LAGUARDIA AIRPORT CENTRAL TERMINAL BUILDING

BTY Project Case Study

What we learned as Lenders' Technical Advisors on one of the largest and most complex U.S. P3 projects.

Image Source: Governor State of New York www.governor.ny.gov

People to count on.
Knowledge to build with.

BTY.COM

THE LAGUARDIA PROJECT
AT A GLANCE

TYPE: Design-Build-Finance-Operate-Maintain (DBFOM) Public-Private Partnership (P3) with fixed price Design-Build (DB) component

ASSET/SERVICE:
- New Central Terminal Building (CTB)
- 2 new airside concourses, apron and taxiway reconstruction
- New Central Hall, landside highway and civil infrastructure improvements
- Total Lease Period: 34.5 years
- Construction Period: 6 years
- O&M Period: 28.5 years

TIMELINE: 2013-2016 (Prequalified Shortlist to Financial Close); Scheduled Terminal Opening: January 2020; Substantial Completion: August 2022

PARTNERS:

Public: Port Authority of New York and New Jersey (PANYNJ)

Private Equity Members:
- Vantage Airport Group (New York) Ltd.
- Skanska Infrastructure Development Inc.
- Meridiam Infrastructure North America

Lessee: LaGuardia Gateway Partners (LGP)

CONSTRUCTION:

Joint Venture:
- Skanska USA Building Inc.
- Skanska USA Civil Northeast Inc.
- Walsh Construction Company II, LLC

Capital Cost: USD $4 billion

BTY Roles: Lenders' Technical Advisor: Pre-Bid and Pre-Financial Close Due Diligence, Construction Monitoring and Payment Certification

GREATER PROJECT TEAM:

Terminal Operator: Vantage Airport Group

Sponsors' Advisors:
- Morgan Stanley & Co; Société Général (Financial Advisors)
- O'Melveny & Myers (Sponsors Legal Advisors)
- Hawkins Delafield (Lenders Legal Advisors)
- Citigroup Global Markets Inc.; Wells Fargo Bank; Barclays; Ramirez & Co; Siebert Brandford Shank & Co, LLC (Underwriters)
- Ernst & Young (Tax & Accounting)
- Alliant / JLT (Sponsors Insurance Advisors)
- Intech Risk Management (Lenders Insurance Advisor)

Design Team:
- HOK Architects
- WSP / Parsons Brinckerhoff

The Port Authority forecasts that LGA's passenger traffic will reach 34 million passengers by 2030, with 17.5 million passengers going through the Central Terminal Building.

Image Source: Governor State of New York www.governor.ny.gov

OVERVIEW

LaGuardia Airport (LGA) is a regional airport located on 680 acres in the Borough of Queens in New York City. Serving primarily domestic air travel markets in the most congested air space in North America– and a metropolitan area of approximately 19 million people – LGA is an integral part of the region's economic activity and serves an essential role in the transportation of people and goods.

RATIONALE

LGA operates under severe spatial and scheduling constraints and has outgrown its ability to service air traffic demand. Modern airline fleets are larger and deliver passenger loads that exceed the design parameters of the existing Terminal B building.

The CTB opened in 1964 with a design capacity of 8 million annual air passengers, enplaned and deplaned. The Port Authority forecasts that LGA's passenger traffic will reach 34 million passengers by 2030, with 17.5 million passengers in the CTB.

Seating, movement through the terminal, dining, restrooms, baggage handling, utilities, parking, terminals, and roads serving LGA are all past their useful life or undersized to meet current and anticipated growth in demand. The existing gates, aprons and taxiways – designed for aircraft of the early 1960s – now inhibit the movement of current planes, which are longer and wider. This and other airside constraints slow operations and increase airlines' costs for labor and fuel.

The CTB also does not meet the Transportation Security Administration (TSA) standards for floor space to accommodate security personnel, screening processes and equipment at passenger checkpoints and baggage areas. To correct these inadequacies and to meet these growing demands, the Port Authority sought to redevelop the CTB and enter into a long-term operating lease with a private entity.

OBJECTIVES

- Balanced terminal, airside and landside capacity to meet current and projected demand with optimal levels of service;
- Enduring design that:
  - is innovative and efficient;
  - can be easily adapted to changing needs and standards; and
  - incorporates sustainable strategies with respect to energy efficiency and water conservation.
- Enhanced efficiency of operations for the CTB, including airside, landside and roads;
- Improved terminal amenities;
- Fair and reasonable costs to tenant airlines;
- A common use platform, meeting the operational requirements of the airlines and other stakeholders;
- Improved movement of landside transportation, including cars, shuttles, buses, taxis and pedestrians; and
- Operations, maintenance and lifecycle renewal of the CTB to be unified under one entity.

CHOOSING THE P3 MODEL

The LaGuardia Project is part of the Port Authority's 10-year, $27.6 billion capital investment plan for the region's ports, airports, bridges and tunnels. The Port Authority chose the P3 model for the LaGuardia Terminal B redevelopment because of the high level of risk and the complexity of the project.

One of the biggest challenges on the brownfield redevelopment project required that airport operations continue smoothly through the six-year construction period, which will see an estimated 14 to 15 million passengers moving through the terminal per year. In addition, there are risks associated with complex aviation design criteria as well as the airlines' operational needs.

The Port Authority decided that working in partnership with the private sector would be the best option for transferring these project risks. As a result, it progressed with a P3 procurement model to take advantage of its inherent risk transfer and to engage the private sector's ability to develop innovative solutions to mitigate the challenges presented.

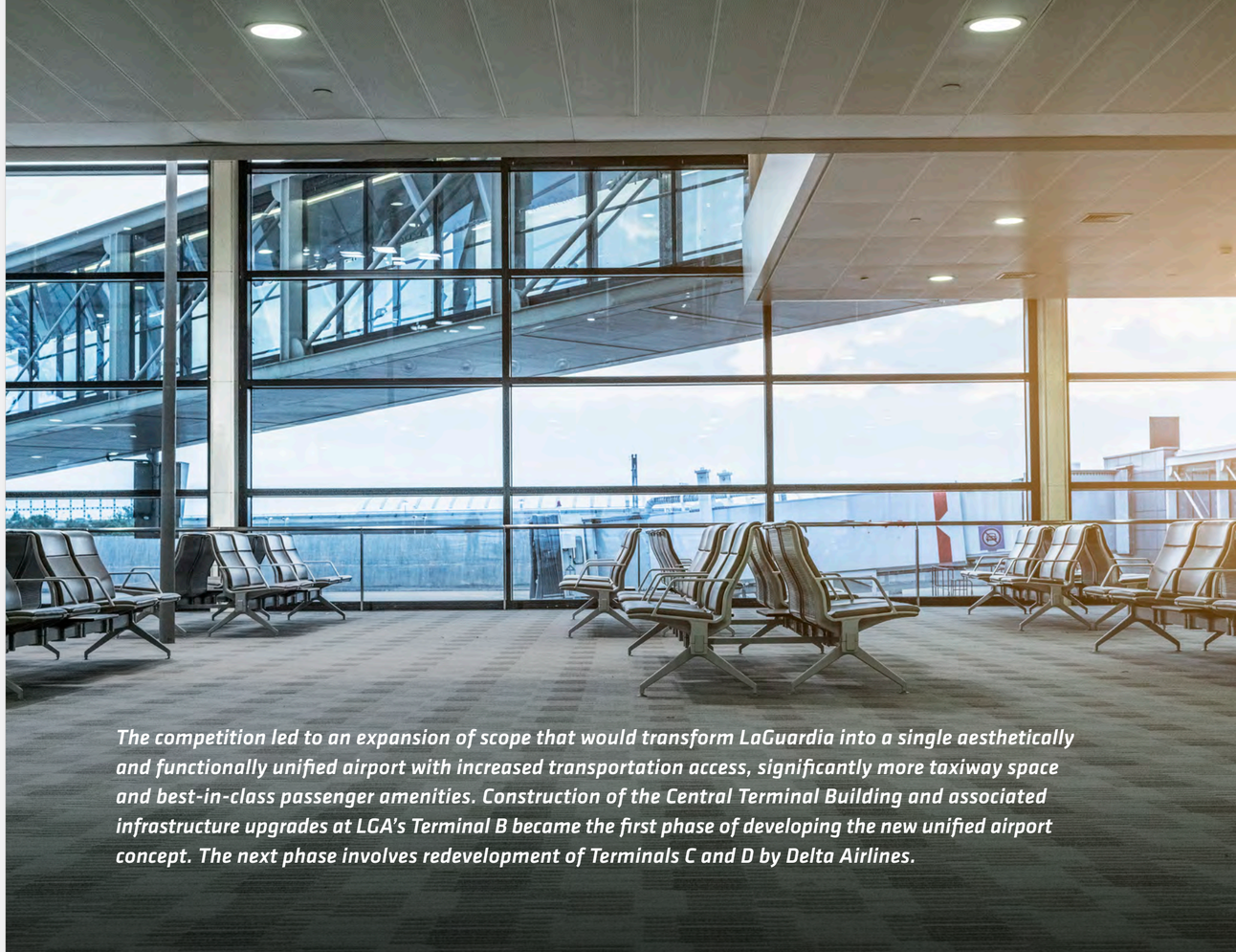
PROCUREMENT PROCESS

The procurement process was unusually long due in part to the size and complexity of the project and the decision to delay the selection of the preferred proponent pending the outcome of a separate redesign competition for LaGuardia, JFK and other airports in the state. The State of New York announced the competition in October 2014.

The competition led to an expansion of scope that would transform LaGuardia into a single aesthetically and functionally unified airport with increased transportation access, significantly more taxiway space and best-in-class passenger amenities. Construction of the Central Terminal Building and associated infrastructure upgrades at LGA's Terminal B became the first phase of developing the new unified airport concept. The next phase involves redevelopment of Terminals C and D by Delta Airlines on which BTY is also acting as Lenders' Technical Advisor.

RFI: December 2011; 16 respondents
RFQ: October 2012; 5 SOQ submissions
RFP: July 2013; 4 teams pre-qualified

Preferred Proponent: May 2015 (LaGuardia Gateway Partners)
Financial Close: June 2016



The competition led to an expansion of scope that would transform LaGuardia into a single aesthetically and functionally unified airport with increased transportation access, significantly more taxiway space and best-in-class passenger amenities. Construction of the Central Terminal Building and associated infrastructure upgrades at LGA's Terminal B became the first phase of developing the new unified airport concept. The next phase involves redevelopment of Terminals C and D by Delta Airlines.

PROJECT FUNDING PROFILE

CAPEX:	USD $4 billion
Sponsors' Equity:	USD $200 million
Debt:	USD $2.7 billion in Private Activity Bonds (PABs) USD $2.6 billion tax-exempt bonds USD $100 million taxable bonds
Maturities:	14 maturities running from 2030 through to 2051
Notes Value:	USD $10 million to $633 million
Yield Range:	2.69% to 3.55%

The Port Authority has committed $1 billion of passenger facilities charges to the Project. LGP will also utilize other non-airline revenues generated at the CTB.

PROJECT GOALS

The Project comprises the construction of a new Central Terminal Building, including:

- 2 satellite concourses;
- 35 new aircraft apron gates supported by a new taxiway system;
- New central hall to serve as an arrivals/departure portal that connects with Terminals C and D;
- Multilevel frontage roads and connecting roadways;
- New parking garage;
- A central heating and refrigeration plant;
- Hydrant aircraft fueling infrastructure; and
- Deconstruction and removal of the existing Terminal B.

The redesigned CTB features raised pedestrian bridges – elevated to allow aircraft to taxi underneath – that will take passengers to their gates on two airside island concourses, creating more space for efficient aircraft movement on the ground.

The new CTB will have 214 check-in counters and kiosks, baggage handling systems with a centralized in-line baggage screening facility, and 1,620 feet of baggage claim device presentation frontage.

The terminal will also house a variety of food, retail and beverage concessions that reflect regional and national offerings and spacious waiting areas with enhanced seating capacity.

The project aims for LEED Gold certification for sustainable design and permits ingress of natural light at all levels. It will be designed to meet all governmental and industry guidelines for environmentally friendly and sustainable buildings, and will comply with the Port Authority's sustainable building guidelines.

DESIGN INNOVATION IMPROVES MOVEMENT, REDUCES CONSTRUCTION STAGES AND MITIGATES RISK

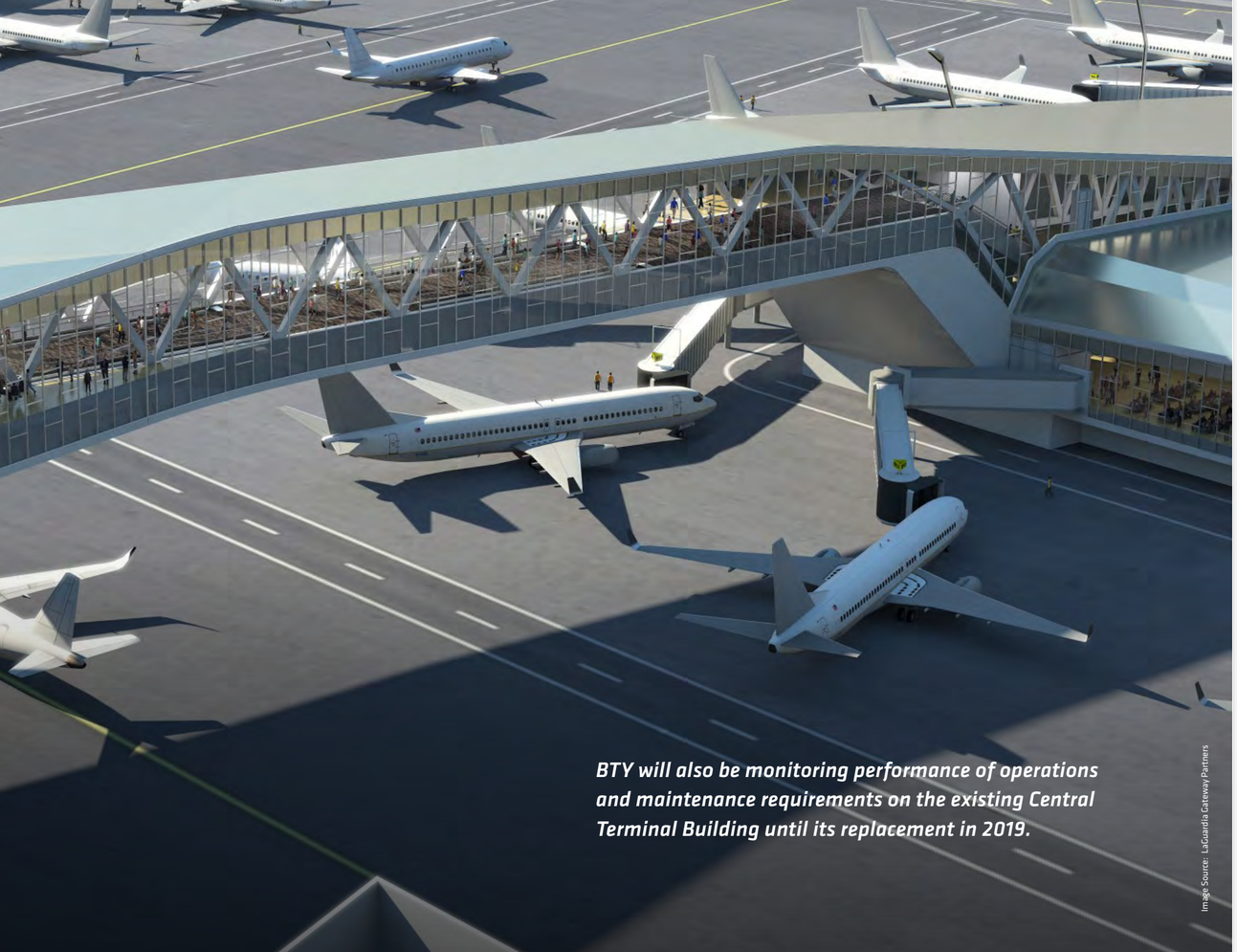
The LaGuardia Partners' proposal featured layout innovations when compared with the reference design. This enabled construction of the new CTB to take place completely offline from the existing road and terminal building infrastructure, facilitating a single turnover to the new Central Terminal Building mid-way through the construction period and enabling the number of construction stages for the project to be reduced from 18 to 12.

The reduced number of construction stages allows for larger segments of the new terminal to be built at a time, thereby reducing the logistics risk associated with the complicated phasing of the Project while creating a better experience for the travelling public during construction.

The proposed airside layout, incorporating the elevated walkways and island concourses, supports efficient, flexible and expandable aircraft movements and provides an operationally superior network of taxi-lanes. The geometry and placement of the two mid-field concourses have been designed so as to fully utilize each of the concourse perimeters for gates and aircraft parking.

Image Source: Governor State of New York www.governor.ny.gov

The proposed airside layout, incorporating the elevated walkways and island concourses, supports efficient, flexible and expandable aircraft movements and provides an operationally superior network of taxi-lanes.



BTY will also be monitoring performance of operations and maintenance requirements on the existing Central Terminal Building until its replacement in 2019.

Image Source: LaGuardia Gateway Partners

BTY ROLES ON THE PROJECT

Our role as the Lenders' Technical Advisor began in the Pre-bid stage, continued through Pre-Financial Close Due Diligence and is ongoing through Construction Monitoring and Payment Certification.

Through the pre-bid and pre-financial close stages, we analyzed technical risks presented by the Project, and we assessed site conditions, regulatory requirements, proposed design, schedule and project costs throughout the term of the lease, including both construction and operating periods. We also worked with the team to structure a security package that provides assurance to lenders while recognizing the technical nuances of the project's risk profile – and how that changes through the project's staged construction.

We will continue monitoring the new Central Terminal Building as it phases into operations, and the data collected will be key to determining and ensuring performance and levels of deductions do not impede project cash-flow or debt service.

SERVICES PROVIDED BY BTY:

- Risk Transfer and Risk Mitigation Review;
- Capital Expenditure Cost Estimate;
- Review of Project Co capabilities;
- Review of Design-Builder and Service Provider capabilities;
- Security Package Analysis;
- Contractor Replacement Scenario Analysis;
- Schedule and Constructability Review;
- Design Review;
- Construction Phase Monitoring for Lenders; and
- Design-Build Agreement Payment Certification.

LESSONS LEARNED

With more engagements on US P3s in the past two years than any other Technical Advisor, BTY is intimately familiar with not only the various delivery methods and commercial structures utilized in recent P3s, but also the benefits derived from this procurement method.

The opportunity to source private funding and the optimal risk transfer of design, construction, operations and maintenance functions are clear and well understood benefits.

Given the depth of BTY's portfolio of P3 projects spanning industry types, the LaGuardia CTB project has given us the opportunity to examine some of the unique features, advantages and opportunities of an aviation project specifically in the context of our greater experience with P3s and various P3 models. The following provides highlights of some key lessons learned so far in our engagement for the LaGuardia CTB project.

BUILD TIME IN THE SCHEDULE FOR REGULATORY APPROVALS

Every airport must meet a wide range of stringent regulatory approvals. The redevelopment of a high-profile schedule-driven project that remains operational during construction can expect to attract more intense scrutiny than a typical transportation P3. A project of this nature will also have more regulatory bodies as stakeholders, such as the Federal Aviation Administration, the airport authority, and state and municipal agencies, all or some of which may require input into construction submittals, permits and other approvals. It is crucial to build in adequate time in the schedule to allow for such considerations – and to provide delay relief to contractors.

STAY FOCUSED ON THE WHOLE PROJECT

LaGuardia has multiple funding sources, each of which has its own spending criteria for different aspects of the project. While achieving the substantial completion deadline is not necessarily tied to a specific funding source, it is critical to keep focused on the progress of the project as a whole while compartmentalizing funding sources.

DESIGN INNOVATION CAN MITIGATE RISK

If a key requirement and risk factor is maintaining continuous operations during construction, use design to mitigate that risk. The LaGuardia Partners design, which enhanced both passenger and aircraft movement, also made it possible to reduce the number of airside construction stages by a third – a significant mitigation of risk. That is a prime example of how private sector expertise can benefit public infrastructure.

SEQUENCING CAN IMPROVE PASSENGER EXPERIENCE

Construction sequencing will see the head house of the new CTB built on the site of the existing parking garage following its demolition. When the head house is complete, operations will move seamlessly into the new facility, and the old head house will be demolished.

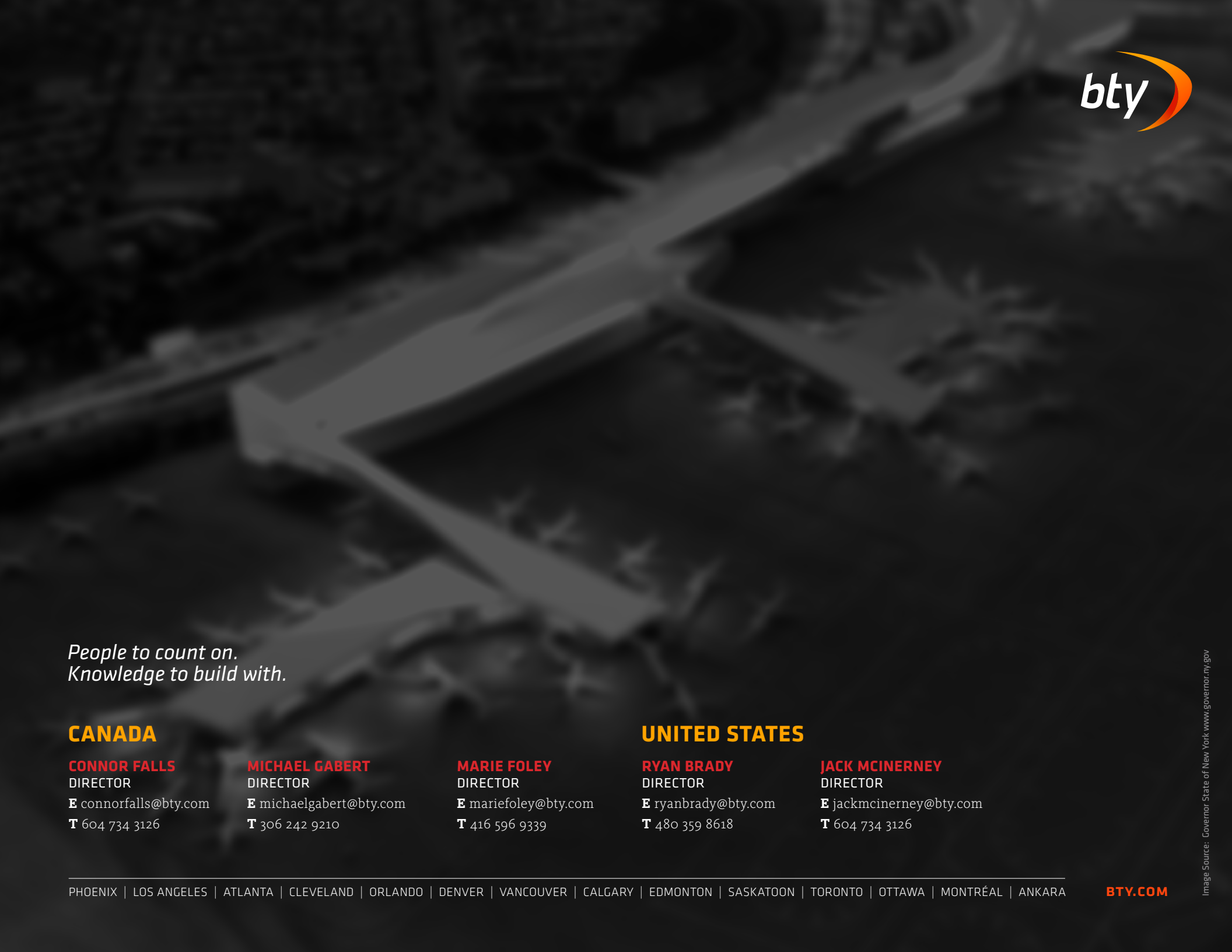
LEVERAGE OPERATIONAL DATA TO IMPROVE P3 PROCUREMENT

The construction and operational performance data that is becoming available through the LaGuardia Project – the largest and most complex P3 airport redevelopment in the U.S. to date – will jumpstart a foundational benchmark for analyzing and assessing performance standards for future airport P3 project procurement. The new knowledge base will enable optimal scheduling and payment mechanism calibration and analysis, as well as identification of lifecycle and operational and maintenance efficiencies.

IDENTIFY WHICH PROBLEMS YOU ARE TRYING TO SOLVE – AND GET THE RIGHT EXPERTISE FOR THE TEAM TO SOLVE THEM

There are many reasons to develop new airports, or redevelop existing facilities. However, each project will have its own requirements as well as challenges. Whether the goal is to expand capacity to meet increasing air demand, improve aircraft and passenger movement, or to upgrade retail services (to maximize revenue from passenger spending), it is essential to identify which problems – or combinations of problems – you are trying to solve.

That knowledge and preparation will guide your choice of the optimum procurement model for those goals – and which sets of specialized expertise the team will need to solve them (whether in aviation, airport retail, construction, security or ground transportation). An in-depth needs analysis conducted before selecting a procurement style will help identify the problems to be solved – and the best procurement method for solving them.



People to count on.
Knowledge to build with.

CANADA

CONNOR FALLS
DIRECTOR
E connorfalls@bty.com
T 604 734 3126

MICHAEL GABERT
DIRECTOR
E michaelgabert@bty.com
T 306 242 9210

MARIE FOLEY
DIRECTOR
E mariefoley@bty.com
T 416 596 9339

UNITED STATES

RYAN BRADY
DIRECTOR
E ryanbrady@bty.com
T 480 359 8618

JACK MCINERNEY
DIRECTOR
E jackmcinerney@bty.com
T 604 734 3126

Image Source: Governor State of New York www.governor.ny.gov