructuring those other bonds.
<b>Special Facility Bonds</b>	Allows airport to leverage specific revenue stream (that is not otherwise pledged to general airport revenue bonds) which is deemed as outside of airport's credit. Shifts risk of repayment of financing from airport to third party user.	Depending on credit quality of lessee (user) and/or the necessity of the facility, financing may be more costly or not available.
	Depending on nature of facility being financed and nature of lease and bond structure, may allow private users to have access to tax exempt financing.	Airport may cede/limit control of control related to the facility to third party user.
<b>Subordinate/ Mezzanine Debt</b>	Can attract investors with a greater risk tolerance to accept a lower priority of repayment in return for higher return.	Higher cost borrowing with more limited universe of potential investors.

Financing Structure	Pros	Cons
	May insulate the airport's bonds that carry a higher lien position.	May be statutory limitations on ability to structure with payment features other than current return.
	May be structured to provide for higher future returns in return for lower repayment now, allowing return profile to more closely match traffic recovery profile.	
<b>Public Private Partnership (P3)</b>	Transfer risk of specific project/development to third party under a long-term lease/concession agreement.	Private developer/lessee will require a rate of return on capital provided which is likely to be greater than the airport's own cost of capital. The rate of return will be based on number of factors, including the nature and amount of risk transfer to private developer.
	Not privatization; no changes in airport governance.	May be existing bond documentation which limits Airport's ability to pledge revenues to P3 financing.
	May be applicable for range of revenue producing assets (e.g., terminal, rental cars, cargo, parking, concessions).	May be local regulations governing acceptance and process of P3 proposals received.
<b>Privatization/ Monetization</b>	Transfer full risk of airport ownership/management in return for up front or scheduled payments to municipal airport owner.	Private developer/lessee will require a rate of return on capital provided which is likely to be greater than the airport's own cost of capital. The rate of return will be based on number of factors, including the nature and amount of risk transfer to private developer.
		The need to determine timing of and use of proceeds generated from the monetization will require political agreement.
		FAA process on airport privatization may be required to take airport revenues "off airport." FAA process requires multiple steps, including airline approval.

Financing Structure	Pros	Cons
<b>TIFIA</b>	TIFIA provides funding for eligible projects at cost equal to 30-year U.S. Treasury borrowing cost.	Requires application to and approval of project by USDOT.
	Allows for long deferral of repayment and long-term debt amortization.	"Federalizes" project for purposes of construction, contracting and other regulatory features.
	Provides patient capital for eligible projects.	TIFIA will require an investment grade rating indication to be eligible.
	TIFIA can be structured on a subordinate lien.	TIFIA loans can be retired and recently several have been able to refinance with a new TIFIA loan.
		"Springing Lien" provision elevates USDOT to senior lenders in case of default.
		FAA indicates there are obstacles to use existing program for airport projects. The airport project must be on the Statewide Transportation Improvement Program (STIP) which must be developed in cooperation with the metropolitan planning organizations (MPOs), public transit providers, and any Regional Transportation Planning Organizations (RTPO) in the state, and must be compatible with the transportation improvement programs (TIPs) for the state's metropolitan areas.
<b>Special Purpose Acquisition Company (SPAC)</b>	A long dormant structure that is currently growing in popularity.	United is using SPAC funding to purchase \$1 billion urban mobility electric fleet.
	Thirty trading days into the year, 145 new SPACs, have gone public in the U.S.—an average of 4.8 per day. At this pace, it will take less than a month for the volume to surpass last year's \$83 billion, which is more than the previous decade combined.	Outside the U.S., while certain airports remain in government control, shares of ADP, Frankfurt and Beijing are listed on their respective stock exchanges through SPACs.

## 4. Revenue Options

This section provides an overview of traditional and emerging revenue programs and policies. It also addresses some practices relative to temporary rate relief for concessions.

Category	Concept	Example(s)	Pros	Cons
<b>Passenger Airline</b>	Airline use & lease agreements	Most U.S. airports.	Moody's: "AULAs are an important credit strength for U.S. airports compared to global peers because they reduce revenue volatility and allow for recovery of non-aeronautical revenue losses from airlines."	AULAs are negotiated documents and, by definition, involve some compromises. MII clauses, if included, can diminish airport control over capital projects.
	Long-term parking of aircraft	MCI, PIT charge for parking of aircraft temporarily taken out of service on taxiways, surplus ramp, unused runways.	Generates ancillary airfield revenues to reduce landing fee rate.	Need for FAA approval.
	Order on board for pickup in the airport		Increased sales and revenue.	Requires cooperative agreement with airlines and digital interface with the shops and restaurants.
	Waive terminal rentals for specified period of time		Provides incentive for airlines to retain service.	Need to ensure compliance with bond covenants.
	Defer terminal rentals for specified period of time	Multiple U.S. airports.	Provides incentive for airlines to retain service.	Short-term loss of airline revenues; need to bridge losses with other sources. Potential for airline bankruptcies and inability to collect deferred rent; need for strong security deposits.
	Maintain budget at 2020 level	Most U.S. airports	Provides incentive for airlines to retain service.	Need to ensure compliance with bond covenants.

Category	Concept	Example(s)	Pros	Cons
	Allocate CARES Act/CRSSA/ARP Act grants to airline cost centers	Multiple U.S. airports, in particular those with residual rate-setting	Provides incentive for airlines to retain service.	Need to ensure compliance with bond covenants.
	PFCs	Virtually all U.S. airports collect	Provides supplemental source of funding for CapEx on PAYGO and leveraged basis.	Requires Congressional action to increase the rate and allow more flexibility to use for R&R. Reduction in enplaned passengers has reduced PFC collections.
<b>Cargo Airline</b>	Waive/defer landing fees for specified period of time		Provides incentive for airlines to retain service.	Need to ensure compliance with bond covenants.
	Make additional ramp available for cargo operations	PIT	<ol style="list-style-type: none"> <li>Increases capacity for additional service.</li> <li>Increases revenues from apron fees.</li> <li>Allows for increased landed weight to reduce landing fee rate for all carriers.</li> </ol>	CapEx funding by airport, including potential need to extend and/or add taxiways, even if partially funded via AIP.
<b>Terminal Concessions</b>	Mobile ordering and kiosks to order food/beverages with either pickup or delivered to gate	Multiple larger airports	<ol style="list-style-type: none"> <li>Faster service.</li> <li>Reduces queues</li> <li>Popular with younger people.</li> <li>Touchless service.</li> <li>Allows passengers to stay closer to gate.</li> <li>Appears to increase sales.</li> </ol>	<ol style="list-style-type: none"> <li>Economics can be difficult to justify delivery in smaller airports, however, kiosk ordering can still make sense.</li> <li>Language barriers.</li> </ol>
	Waive MAGs	Many airports	Provides relief to tenants to survive pandemic.	Reduces contractual revenues that would not be collectable if tenants fail.
	Reduce mandatory hours of operation	Many airports	Provides OpEx relief to tenants.	Reduces contractual revenues that would not be collectable if tenants fail.

Category	Concept	Example(s)	Pros	Cons
	Allow concessionaires to hand back space without penalty or voluntarily “go dark” for a period		Provides relief to tenants to reduce OpEx.	Reduces outlets for passengers and potential revenues, requires re-procurement of concession by owner.
	COVID-19 testing centers (multiple business models)	Multiple airports offer COVID-19 testing in terminals and at nearby facilities such as parking	Labs make profits from testing so they can pay fees to airports.	Price appropriately to avoid disincentivizing travel.
	Vending machines to sell COVID-19 tests	OAK	<ol style="list-style-type: none"> <li>1. Contactless service.</li> <li>2. New concession revenue stream.</li> <li>3. Requires less space than staffed testing centers.</li> <li>4. Labs make profits from testing so they can pay fees to airports.</li> </ol>	The tests will not work for travelers who need a negative test before flying to Hawaii, but instead are for those who are arriving at the airport who are concerned that they may have been exposed to COVID-19 during their travels. They can use these tests when get home.
	Advertising on building exteriors	MIA	High value space for advertising.	Can be viewed as unattractive, maybe subject to advertising regulations applicable to surrounding jurisdiction.
	Sleep Pods	SFO	Customer service amenity; increases revenue.	Can impede passenger circulation depending on available space. May create tax issues in bond-financed space
	Pharmacy	PIT	Customer service benefit; generally charged at street pricing.	Some airport clinics and labs are funded by local hospitals who may be cash strapped currently.
	Business Lounges	Multiple airports	Customer service amenity; increases revenue.	Requires 10-year lease to get financial payback.

Category	Concept	Example(s)	Pros	Cons
	Food Vending Machines	ONT (hot meals); LAS (cookies), STL/IND (frozen custard/yogurt), SFO/SJC (robotic coffee baristas)	<ol style="list-style-type: none"> <li>1. Lower labor costs so potential for higher % fees.</li> <li>2. Takes less space; can fit into smaller places.</li> <li>3. Contactless service desired by pax.</li> </ol>	<ol style="list-style-type: none"> <li>1. May cannibalize revenue from existing concessions locations.</li> <li>2. Exclusive concession agreements may limit flexibility to implement.</li> </ol>
Rental Cars	Waive privilege fees for specified period of time	Abatement is contractual in many RAC concession agreements	Provides financial relief to RACs to avoid potential defaults on agreements.	RAC revenues are a significant source of nonairline revenues to fund airport operations. Need to ensure compliance with bond covenants.
	Defer privilege fees for specified period of time	Multiple airports	Provides financial relief to RACs to avoid potential defaults on agreements; deferral can be amortized over longer period.	Short-term loss of nonairline revenues. Potential for airline bankruptcies and inability to collect deferred rent; need for strong security deposits.
Parking	Automated payment machines/stations	Kiosks placed at terminal exits and/or toll plazas	<ol style="list-style-type: none"> <li>1. Reduces labor costs.</li> <li>2. Touchless for parking patrons.</li> <li>3. Reduces potential for theft.</li> </ol>	<ol style="list-style-type: none"> <li>1. Upfront CapEx.</li> <li>2. IT oversight if fails or electrical outages.</li> <li>3. Likely eliminates cash transactions, incurring additional credit card service charges.</li> </ol>

Category	Concept	Example(s)	Pros	Cons
	Temporary conversion of long-term surface lots for drive-in movie theaters	ELP, EDI, HEL, SZG	Generates revenues for mothballed or underutilized facilities; can generate goodwill.	Big issue is when to reinstate shuttle bus service as close-in parking facilities fill up. Shuttle bus service will be expensive relative to the low volume of customers and revenues and because of the need to limit the number of passengers per bus, more buses/drivers will be needed than under normal lower volume times.
	Temporary use of long-term surface lot for food bank and/or craft fairs	PIT	Community benefit. Local food and craft providers' benefit. May generate some additional revenue.	Requires temporary signage and operational staff support.
	Reduction in parking rates	Many examples where this was invoked to acknowledge closure of remote parking lots with lower daily rates and encourage more on-airport parking		
<b>Other Ground Transportation</b>	Increase TNC rates, add drop-off fee, impose fines	PHX most recently	Increases nonairline revenues and competitiveness of parking and RACs.	Significant pushback from Transportation Network Companies (TNCs).
<b>Advertising</b>	<ol style="list-style-type: none"> <li>1. TSA security checkpoint bins</li> <li>2. Electrical outlet stations</li> <li>3. Baggage carousals</li> </ol>	Multiple airports		



Category	Concept	Example(s)	Pros	Cons
<b>Sponsorships of Existing Facilities</b>	Naming rights to terminal, parking garages, hangars, etc.	Similar to major city ballparks and stadiums.	Large revenue potential.	
	Pouring rights	<ol style="list-style-type: none"> <li>1. DTW- Wayne County Airport Authority sold “pouring rights” to PBG Michigan (Pepsi) for DTW that was expected to yield \$1.4 million a year and as much as \$9.8 million over the seven years of the contract.</li> <li>2. CLE - City of Cleveland negotiated 5-year “pouring rights” with Pepsi in June 2008 for CLE that was expected to yield \$2 million over the contract period.</li> </ol>	Could be substantial source of revenue; compare to potential reduction in concessions revenue.	Significant pushback from concessionaires.
	Aerial advertising on airfield land	Johannesburg (JNB)		
	Promotion of local corporations	MEM - Memphis skyline (8.5-foot-tall, 82-foot-long panorama) to highlight top corporations greets passengers.		

Category	Concept	Example(s)	Pros	Cons
<b>Commercial Development</b>	Redevelop older commercial tracts adjacent to the airport for related businesses.	Schiphol (AMS) remains one of the best models—where Microsoft executives can walk from the terminal to the European HQ office building—right on airport. And enjoy the benefits of airport security.		
	New commercial development concepts	PIT—In addition to multiple other commercial developments on airport, the new Innovation Campus or “Neighborhood 91” is the first development in the world to both condense and connect all components of the additive manufacturing and 3D printing supply chain into one powerful production ecosystem.		
	On-site pet resort facilities	ORD, MSP, DEN, JFK		
	Develop noise buffer land	Multiple airports	Examples range from mini strip malls at cellphone lots to office and light industrial development.	
<b>Federal Gov’t</b>	CARES Act, CRRSA & ARP Act	All eligible U.S. airports	Flexible uses	Must retain 90% of FTEs through specified periods.
	Supplemental AIP funds for FY2020		Pays 100% federal share.	May be used in limited periods.

Category	Concept	Example(s)	Pros	Cons
State Gov't	Gaming revenue allocation	PIT receives \$12.4M per year from state gaming tax revenues.	Gaming revenues are not encumbered by Federal revenue use law.	
	Direct contribution	Commonwealth of Virginia contributed \$50M to Dulles to reduce airline charges.	Regional economy: supports continued air service and the resulting economic benefits. Airport: Non aeronautical revenue.	
Muni Gov't	Allocation of CARES Act grants	PIT—Allegheny County gave the airport authority \$1 million of its CARES Act grants for police services to offset County police charges to PIT.		
	Direct contribution	Some small cities have evaluated or done this on a limited basis. Wichita guaranteed a number of paid seats per year.	Provides incentive for air service.	<ol style="list-style-type: none"> <li>Contributor cannot be affiliated with airport sponsor under revenue use law.</li> <li>Municipalities have major funding challenges at a time when social needs are very high.</li> </ol>
Leverage Existing Assets	Drone base / vertiport	<ol style="list-style-type: none"> <li>Last mile delivery for warehouses.</li> <li>inspection and surveillance services.</li> <li>Manufacturing.</li> </ol>	Leverage proximity to air cargo warehouses.	Potential air space interference.
	GSE maintenance as a service		Can provide upfront capital and enhanced equipment and training.	Administrative changes may be difficult.

Category	Concept	Example(s)	Pros	Cons
	Cargo facility expansion	<ol style="list-style-type: none"> <li>1. ABE, CVG new Amazon Air hubs.</li> <li>2. PIT new cargo facilities to accommodate new carriers (Qatar, Cathay).</li> </ol>	<ol style="list-style-type: none"> <li>1. No capital required if third party developer is the project delivery method.</li> <li>2. Important for regional economy.</li> <li>3. Ground lease rates are based on fair market value and should always include provision for escalation – typically according to the CPI.</li> <li>4. Provide entry level jobs with upward mobility</li> </ol>	<ol style="list-style-type: none"> <li>1. Wear and tear on terminal roadways from truck traffic.</li> <li>2. Traffic congestion from trucks.</li> <li>3. Impacts on surrounding communities (nighttime aircraft noise, vehicular traffic).</li> </ol>
	Use excess space in terminals for non-aeronautical revenue generation	<ol style="list-style-type: none"> <li>1. YYZ – rent out concourse to movie production company.</li> <li>2. MCO – rent out South APM hall for weddings, corporate events, etc.</li> <li>3. BRU is using a check-in hall for corporate events.</li> </ol>		
	Medical clinics at airport	<ol style="list-style-type: none"> <li>1. SFO Medical Clinic provides outpatient services, including travel medicine, urgent care, and occupational health for passengers, staff, and the general public as operated by Dignity Health in the International Terminal Main Hall (pre-security departures level).</li> </ol>	<ol style="list-style-type: none"> <li>1. As part of the Dignity Health network, the Clinic offers the most complete travel and wilderness medical program in the Bay Area. The certified travel vaccination center provides access to all immunizations advised by WHO and CDC. Parking is validated.</li> <li>2. Contributes to ability to attract companies to the</li> </ol>	Not material ROI or revenue generator.

Category	Concept	Example(s)	Pros	Cons
		2. Vienna medical center caters to passengers and staff in the surrounding office buildings.	airport city—medical, day care, gym, dry cleaners are all on site, which collectively raise the competitiveness of the overall product.	
	Farmer’s Market	BKL - general aviation airport on Cleveland’s downtown waterfront, hosted a farmer’s market.	Community Benefit for shoppers and local food providers.	Costs for temporary signage, some oversight staff – must be careful to avoid impermissible revenue diversion.
<b>Leverage Land that is Surplus to Aviation (other than Commercial Development)</b>	Microgrids – power outages have become a major cost at airports; forecast is increase in shutdowns	PIT is constructing the first-of-its-kind electrical microgrid powered by the airport’s own gas wells and solar field.	Operating cost reduction, increased reliability, improved sustainability; fixed electrical rates; partial independence from aging power grid.	For PIT, the airport committed capital to implement. In other industries, microgrids are purchased As a Service, with no upfront capital or maintenance required from the airport.
		New JFK TerminalOne is designing a microgrid that will utilize solar, gas, batteries and eventually hydrogen. E vehicle infrastructure is included.	JFK TerminalOne purchasing microgrid through As a Service model - no upfront capital investment. 50% renewables upon opening, 100% renewables after 15 years.	
	Light Manufacturing	Keflavik Iceland: Prefab of construction components: precast, data rooms, substations.		Check for conflicts with future aviation needs.

Category	Concept	Example(s)	Pros	Cons
	Oil, gas and other mineral reserves can be mined and sold	DFW, PIT	Provided upfront bonus payment and continuing royalties as significant nonaeronautical revenue stream.	Need for FAA approvals. Production dependent on supplier pipeline and refinery capacity, which airport doesn't control. Well production has steep degrade. Natural gas prices are at historic lows making it harder to justify investment in new wells.
	Mining and sale of limestone	Opa-Locka West Airport, Florida		
<b>Other</b>	Auction surplus equipment	Multiple airports		
	Sell surplus property	MCO sold adjacent property for \$47 million in 2019		

Category	Concept	Example(s)	Pros	Cons
	Establish non-profit corporation to provide services to other airports and/or developers	The Houston Airport System (HAS) set up HAS Development Corporation (HASDC) as a 501(c)(3), non-profit affiliate to provide development consultation and training services to both emerging airports and other airports, including technical services (airport public safety, technology, airport management and operation), design development, and capital management. It has been in place for 20 years and at least one contract, Quito Airport, goes through 2040.	<ol style="list-style-type: none"> <li>1. Allowed HAS to leverage its planning, development, and operating experience from its three airports to provide airport professional services in the international arena.</li> <li>2. Increased Houston’s brand for excellence internationally, provided HAS airport staff exposure to varying international technical challenges and the opportunity to understand Latin American market more fully, experience various international travel facilities and protocols.</li> <li>3. HAS leveraged interest in its operational expertise to gain equity share in projects with no capital investment.</li> <li>4. Profits provided grants to fund HAS to better support their Houston Airports.</li> </ol>	<ol style="list-style-type: none"> <li>1. Requires segregation of expenses and revenues from the development corporation and airport enterprise.</li> <li>2. Need to confirm the model works under state laws.</li> </ol>
	Provide private contract services	PIT provided services to an airport ground support equipment and services company to renovate jetways for the company and generated \$500,000 in sales.	Allowed PIT to creatively redeploy maintenance staff after the de-hubbing of U.S. Airways by refurbishing and selling excess jetways and by contracting out its trained staff.	

## 5. Regulatory Considerations

Policy changes may require revisions to FAA internal orders (e.g., Order 5190.6B; advisory circulars, program guidance letters, compliance guidance letters, and other informal policy documents) but many will not require formal notice and comment procedures. Others simply require a reinterpretation of applicable federal law.

- ◆ Review and revise guidance concerning reasonable rates and charges to allow that reserves (for capital as well as working capital) are includable. Afford greater flexibility in collection and use of reserves as prudent financial planning tool.
- ◆ Revise FAA guidance to explicitly allow costs related to increased operational resiliency and/or sustainability to be considered appropriate capital and operating costs. For instance, frailties in the nation’s power grid have been noted by the American Society of Civil Engineers (ASCE) for a number of years. The cost to upgrade the grid is enormous and such upgrades will take many years. Increasing frequencies of airport shutdowns due to power outages highlight the need to develop local and varying sources of power.
  - December 2017- ATL 12-hour power outage due to electrical fire.
  - June 2018 – Power outages at McCarran led to baggage, screening delays.
  - August 2018 – Blackout at Ronald Reagan Airport.
  - December 2018 – Power outage closed LGA.
  - Increased frequency of severe storms and increased storm surge heights are increasing the frequency of prolonged flood events and snow (ex. OAK needs to raise the dikes protecting the airport. DCA is in the Potomac River).
  - National goals for CO2 reduction require investment in updated equipment, building materials and infrastructure for electric vehicles.
- ◆ Explicitly allow airport revenue to be used to fund infrastructure needed to develop nonaeronautical properties to their optimal revenue-producing capacity.
- ◆ Establish a policy working group that includes federal and private experts, with the explicit authority to issue expedited and binding policy interpretations that may be necessary or desirable to facilitate private investment in airport infrastructure. The charter of this policy working group would explicitly state that all scenarios developed will assure that local control and governance of airports is maintained. The goal of attracting private investment is to establish a partnership framework to make the airport facilities and operation the best it can be. Such partnerships should allow for partial equity participation. Private investment has advantages for airports that should be explored and developed, including risk transfer for traffic and project delivery. A range of possible investors should be allowed, including non-profits and individuals.
  - An example is the policy group that developed the TIFIA program, which has been highly successful for surface transportation.
  - Provide backup to support the fact that airports are in need of additional sources of revenue and/ or alternate sources of funding. Most airport PFCs are already spoken for (leveraged for the next 10 to 15 years).



- ◆ In furtherance of local control of airport development in support of revenue and economic development, replace prohibition on leases longer than 50 years with criteria that, if satisfied, provide safe harbor for sponsors to execute long-term leases; reduce FAA oversight and review of financial terms of nonaeronautical leases (beyond what is required by Section 163 of FAA Reauthorization Act of 2018). Need to balance this against avoiding long, low-rate leases to State agencies or others.

## Regulatory Changes

- ◆ Further limit MII clauses in airline leases.
- ◆ Eliminate or narrow the requirement for competition plans.
- ◆ Develop new language to make TIFIA more readily available for airport projects in the short term.
- ◆ TIFIA—there are a number of regulatory actions that the DOT and FAA can take (without statutory revisions) to make this program more attractive for airports, including (1) expanding the eligibility, (2) not imposing undue burdens on procurement such as federalizing the entire project, (3) eliminating or waiving the springing lien concept for airports, and (4) accelerating the approval process.
- ◆ Revise PFC regulations to expedite approval, flexibility in permissible uses, revisions in plan for use of PFCs and, generally, to align FAA role with the fact that PFCs are considered to be local, not federal, funds; clarify that projects that keep airports in a state of good repair meet the current eligibility criteria. Broaden the use of PFCs similar to those allowed for small airports. Consultation with airlines should be maintained. Establish shorter time limits on FAA review of PFC applications that do not fall under the FAA’s definition of streamlined category and/or expand the types of projects that do fall under this less onerous and more expedited approval process.

## Legislative Changes

- ◆ Reduce or eliminate unnecessary PFC regulation and oversight by FAA
- ◆ Tax-exempt borrowing – (1) eliminate the AMT tax status for airport infrastructure projects and (2) restore tax-exempt advance refundings for both general purpose and private activity bonds (such as most airport bonds). Infrastructure investment via tax-exempt bonds can be a key component to green finance. Airport issuers are increasingly considering municipal green bonds to finance projects which align with environmental, social and governance (ESG) goals. Tax-exempt advance refundings allow airports to reduce debt service expenses and thereby free up borrowing capacity for new investments in infrastructure, which will make airports more affordable and boost local economies by creating jobs.
- ◆ Establish pilot program for reform of the grant assurance obligations and regulatory burdens imposed that are unrelated to the FAA’s mission.
- ◆ Restore the direct payment bond program on a permanent basis similar to the Build America Bonds. Taxable direct pay bonds are attractive to long-term investors such as pension funds and could increase the pool of potential investors.

Utilizing the prior Congressional direction to US DOT, establish a revolving infrastructure loan assistance program. Support existing House and Senate bills for such a program. Goal is a cost-effective tool to help the airports industry recover from the pandemic and the associated financial impacts. One concept for a program title: *Federal Loans Yielding Faster Airport Redevelopment (FLY-FAR)*.

## Regulatory Considerations

Long term options to de-risk and bolster the resiliency of airport's financial eco-systems will likely require governance adaptations to position non-aero aspects of their business closer to that of an infrastructure asset in order to attract and engage private sector investment. Regulatory and legislative considerations should be addressed up front through working groups, including market soundings and non-binding outreach to the private sector, to inform the options analysis and optimize the extent of benefits available to airports going forward.

## 6. Risk Transfer and Alternative Project Delivery

### Introduction

Public-private partnerships, or P3s, are often portrayed as sources of project funding or financing alternatives to public agencies that otherwise lack financial resources to deliver the project(s) on their own. While airports may find their financial resources more constrained during the next several years, they will still likely have resources available to continue with development projects, albeit at a reduced capacity to prior years. Instead, P3s should be considered as an alternative project delivery method or mechanism to manage certain airport business or operations risks.

As airports look more broadly at reshaping their approach to business risk and financial resiliency in light of impacts experienced during the recent pandemic, partnerships with the private sector may also open the door to options for better managing or transferring these risks. Such agreements shouldn't be considered "homogenous" across all situations, but rather tailored to the specific needs and risks of each airport. This Section explores potential opportunities to use these partnership agreements as (1) a management tool to augment the owner's approach to managing airports, (2) access to private sources of equity capital to manage near term project costs during a post-COVID-19 recovery period, or both.

### Problem Statement

While P3 agreements have become more widely recognized in the United States over the last 10-15 years, the concept behind P3's has been an integral part of airport construction and operation for over 50 years. US airports have long turned to airlines to build terminal, maintenance and cargo facilities, utilizing leases structures, tax-exempt special facility bonds and airline cash to finance and operate critical airport assets. Many of these agreements embedded certain levels of risk transfer between the airport (public sector) and the user airline (private sector), but due to the airline's role as the end user and rate payer, much of the risk transfer was implied or undefined in the formal agreements.

As airline capital and risk appetite have become more constrained in the post-pandemic environment, airlines' role in these traditional partnerships as participants in risk transfer and financing arrangements will become scarcer. Should airports want to maintain access to these sources of risk transfer, contemporary P3 agreements represent similar options for financing and risk transfer, however the 3<sup>rd</sup> party nature of most P3 developers naturally requires that the specific risks and responsibilities be memorialized as part of the underlying agreement. The scope and scale of these agreements can range from certain airport operations (ground handling, fueling, above the wing services, exit corridor security) to construction of airport facilities, either large or small, but should align with the airport's appetite for risk and ability to effectively manage the relationship.

### Managing Airport Business Risk

While airports may pay a premium over their own cost of capital, tailored partnerships with private sector companies can serve as tools for airport operators to better exploit commercial opportunities, private sector efficiencies, or manage ongoing operational risks within their business. These agreements can range from "infrastructure as a service" models, where construction, operations, asset renewal and financing costs are bundled in a structured stream of payments over the asset's life, to simple incentive-based management contracts for facility operations or maintenance.

Areas where an airport operator may be able to manage business risks related to these agreements include:

### Operational Resiliency

- ◆ Assure consistent and prescribed performance from certain assets that deliver operationally critical services to the airport, with financial penalties to the private sector partner for non-performance based on transparent, airport defined KPI's.
  - Utility systems (central plants, micro grids, etc.).
  - Building MEP systems, vertical & horizontal conveyances.
  - Transportation systems (APMs, Transit Operations).
- ◆ Contracts based on availability of assets with defined performance specifications, removing responsibility and cost of preventive maintenance and capital reinvestment decisions from public operator, and generally achieving a lower total cost of ownership and risk mitigation across the agreement's term.

### Administration of Asset/Operation

- ◆ High level of investment up front prior to entering into partnership agreement.
- ◆ Removes day-to-day operational decisions related to assets/operations as performance specifications are defined up front.
- ◆ Removes annual budgetary decisions around timing and level of asset re-investment or service level, replacing it with a single, non-discretionary payment under the agreement.
- ◆ Airport role shifts to compliance monitoring and agreement enforcement role.

### Procurement Risk

- ◆ High level of investment (time and money) up front prior to entering into partnership agreement to define airport needs and risk transfer elements.
- ◆ Removes timing risk of periodic retendering of contracts impacted by changing cost or availability of labor, materials or services.
- ◆ Eliminates future periodic procurements that are administratively burdensome and subject to political influence.

### Staffing/Resourcing/Expertise

- ◆ Certain airport assets may have long lives and require large scale reinvestment infrequently over a period of decades. Developing and maintaining knowledgeable and experienced internal staff capable of leading construction efforts for these assets remains a challenge.
- ◆ Public agencies are often challenged to access the most skilled and experienced personnel for technical positions that operate complex assets. Civil service and other similar hiring practices employed by public agencies may limit access to qualified applicants and are challenged to regularly update skills and experience requirements as they change with technology.

### Budgetary Risk/Operating Cost Volatility

- ◆ Decisions around standards of ongoing maintenance and capital reinvestment cycles create significant volatility in year-to-year budgetary needs for airport assets and are subject to influence by factors that don't consider the future performance or life of the asset. Private sector

agreements mitigate this risk by defining a single, predefined payment for predictable availability of the asset.

- ◆ Most agreements with private operators are structured to maintain a predictable cost profile year-to-year, with the private operator managing the risk associated with volatility in costs or re-investment under their control.
- ◆ Predictable cost profile of P3 agreement creates greater stability in the overall airport P&L and supports long-range planning efforts needed to support capital programming.

### Risk Transfer/Risk Management

- ◆ Risk transfer aspects of P3 agreements can vary widely but generally occur in line with the following considerations:
  - Must be commercially reasonable in the view of lenders, with risks reasonably under the counterparty's control.
  - Will impact the ultimate cost paid by the owner (developers will build compensation for assuming risk into their pricing).
  - May not eliminate risk of event occurring, but incentivizes developer to avoid/mitigate risks to the extent possible, and provides compensation to the owner in cases where the developer is responsible for the delay, cost overrun or substandard delivery in service through defined penalty schemes incorporated in payment mechanisms.
  - Some risks can be better managed by the airport; appropriate allocation of risks is critical.
- ◆ Risk provisions of an agreement must be diligently managed by the owner starting during the procurement process and throughout the life of the contract.

### Innovation/Optimization

- ◆ P3 procurements can be structured to incentivize innovative and cost saving ideas to lower capital and lifecycle costs, often introducing efficiencies from planned non-discretionary lifecycle renewal.
- ◆ Private operators are incentivized to deploy the lowest cost solution (capital and operations) to meet the owner's specification without overinvestment. Private sector operators are generally more skilled in this level of optimization.

### Capital Re-investment Decision making

- ◆ Public agencies have a poor history here. They are either 1) late to identify the need, 2) poor at identifying the level of reinvestment needed, or 3) bad at prioritizing their reinvestment relative to other spending priorities. Agreements based on asset availability and performance act more like "utility costs" that can't be avoided and remove the prioritization decision relative to competing interests.

### Enhancing Project Financial Structure

As widely accepted, engaging a private sector partner usually comes with a higher cost of capital than if the public sector financed the project on its own due to the private sector's typically lower debt rating and their use of "risk based equity capital", which demands a higher rate of return than debt. However, this higher cost of capital should be considered relative to the broader set of offsetting benefits that the public sector may gain from such an agreement. Further, there may be opportunities for a public airport operator, with greater access to its own capital, to mitigate the impacts of this higher cost private capital.

Other financial aspects an airport owner should consider include:

#### Availability of Capital/P&L Insulation (assuming an AP structure)

- ◆ For airports with constrained capital or that are looking to preserve cash and/or avoid additional debt under their indentures, there is a high level of private sector equity capital in search of infrastructure investments available for projects.
- ◆ P3 obligations may be supported by a subordinated claim on airport revenues below those of airport bondholders and still maintain an investment grade rating, which will lessen the credit impacts on the airports' existing bond liens. Despite the subordination of these claims, they will be a factor in the overall ratings assessment of the airport's credit profile, although the reduction in deferred maintenance risks has potential to be viewed as a credit positive.
- ◆ The cash flow volatility of operating, maintaining and reinvesting in an asset are absorbed by the private operator, while the airport's annual expense will tend to be smoothed out over the life of the concession.

#### Equity Role as "Patient Capital"

- ◆ For projects delivered with a DBFOM (design, build, finance, operate, and maintain), the presence of a developer's equity capital provides a greater level of flexibility in structuring initial project payments that are included in airline cost centers relative to traditional debt financing.
  - Interest payments on traditional debt financings create a floor on minimum payment levels due to debt holders.
  - Developer equity contributions can be used to sculpt payments to align project economics with low initial activity levels in early years which are then expected to be sustained at higher levels in the future—this could be particularly useful in managing prolonged recovery periods post-COVID-19. While the repayment of this equity will be at a higher cost over the project's life than traditional debt, the flexibility could be critical for achieving competitive cost structures in the coming years.
- ◆ The deployment of a "capital call" structure to meet some level of MAG in a revenue concession may prove valuable in light of the collapse in performance of typical concessions agreement MAGs during COVID-19.
  - While standard "90% of prior year payments" guarantees may not be economically feasible, calibrated MAGs recognizing differences in severity of activity drops may be considered.
  - Alternatively, the greater of percentage of sales or defined minimum "building rent" charges (consistent with any other commercial lease) may represent a more realistic approach to risk allocation and could allow for higher % of gross payments.

#### Revenue/Expense Isolation (revenue-risk P3)

- ◆ Airport transfers revenue opportunity in exchange for capital investment and some share of profit, benefiting the public agency by removing revenue and expense from their P&L and leaving just the "net."
- ◆ Private parties, motivated by profit, generally excel at maximizing profit from their investment, while maintaining agreed to performance standards. Structuring agreements where the public owner can share in these profits further aligns the parties' interests and enhances airport revenues.

## Mitigating Higher Private Cost of Capital

- ◆ Market returns on equity and developer issued debt, before risk adjustment, generally represent a premium to interest rates on traditional public debt. However, there are options for a public agency to reduce to their overall exposure to these higher costs:
  - Measured injection of publicly financed capital (substituting the public agency’s lower cost of capital for the private owner’s higher cost debt/equity) through project milestone payments. These can be calibrated to assure (a) sufficient developer financial interest in the project at all times, and (b) an optimized developer financial structure with maximum leverage
  - Public owner contribution/investment/participation in “equity” valuation and dividends to further align interests and defray some of the higher cost of capital
  - Public owner participation in share of debt refinancing gains/efficiencies

## Project Delivery Alternatives to Design-Bid-Build

	BENEFITS	LIMITATIONS
CM/GC Publicly Financed	<ul style="list-style-type: none"> <li>• Maintain low cost tax-exempt public financing</li> <li>• Competitive construction pricing maintained due to transparent bidding of packages, with potential for GC guarantee of maximum cost</li> <li>• Flexibility for future service adjustments and potential expansion</li> <li>• Involvement of Owner technical staff maintained</li> <li>• Improved cost management</li> </ul>	<ul style="list-style-type: none"> <li>• Public financing is counted against bond ordinance debt limits or additional bonds tests</li> <li>• No integration of CM/GC and O&amp;M parties, limited construction warranty</li> <li>• Owner maintains O&amp;M and lifecycle cost risk</li> <li>• No incentive for O&amp;M cost efficiencies, service level or useful life performance</li> <li>• Potential longer schedule than DBOM</li> <li>• Greater exposure to contractor company credit</li> <li>• No flexibility in timing of funding requirement</li> <li>• Owner retains significant schedule/cost overrun risks (unless GC guarantees maximum cost)</li> </ul>
DB Publicly Financed	<ul style="list-style-type: none"> <li>• Maintain low cost of tax-exempt public financing</li> <li>• Competitive construction pricing maintained and cost certainty due to fixed price bidding</li> <li>• Reduced Owner resources compared to CM/GC, while retaining degree of control for Owner</li> <li>• Flexibility for future service adjustments and potential expansion</li> <li>• Designer and Builder are partnered / integrated, offering synergies and innovation opportunities</li> <li>• Well established delivery model, most owners have experience</li> </ul>	<ul style="list-style-type: none"> <li>• Public financing is counted against bond ordinance debt limits or additional bonds tests</li> <li>• No integration of DB and O&amp;M parties, limited construction warranty</li> <li>• Owner maintains O&amp;M and lifecycle cost risk</li> <li>• More limited Owner control compared to a CM/GC delivery</li> <li>• No incentive for O&amp;M cost efficiencies, service level or useful life performance optimization</li> <li>• No flexibility in timing of funding requirement</li> <li>• Owner retains some schedule risk, although incentives can be put in place to mitigate this risk</li> </ul>
DBOM Publicly Financed	<ul style="list-style-type: none"> <li>• Maintain low cost of tax-exempt public financing</li> </ul>	<ul style="list-style-type: none"> <li>• Public financing is counted against bond ordinance debt limits or additional bonds tests</li> </ul>

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- Lower anticipated annualized cost, through contractor and O&M provider collaboration
  - Greater schedule/cost overrun risk transfer than CM/GC
  - Limited Owner resources required compared to CM/GC
  - Potential for faster schedule than DBB, CM/GC and DBFOM
  - Some flexibility for service adjustments and potential expansion
- More limited Owner control compared to a CM/GC delivery
  - Greater exposure to contractor/operator company credit
  - Reduced performance incentives in deduction regime relative to DBFOM
  - Owner retains capital maintenance/renewal risk
  - Procurement more complex than DBB and CM/GC
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## Risk Transfer and Alternative Project Delivery

The use of P3 agreements to finance, deliver and/or maintain and operate assets has proven to be an effective tool to transfer applicable financial risks, address liquidity, and gain highly predictive systems of expenditures while lowering the total cost of ownership across a spectrum of asset classes. Many variants are available to airports when structured through asset-specific analysis and development of transactions that balance risk and benefits across the counterparties. All require collaborative engagement and two-way dialogue to establish whether a bankable transaction can be struck, making the need for market outreach critical for option and feasibility analysis in the development of an airport's go-forward strategy for financial resiliency.



## Case Study 1

### Houston Airport Development Corporation

#### Off-campus Activities / Development Work in Latin America

HAS Development Corporation (HASDC) is a 501(c)(3), non-profit affiliate of the Houston Airport System. Headquartered in Houston, its only beneficiary is the Houston Airport System (HAS). The company provides development consultation and training services to both emerging airports and other airports. Its services include technical services including, airport public safety, technology, and airport management and operation, as well as design development and capital management.

This innovative structure is now 20 years old and it has produced many benefits for Houston. First, it increased Houston's brand for excellence internationally. The assignments provided HAS staff exposure to varying international technical challenges and the opportunity to understand Latin American market more fully and experience various international travel facilities and protocols. Last, its profits have funded grants to the HAS—allowing them to better support their Airports.

The U.S. Overseas Private Investment Corporation (OPIC) interest lies in providing opportunities for American companies in international development projects. By having American sponsor HADC lead the project, the HASDC network of American based suppliers and contractors provided new business opportunities. OPIC projects adhere to high environmental and social standards and respect for human rights, including workers' rights.

#### Project Involvements and Recent Assignments of HADC

Project Role	Project Details
<p>Joint Concession Holder at <b>Juan Santamaría International Airport</b></p> <p>San Jose, Costa Rica</p>	<p>HASDC joined a consortium (Aeris) which included Canadian, Brazilian, and U.S. firms that replaced Alterra Partners in 2009.</p> <p><b>Key Facts</b></p> <ul style="list-style-type: none"><li>◆ Total Project Costs: Up to \$150 million</li><li>◆ (Adjacent MRO prevented expansion of terminal as originally planned, so a smaller terminal was built)</li><li>◆ Proposed Loan: \$55 million Overseas Private Investment Corporation (OPIC) loan out of a total \$100 million in financing</li><li>◆ Loan Term: 15 years from first disbursement to final repayment</li><li>◆ The project supports a U.S. government objective to promote investment in Costa Rica</li></ul>

Project Role	Project Details
<p>Joint Concession Holder at <b>Daniel Oduber Quirós International Airport</b></p> <p>Liberia, Costa Rica</p>	<p>The project, which includes the construction of a two-story building with a total area of 23,000 square meters, is in the hands of the consortium Coriport S.A., composed of the firms MMM Aviation Group S. A., ADC &amp; HAS (of which HASDC held a share), <b>Emperador PezEspada S.R.L., Brad and Ted Corporation S. R. L.,</b> and <b>Cocobolo Inversiones</b> consortium [outdated—major owner is now Vinci, which has announced its intention to buy out HASDC minority interest]</p>
<p>Joint Concession Holder at <b>Mariscal Sucre International Airport</b></p> <p>Quito, Ecuador</p>	<p>HASDC was actively in the consortium that managed the old Quito, Ecuador airport as well as the construction and current management of the new airport to serve Ecuador’s capital city.</p> <p>The airport opened February 20, 2012. The \$600 million+ public-private partnership (P3) project was a joint venture called Corporación Quiport S.A. (Quiport) (originally consisted of Aecon Concessions, Andrade Gutierrez Concessoes of Brazil, Airport Development Corporation of Toronto, and HSDC of Texas). Quiport was awarded the concession to design, build and operate a new airport until 2040.</p> <p>Several years ago, Andrade Gutierrez transferred its participation to CCR of Brazil, and AECON and ADC transferred their participation to Odinsa of Columbia.</p> <p><b>Key Facts:</b></p> <ul style="list-style-type: none"> <li>◆ Equity provided by Quiport</li> <li>◆ Financing provided by a group of international lenders including OPIC and EXIM of the U.S.</li> <li>◆ At least five new passenger airlines and several new cargo airlines have begun serving Quito since airport opening, delivering new opportunities to the people of Ecuador</li> </ul>
<p>Example Consulting Assignments</p>	<p>Shreveport, Parsons, various Chinese airports</p>

## Case Study 2

### Kansas City International Airport New Single Terminal & Parking Case Study

#### Summary

- ◆ \$1.5 billion Terminal Modernization Program to replace the existing three terminals and three public parking garages at Kansas City International Airport (MCI), which is scheduled to open in March 2023.
- ◆ Project funded through special appropriation municipal bonds, secured by new Airline Use and Lease Agreement with residual rate structure. The bonds received the same rating as outstanding general airport revenue bonds (GARBs)
- ◆ Developer-led, design-build delivery with progressive GMP contract provides several benefits to the Kansas City Aviation Department (KCAD) and MCI's Signatory Airlines (AA, AS, DL, UA, WN), including:
  - Project program scope revalidation and design were refined through a collaborative process with all stakeholders.
  - Budget and costs remain transparent to KCAD and the Signatory Airlines.
  - Scheduled delivery is earlier than would be possible under design-bid-build approach.
  - FAA-approved local, minority and women-owned subcontractor engagement and workforce participation programs ensure City's investment will have lasting local economic impacts.
  - Avoided the need for a public referendum on the issuance of GARBs as required in Missouri

#### A New Approach

The new single terminal & 6,300-space parking garage at MCI is an important evolution in the delivery of complex airport facilities. The MCI project delivery approach draws upon many existing industry trends to create a new project delivery model that improves collaboration amongst airports, airlines, and the private sector. Management of cost and schedule risk is dramatically improved through this approach without sacrificing airport and airline control over the finished product. By using a developer-led, design-build approach, an airport sponsor can realize the lower project costs while also effectively managing the delivery risk associated with complex airport facilities. This new approach also creates a structure and process with the staff and human resources required to effectively manage the risk involved in delivering a major capital improvement project.

The airline use and lease agreement provides for significant airline oversight and participation in the design and construction of the TMP.

**Project:** The New Single Terminal & Parking Garage at Kansas City International Airport (MCI)

**Owner:** The City of Kansas City, Missouri (KCMO) / Kansas City Aviation Department (KCAD)

**Owner's Representative:** Paslay Management Group (PMG)

**Developer:** Edgemoor Infrastructure & Real Estate (Edgemoor)

**Design-Builder:** Clark | Weitz | Clarkson, A Joint Venture

**Lead Architect:** Skidmore, Owings & Merrill Architect (SOM)

**Contract Type:** Design-Build -Finance (DBF) with a progressive Guaranteed Maximum Price (GMP) Construction Contract.

**Project Description:** Replace MCI's existing horseshoe-shaped Terminals A (non-operational), B and C (both currently operational) and close-in parking structures and surface lots with new facilities that improve operational efficiency and the passenger experience. The new facilities are being constructed on the site of former MCI Terminal A, allowing reuse of the existing roadway network and airside infrastructure.



**Project Scope:**

- ◆ 1.1 million square foot single terminal
- ◆ 39 gates, with processing capacity to expand to 42 gates
- ◆ 6,150 space, 7-story parking garage
- ◆ Dual-level roadway to separate departures and arrivals traffic
- ◆ New central utility plant
- ◆ Airside & landside improvements

**Schedule:** Construction started March 2019; scheduled completion is March 2023 (4 years)

**Budget:**

<u>Cost Item</u>	<u>\$ (millions)</u>
Development costs	49
Design-Build costs	1,286
Owner Contingency	28
<b>Edgemood GMP</b>	<b>1,363</b>
Owner & Airline costs	137
<b>Total Project Costs</b>	<b>1,500</b>

Project Finance Structure

The project finance strategy was created by the Developer and was structured to provide KCMO with the lowest possible cost of finance and greatest amount of risk transfer to the project delivery team, while

maintaining the flexibility to control and shape the project through a progressive design-build approach. Pre-development financing of \$23M was provided by a credit facility created by Edgemoor. This funding supported an intensive pre-development phase that allowed time for:

- ◆ KCAD and Edgemoor public outreach to build support for the project, which required passing of a referendum vote and subsequent approval by the City Council.
- ◆ The Edgemoor--led delivery team to develop a concept design and budget based on KCAD and Airline input.
- ◆ KCAD to complete negotiations of Airline Use and Lease Agreement and prepare for bond financing
- ◆ KCAD to complete Environmental Assessment under FAA.

The eventual project financing was provided by Airport Special Obligation Bonds issued by the Industrial Development Authority of the City of Kansas City, Missouri. These bonds are secured through KCAD's Airline Use & Lease Agreement with five passenger airlines and two freight carriers, cumulatively representing 96% of the landed weight and 93% of passenger traffic market share at MCI.

The tax-exempt bonds were issued in two tranches with a combination of AMT and non-AMT bonds in each tranche:

- ◆ June 2019: \$985M, average interest rate 3.884%
- ◆ October 2020: \$562M, average interest rate 3.616%

The first tranche of bonds provided enough funding to continue with design, begin Terminal A demolition, start construction, and continue the process of developing the final Guaranteed Maximum Price (GMP). The bonds were issued in two separate tranches due to the favorable and improving interest rates in March 2019. This project finance approach offered KCMO the lowest possible cost of finance and afforded KCAD the resources and time to effectively shape the project with the Edgemoor-led delivery team and the participating airlines.

### The Progressive Design-Build Delivery Approach with KCAD and Airline Oversight

The KCI project is organized around a developer-led design-build delivery team. Edgemoor acts as the master developer of the project and has overall responsibility for the delivery of the completed facility. Skidmore, Owings & Merrill (SOM), contracted under CWC, is the lead architect. Design-Build services for project are provided by a joint venture between Clark Construction, Weitz Construction and Clarkson Construction (CWC).

The Development Agreement negotiated and executed between KCMO and Edgemoor contains provisions for KCMO, through KCAD, to work collaboratively with Edgemoor to develop the project through a progressive design-build approach. KCAD and the signatory airline partners, including Alaska, American, Delta, Southwest, and United, had a major role in providing design input, both through in-person design and budget meetings, and through stakeholder reviews of the drawings, specifications and budget estimates. This process allowed the airlines the opportunity to contribute their best practices and lessons learned early in the design process. The development of the project budget was structured as a highly interactive, three-phase process to ultimately arrive at the Final GMP approximately 1 year after Notice to Proceed. Subcontractor procurement ensued during the interactive three-phase process, which enabled KCAD, Airlines, and other stakeholders' full transparency of the construction subcontractor bidding and award processes.

The Development Agreement also established a tiered project oversight structure. The overall project development process is guided by a Project Management Committee (PMC), which is made up of one representative of the Owner, one representative of the Developer, and one for the Airlines (airline-appointed Airline Technical Representative). Overseeing the PMC is the Steering Committee (SC), composed of the KCAD Director of Aviation and a Southwest Airlines Senior Regional Leader for Airport Affairs, appointed on behalf of the signatory airlines. The PMC and SC provide executive oversight and approve the use of certain project contingencies that were established at the outset of the project GMP phasing. The SC has exclusive approval authority over any issues that materially affect airline operations, project schedule, project scope, or the payments required of the airlines under the Airline Use and Lease Agreement.

### Reaching a Guaranteed Maximum Price, Collaboratively

Although initially conceived as a lump sum design-build project, the Airlines and KCAD desired greater transparency and control over cost, leading to the progressive GMP contract model. Through the Development Agreement, executed in 2019, Edgemoor led both design and construction procurement processes, with the engagement and oversight of KCAD and the signatory airlines, to arrive at the final GMP.

While the site and configuration of the new terminal and parking garage had largely been determined prior to the procurement, KCAD and the airlines sought further collaboration to study alternatives. Through program validation and concept design phases, the project team established an Initial GMP (Phase 1) based on concept-level design drawings. The airlines determined the maximum \$1.5B total project cost at this time, as a condition of executing the Airline Use and Lease Agreement that would underwrite bond financing for the project.

The Edgemoor team issued a Revised GMP (Phase 2) upon completion of schematic design and approximately 45% of construction procurement. The Final GMP (Phase 3) was established upon completion of 80% construction documents and approximately 90% construction procurement.

The table below summarizes the three key steps towards a complete GMP.

	Initial GMP (Phase 1)	Revised GMP (Phase 2)	Final GMP (Phase 3)
<b>Date</b>	March 2019	November 2019	September 2020
<b>Budget</b>	\$1.5B	\$1.5B	\$1.5B
<b>Scheduled New Terminal Opening</b>	May 2023	March 2023	March 2023
<b>Design Status</b>	100% concept design	100% schematic design, plus advanced packages for early start activities	80% construction documents

	Initial GMP (Phase 1)	Revised GMP (Phase 2)	Final GMP (Phase 3)
<b>Construction Procurement Status</b>	Early start packages and preliminary agreements in place for major scopes: MEP and garage	45% complete, including demolition, utilities & deep foundations	90% complete
<b>Construction Status</b>	Utility cutting and capping, make safe work	Demolition and utility relocations well-underway, roadway improvements and deep foundation work started	Underground MEP and slab on grade nearly complete; steel erection approx. 80% complete

### Long Term Operations and Maintenance

Unlike some public-private partnerships, there is no long-term maintenance agreement or performance guarantees included in the Project Agreements. KCAD will operate and maintain the completed facility. During the design phase, KCAD provided input on operations, maintenance, and facility lifecycle considerations.

### Workforce Development and Community Benefits

Edgemoor pledged to achieve 20% Minority Business Enterprise (MBE) and 15% Women Business Enterprise (WBE) participation for all subcontracted work, including both professional and construction services. Toward this goal, Edgemoor provided a number of Terminal Workforce Enhancement Programs (TWEP), designed and implemented with oversight from the FAA to ensure these programs were of direct benefit to the project. The City’s expectations for this project go beyond improving air travel. The City Council envisions this project as not only as an investment in infrastructure but also as an investment in local businesses and the local workforce. TWEP programs were designed to make the project more accessible to, and to build capacity, among regional MBE and WBE’s. Examples include expedited payment cycles, low interest loans, bonding and supplier support, and a 6-month, intensive contractor training program called the Strategic Partnership Program. TWEP programs designed to support a diverse workforce include transportation and childcare support, an on-site medic, and the Workforce Training Program, which, with the partnership of organized labor organizations, provides an entry point into union apprenticeships for selected participants.

Today, the Edgemoor Team includes over 200 KCMO-local professional and construction services subcontractors, including 117 minority and women-owned businesses, and the project is on track to achieve Edgemoor’s 20% MBE and 15% WBE participation commitments.

### Project On-Schedule and Budget

During the GMP development phases, KCAD requested that Edgemoor move the completion date two months earlier to ensure that the new terminal would be open prior to the NFL Draft to be held in Kansas City in April 2023. As of 2021, the project is proceeding on budget and ahead of the schedule established in the initial GMP.

# LAXAPM and ConRAC Procurement Process

DESIGN

BUILD

FINANCE

OPERATE

MAINTAIN

DBFOM

What is DBFOM?

DBFOM is a public-private-partnership (P3) contracting model that enables public sector agencies to harness private sector **innovation** and **expertise**, while sharing risks and responsibilities for financing. In exchange, private partners earn a reliable revenue stream (subject to performance.)

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Why DBFOM?

- 1 Transfers some risks from LAWAt to the Developer and encourages Developer to mitigate potential risks
- 2 Creates opportunity for innovation in design, construction and operations
- 3 Emphasizes the importance of on-time, high quality delivery and for all parties to structure work accordingly
- 4 Aligns design, construction and operations to ensure project decisions add value around guest experience, improved asset management, sustainability, and inclusivity



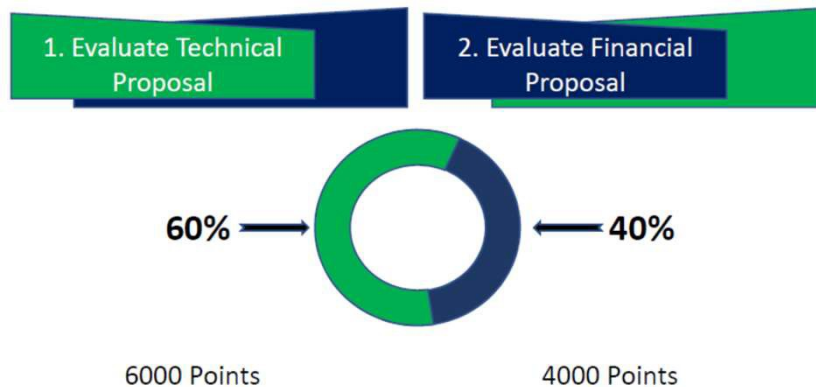
# LAXAPM and ConRAC Procurement Process

## EVALUATION & SCORING STEPS

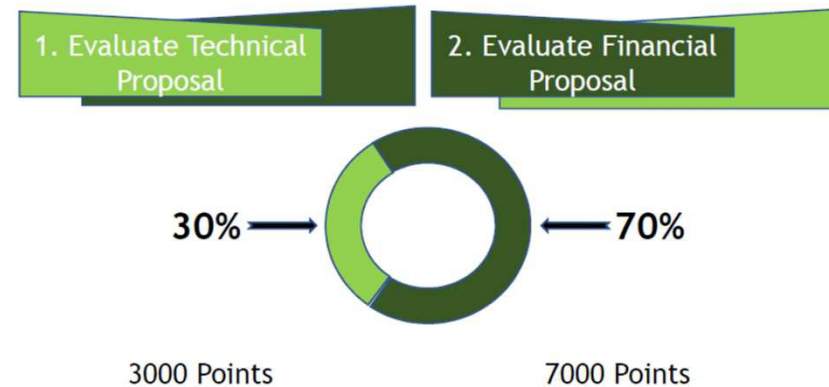
Developer selection processes were qualification-based evaluations with two independent steps to determine Lowest Ultimate Cost Proposer (LUCP)

1. Evaluate Technical Proposal
2. Evaluate Financial Proposal

APM Scoring Percentage



ConRAC Scoring Percentage



# LAX APM and ConRAC DBFOM Agreement

To deliver the APM and ConRAC, LAWA & Developers will enter into 30 year DBFOM Agreements



## AGREEMENT

- 5 YEARS-Design & Construction (D&C)
- 25 YEARS-Operations & Maintenance (O&M)

## CONTRACT VALUE INCLUDES:

- Construction costs, financed by Developers
- Cost of 25 Years O&M, with inflation escalation
- Cost of Developers' construction financing

## DEVELOPER WILL RECEIVE:

- Milestone Payments- during Construction
- Annual Availability Payments- during O&M, disbursed in monthly increments

# LAXAPM and ConRAC

## DBFOM Agreement

### MILESTONE PAYMENTS

- During the construction period, LAWA will pay the developers in milestone payments, subject to adjustment for actual financing costs.

### AVAILABILITY PAYMENTS

- Following the completion of the project, LAWA will pay the developers' annual payments, subject to performance criteria in the agreement, to compensate the developer for:
  - Principal
  - Interest
  - Financing costs of the project
  - Annual operating and maintenance costs over the operating life of the contract
- The initial annual availability payments are based on interest rates at the time of the proposals and will increase annually based on structured increases and inflation indexes.
- The initial payments are subject to adjustment based on the actual financing cost incurred by the developers at Financial Close.

# LAXAPM and ConRAC DBFOM Agreement

## DESIGN & CONSTRUCTION



## DEVELOPERS' RESPONSIBILITIES

Developers are responsible for the design & construction of the projects including:

- Operating Systems
- Fixed Facilities
- Roadways and Utilities

## SERVICE AVAILABILITY

- Developers have contractual obligations to meet project availability dates
- Developers' failure to meet this date could result in lost Availability Payments which can not be recovered

## LAWA'S RESPONSIBILITIES

- Deliver project property (real estate) on schedule
- Complete key enabling projects such as relocating LAWAtenants and some utilities
- Facilitate inter-agency cooperation
- Facilitate interfaces with other projects,

# LAXAPM and ConRAC DBFOM Agreement

## OPERATIONS & MAINTENANCE



## DEVELOPERS' RESPONSIBILITIES

- Developers are responsible for the operations & maintenance of the facilities.

## REQUIREMENTS DURING O&M

- Developers must meet strict Availability Requirements during O&M
- Failure to achieve these requirements will result in Payment Deductions and Other Compliance Enforcement Measures
- Refurbishment & replacement required for portions of the projects throughout the 25 years

## HANDBACK

- At the end of 25 years of O&M, the projects must have 5 years of minimum remaining useful life

# LAXAPM and ConRAC DBFOM Agreement

## COMPLIANCE



## PERFORMANCE & COMPLIANCE

- Creates incentive to correct performance
- Includes progressive measures to enforce compliance
- Default is the last resort

## PAYMENT DEDUCTIONS

- Availability Deductions- Based on Performance Standards for key systems
- Non-Compliance Deductions- Based on non-compliance events (NCE) identified in the NCE table

## NON-COMPLIANCE POINTS

- Developers will also accrue non-compliance points for breaching key obligations identified in the Non-Compliance Event (NCE) table
- Accumulation of NCE points triggers escalation of enforcement measures such as: Increased LAWA oversight, required remediation plans, increased oversight from Developers' financiers, LAWA replacing contractors

## AVAILABILITY STANDARD

- Unavailability deductions are based on duration of unavailability

# LAXAPM and ConRAC Workforce Development

The APM and ConRAC are subject to LAWA's SBE/LBE/LSBE/and DVBE programs. The levels at which they must achieve are:

## APM

APM Design – 22% SBE/ 8% LBE/ 3%LSBE/ and 3% DVBE  
APM Construction – 18% SBE/ 7% LBE/ 5% LSBE/ 3%DVBE

## ConRAC

ConRAC Design – 18% SBE/ 50% LBE / 10% LSBE/ 5% DVBE  
ConRAC Construction – 22% SBE/ 20% LBE/ 5% LSBE/ 5% DVBE

## Local Worker

There is a fairly robust Local Worker program, as well, with a 30% requirement for construction work and a 50% requirement for O&M for both projects.

## HireLAX

Finally, both APM and ConRAC teams have benefited from LAWA's HireLAX Program, which provides trained apprentices for some job classifications.

An aerial architectural rendering of the LaGuardia Airport Central Terminal B redevelopment project. The image shows a large, modern terminal building with a white, angular roof and glass facades, connected to an existing terminal by a skybridge. Numerous commercial aircraft are parked at gates, and a control tower is visible in the background. The airport is situated in a dense urban area, with the Manhattan skyline visible in the distance under a clear blue sky.

# LaGuardia Airport Central Terminal B

REDEVELOPMENT PROJECT

VANTAGE  
AIRPORT GROUP



# THE CHALLENGE

LaGuardia Airport is a critical piece of U.S. aviation infrastructure. It has a footprint of approximately one square mile and operates within the busiest airport system in the world. Its Central Terminal B was commissioned in 1964 with a design capacity of eight million annual passengers. In 2015, the terminal served more than 14 million passengers, was outdated and past its useful life, and was managed in large part by the eight airlines operating out of it.

In 2011, the Port Authority of New York and New Jersey (the Port Authority) initiated plans to redevelop Central Terminal B. The scale and constrained operating environment increased the project's complexity and risk, leading the Port Authority to engage the private sector through a public-private partnership to design, build, finance, operate and maintain (DBFOM) the terminal.

The Port Authority outlined specific objectives for the \$4 billion DBFOM procurement from the outset:

- Obtain the best value for money with the greatest certainty of project cost and schedule

- Stage construction and demolition to minimize disruption to all stakeholders
- Provide space and facilities to airlines operating from the terminal at a reasonable cost
- Create an enduring and contemporary design that is innovative and efficient, embodies the excitement and dynamism of New York, can be easily modified as needs and standards change, will meet current and projected air traffic demand with an appropriate level of service, and will enhance the flexibility and efficiency of aircraft operations
- Obtain world-class operations with top-level customer service, amenities and retail offerings that enable the new facility to rank at the top of passenger satisfaction surveys

The procurement attracted world-class airport operators, all competing to develop a solution that would meet the objectives and balance the interests of all parties involved. It also attracted the attention of federal and state elected officials, shining an even brighter spotlight on the project and its contending teams.

*All currency is USD*

- ✓ A complex, spatially-constrained operating environment
- ✓ Comparable projects historically financed by airline- / airport-supported bonds
- ✓ Multiple stakeholders
- ✓ First of its kind in the U.S.

# THE SOLUTION

**Every project is different.  
Every solution is different.**

Vantage Airport Group takes a holistic approach to understand and address each element of a project. This approach has propelled Vantage to successfully lead large-scale, multi-year airport infrastructure projects within complex operating environments.

The scale, complexities and ground-breaking nature of the LaGuardia Airport Central Terminal B Redevelopment Project were well-suited to our experience and ability to add value.

From the outset, Vantage, with our consortium partners, identified four important elements that required equal attention to structure a deal that met Port Authority objectives, was acceptable to all stakeholders, and would allow the project to reach financial close and lease commencement:



Design



Management and Operations



Airline Engagement



Financing



## THE SOLUTION BUILDING THE TEAM

Vantage teamed with Skanska Infrastructure Development and Meridiam as equity sponsors, spearheading the formation of LaGuardia Gateway Partners (LGP) and assuming a leadership role during procurement.

LGP engaged Skanska USA Building and Civil and Walsh Construction in a construction joint venture, and design and architecture firms WSP Parsons Brinckerhoff and HOK. Vantage would also be responsible for construction management and terminal operations before, during and after construction, including directing the operational transition from the Port Authority at lease commencement.

Throughout, the team followed its philosophy for success: maximize value and certainty of execution and delivery, minimize risk, and deliver a continuously improving and exceptional experience for everyone.

CLIENT

**THE PORT AUTHORITY OF NY & NJ**

EQUITY



MANAGEMENT, OPERATIONS, COMMERCIAL



DESIGN/ARCHITECTURE



CONSTRUCTION



## THE SOLUTION DESIGN



As consortium lead during the procurement process and terminal operator throughout the life of the project, Vantage placed a priority on innovation and efficiencies and led LGP to reevaluate every aspect of the project and the Port Authority's referential design. This included assessing the impact of design and architecture on terminal operations, commercial services, the overall passenger experience, and aircraft movements to and from the terminal. Construction phasing was also critical given the complexities of operating the existing facility amidst construction of the new terminal.

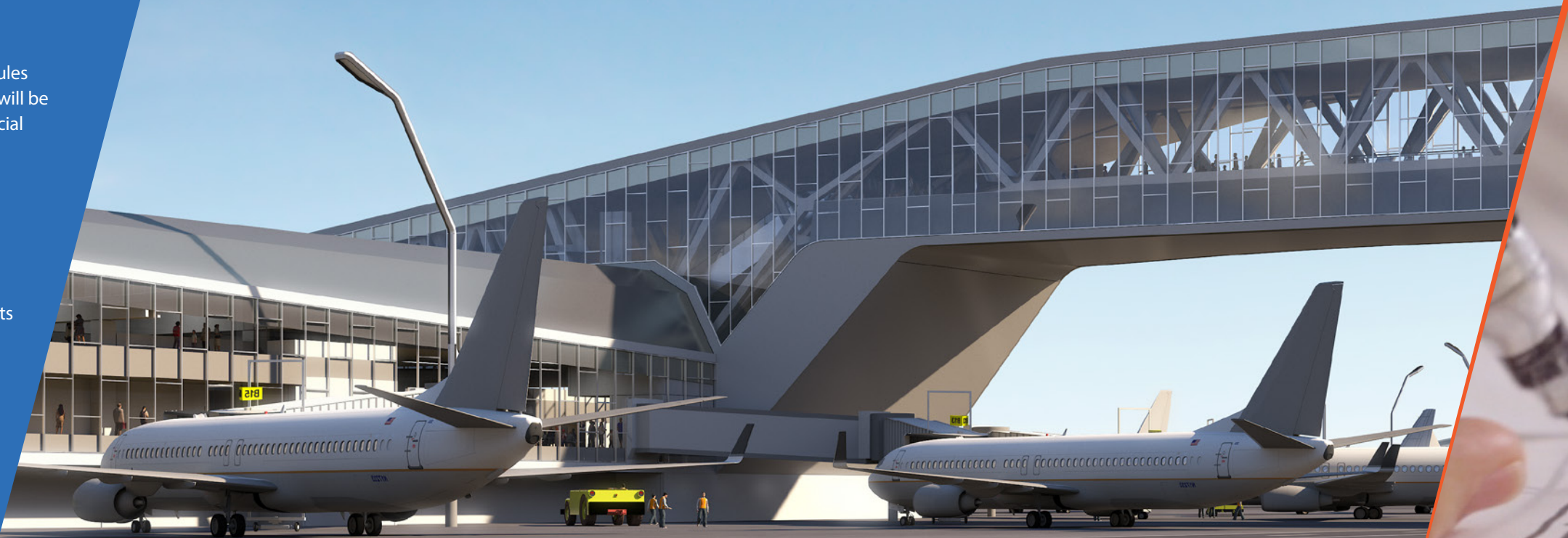
Based on its evaluation, LGP developed a bold new vision for Central Terminal B by way of an alternative concept submitted to the Port Authority for consideration versus its reference design. Importantly, the new concept was designed to significantly improve efficiency for airline operations, accelerate the construction schedule, simplify staging and phasing, and was instrumental in obtaining a fixed-price, date-certain contract from the construction joint venture.

The alternative concept was a key factor in allowing LGP to de-risk the project, a critical element of the deal structure. It also aligned with the team's philosophy of maximizing value and certainty, minimizing risk and delivering an exceptional experience for everyone while surpassing Port Authority objectives for the project.

## A world class airport for a world class city

Our terminal design ensured:

- ✓ Accelerated construction schedules (in 3 years, 76% of construction will be completed and 80% of commercial space will be operational)
- ✓ Fewer construction phases (6 vs. 11 in the reference design)
- ✓ Minimized disruption and implementation risk
- ✓ Lower capital and operating costs
- ✓ Leading passenger technology
- ✓ Shorter walking distances from curb to gate
- ✓ Enhanced operational efficiency
- ✓ LEED certification
- ✓ Iconic design with world's first dual pedestrian bridges over active taxi lanes



## THE SOLUTION MANAGEMENT AND OPERATIONS



Vantage's experience managing and operating airports around the world inspired LGP's commitment to deliver an exceptional passenger experience with an underlying focus on safety and security.

### An exceptional experience, rooted in safety and security

- Continuous communication
- Integrated operations center
- Thorough operational readiness and transition plan
- Improvements to existing terminal while planning for its demolition



### Engaging retail and dining options

- National brands, local NY favorites
- Outdoor dining terrace
- Flexible space to adapt to changes of the future

While planning for demolition of the 50-year-old facility within three years, Vantage developed a plan that would ensure continuous communication with all terminal stakeholders, including passengers, airlines, government agencies and tenants. The plan also included an integrated operations center to efficiently manage resources throughout the terminal, a hallmark of Vantage airport operations, and a targeted strategy to address much needed improvements in the existing building.

To manage the transition of operations from the Port Authority at lease commencement, Vantage leveraged its expertise in transferring 20 airports from public to private management. Vantage outlined all aspects of the handover, including the creation of standard operating procedures.

Vantage also developed the commercial approach for the new terminal. This included an enhanced experience through a space that is 110% larger than the existing facility, an outdoor dining terrace with views overlooking the airfield and Manhattan skyline, and a mix of brands and seating styles.




 **Largest transportation P3 in the U.S.**

 **Market demand more than 10 times the debt issuance of \$2.41 billion**

 **Nation-leading participation goal for minority- and women-owned business enterprises (MWBE)**



*New York State Governor, Andrew Cuomo (center), breaks ground on the project alongside Vantage Chair and CEO, and inaugural LGP Chair, George Casey (far right) and executives from the Port Authority, Air Canada, American Airlines, Delta Air Lines, jetBlue, Southwest and United Airlines*

 **Multiple stakeholders, including the Port Authority, NY Governor's Office and 8 airlines**

 **Deal structure maximized value for airlines**

 **A template for future airport P3s**

## THE SOLUTION AIRLINE ENGAGEMENT



Airline operational priorities are always top of mind for Vantage when developing new airport infrastructure. However, engaging airlines during the Port Authority's procurement process was not permitted, which added to the challenge for proposers.

In order to meet the needs of airline business models and operations, Vantage redefined the project and used our

knowledge of rate-setting practices in the U.S. to develop a rates and charges structure that balanced the priorities of all parties. This maximized the likelihood of airline concurrence and minimized the possibility of disruptions that could lead to higher interest costs and project delays—another critical element in the overall structure of the deal.

Once permitted, LGP consulted with the 8 airlines operating at Central Terminal B. Through a concentrated and transparent engagement period, LGP was able to gain the support of the Central Terminal B airlines.

### Experience, collaboration and transparency combined to meet airline needs

- Anticipated airline priorities
- Focused on deliverability of rates and charges
- Developed an implementable strategy that aligned with airline priorities



# A New Airport for a New NY

NEW YORK STATE **Built to Lead**



## THE SOLUTION FINANCING



### The Port Authority of NY & NJ

\$1.200B funded by Port Authority

### LaGuardia Central Terminal B

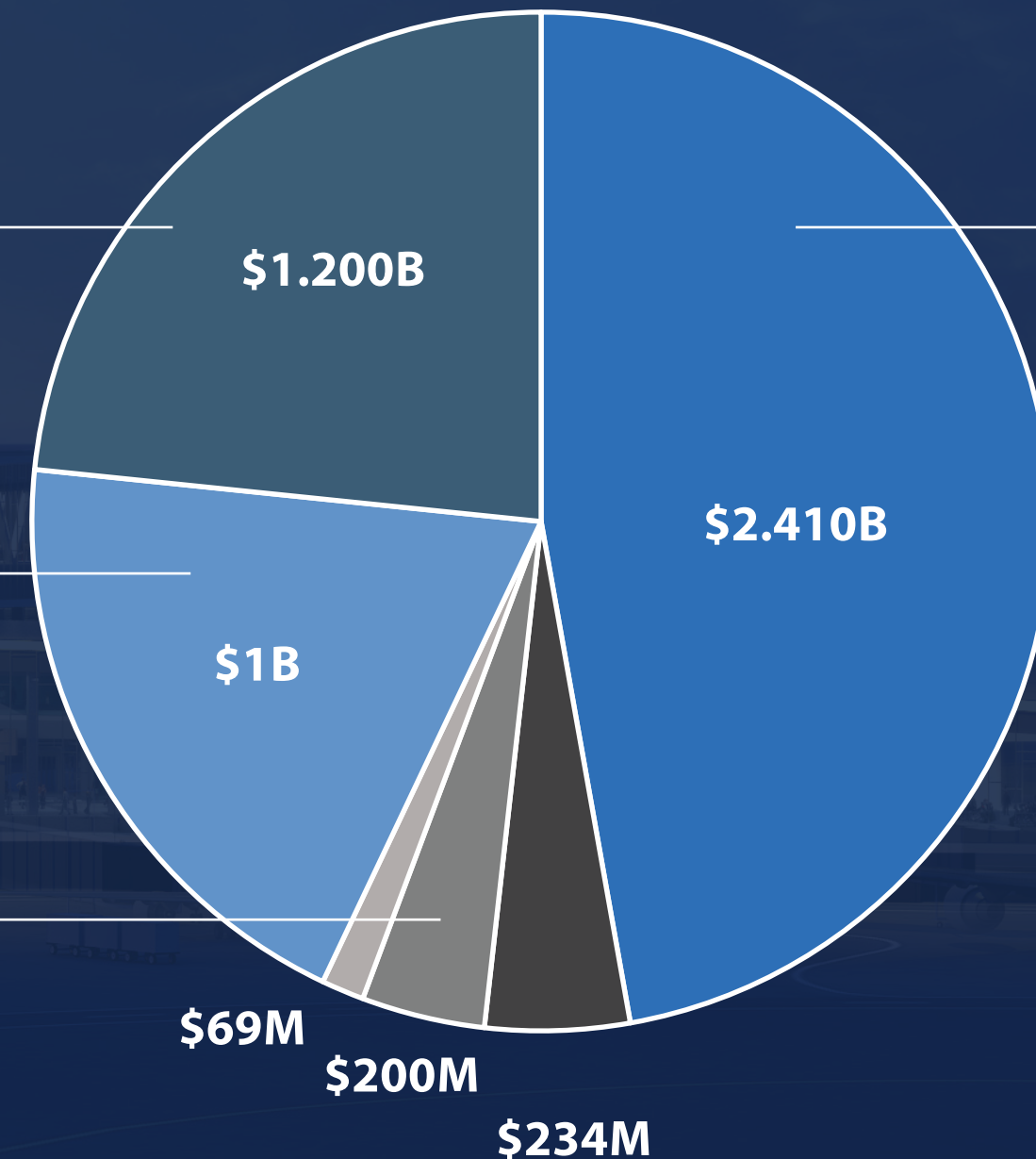
\$1B Passenger Facility Charge (PFC)

### Vantage, Skanska and Meridiam

\$200M in equity split between Vantage, Skanska and Meridiam

### Project Bonds

\$2.4B of the capital raised in project bonds



- Bond Fund
- Original Issuance Premium
- Owner's Equity
- Reinvested Operating Revenues and Interest Earnings
- PFC
- Port Authority

## THE SOLUTION FINANCING



The financing approach was fully integrated into every aspect of the project. LGP's alternative concept, which significantly de-risked construction, Vantage's experienced approach to operations, and

a highly implementable airline strategy allowed the project to obtain credit ratings of BBB/Baa3 from Fitch and Moody's respectively, demonstrating the deliverability of the financing plan.

Focused on a predominantly tax-exempt Special Facilities Bond debt solution, the financing plan also included \$200 million of equity contributed equally by Vantage, Skanska and Meridiam, as well as \$1 billion of passenger facility charges

to be contributed in the future by the Port Authority. Capacity of the U.S. tax-exempt Special Facility Bond market was closely monitored by LGP's underwriters Citibank, Wells Fargo and Barclays. A contingency financial plan involving \$500 million of private placement debt was also prepared to address any potential market capacity issues, but was not ultimately needed.

### TAX EXEMPT

\$2.26 billion of tax-exempt AMT bonds  
 Amortizing from 2030 – 2051  
 Average yield at pricing of 3.30%

### TAXABLE

\$150 million of Taxable Bonds  
 Amortizing from 2024 – 2030  
 Average yield at pricing of 3.46%

### STRUCTURE

Ascending debt service  
 6-month debt service reserve  
 BBB/Baa3 rating from Fitch/Moody's

### MATURITY

Taxable bonds mature from 2024 – 2030  
 Tax-exempt bond maturity commences in 2030  
 Tax-exempt bonds fully amortize in 2050





# THE RESULTS

Vantage's overarching perspective of the project at the outset culminated in a de-risked approach where every element worked together to offer a solution surpassing the Port Authority's objectives while appropriately balancing risks and benefits across all stakeholders.

On May 28, 2015, LGP was selected by the Port Authority as the preferred proposer for the LaGuardia Airport Central Terminal B Redevelopment Project. LGP entered into negotiations with the Port Authority, addressing technical, operational and financial aspects of its proposal. This included direct consultation with airlines where the team maintained its focus on a best-in-class operations plan and its rates and charges strategy to build trust and acceptance for the project.

Commercial Close was reached on May 24, 2016, followed shortly by Financial Close on June 1, 2016. The debt financing ultimately consisted of \$2.41 billion of predominantly tax-exempt Special Facilities Bonds. The de-risking of construction, strong track record of consortium members and airline

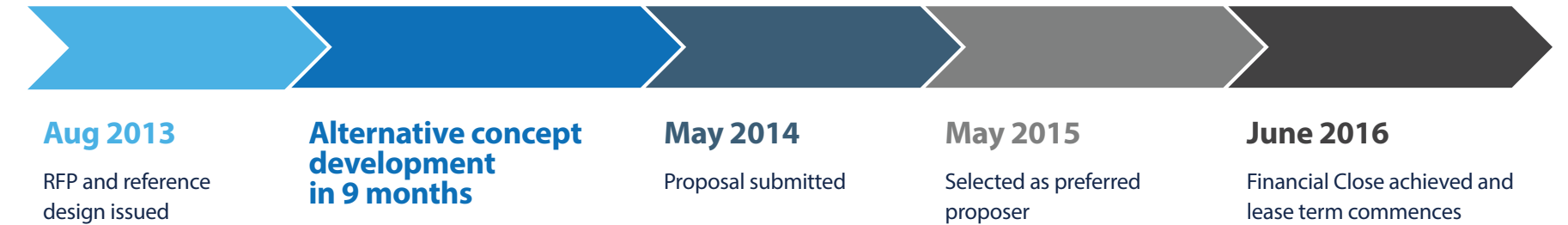
buy-in contributed to the bonds, priced on May 17, 2016, being more than 10 times oversubscribed, attracting interest from more than 150 investors and shattering records for absolute yields and credit spreads for a BBB credit.

On June 1, 2016, Vantage, as part of LGP, transitioned terminal operations from the Port Authority, officially welcoming the facility to our global airport network. This operational transition marked the start of the \$4 billion redevelopment project and 35-year lease agreement with the Port Authority, making it the largest transportation P3 in the United States.

Vantage, with our high-level and holistic approach to the project, developed a design concept, an operational plan, a commercial approach, and led negotiations with the airlines that enabled the team to structure a well-received financeable project. Our focus on partnerships with the Port Authority, airlines operating at the terminal, our LGP team, and other stakeholders contributed to the successful transition and ongoing operations of the existing terminal while working to deliver a new Central Terminal B.

## SUCCESS IN DEVELOPMENT

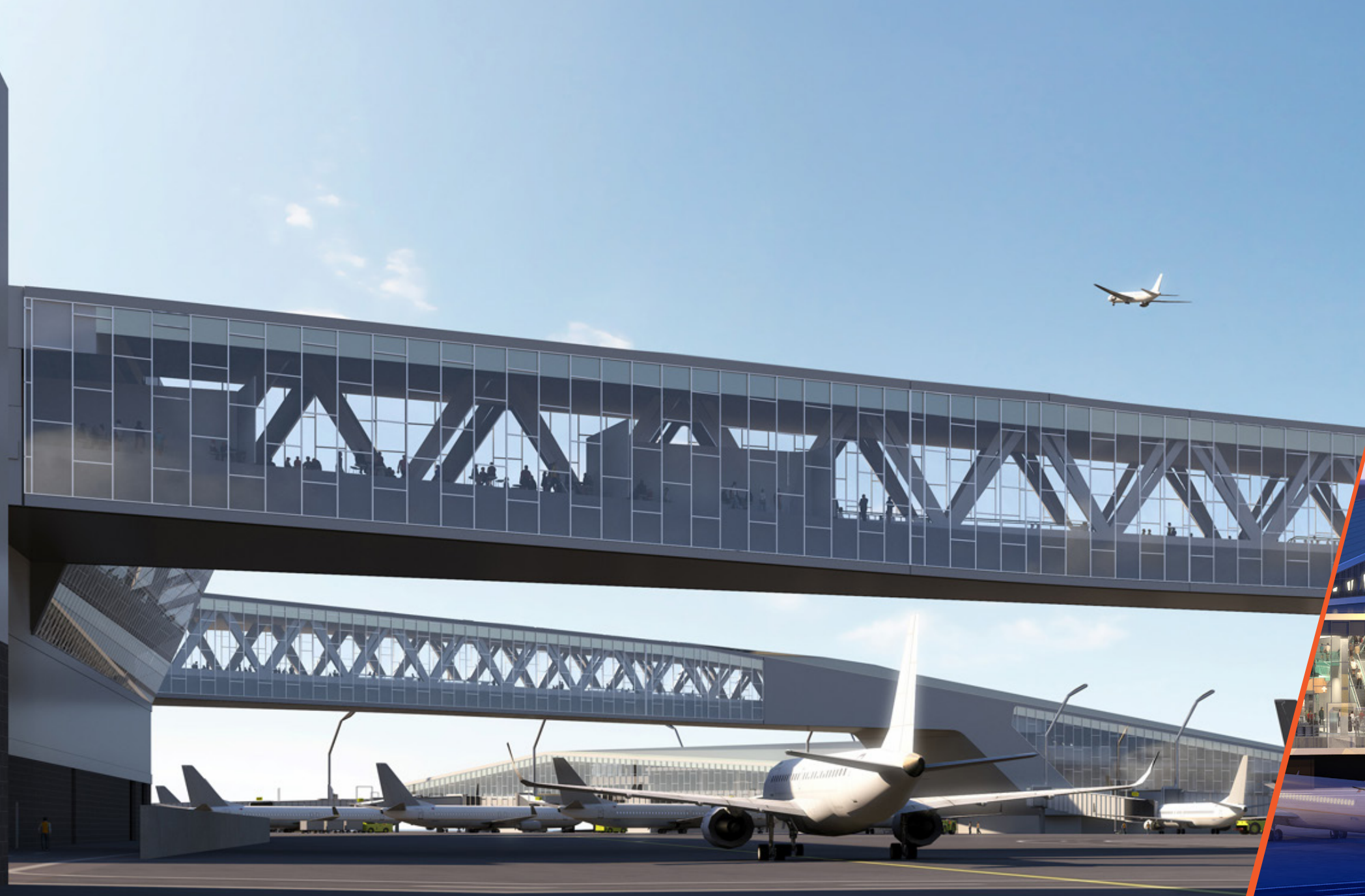
Redesign of terminal concept during 9-month bidding process



## A CATALYST FOR FUTURE AIRPORT P3s

In contrast to acceptance elsewhere in the world, in the U.S., private sector involvement in airport development and operations has been limited, and the FAA's airport privatization pilot program has had little impact. However, the significant investment need for aging U.S. airports is widely recognized, particularly for terminal and roadway capacity challenges in light of increased passenger traffic and larger aircraft.

As the largest transportation P3 project to reach financial close in the U.S., the LaGuardia Airport Central Terminal B Project is proof that P3s can be delivered for complex, large-scale airport redevelopment projects, shifting the financing, construction, management and operations risks to the private sector.



# AWARDS



## Bond Buyer

2016 Northeast Deal of the Year



## Infrastructure Investor

2016 Deal of the Year, North America



## PFI Awards

2016 Transport Deal of the Year, Americas



## Infrastructure Investor

2016 PPP Deal of the Year, North America



## IJ Global

2016 Deal of the Year, Americas



## Infrastructure Investor

2016 PPP Deal of the Year, Global





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The Finance and Revenue Generating Innovations Working Group has been actively supported by a range of airports, terminal operators, and industry participants.

### Airport & Terminal Participants

### Industry Participants

#### Leadership



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**Ginger Evans**  
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