



Altus Group

Introduction to Infrastructure Advisory

Cost & Project Management

<https://www.altusgroup.com/services/en-us/infrastructure-advisory/>

May 11, 2021

Cost & Project Management

Altus Group's Cost and Project Management team is the leading provider of independent real estate advisory services in the private and public sectors, bringing proven real estate expertise and unparalleled data to help you plan, organize and implement a program that is on-budget, on-schedule, and meets project objectives.

We provide trusted and independent construction cost and project management. With expertise and access to the benchmarking data and cutting-edge software, our professionals empower effective project delivery across all asset types. Get the right advice for real estate and infrastructure projects at any stage from inception through operation.

Strategically manage project cost, time, quality, and performance outcomes to reduce risk, increase returns and keep every project on track.



60 years' experience established in 1958



1,000+ projects per year

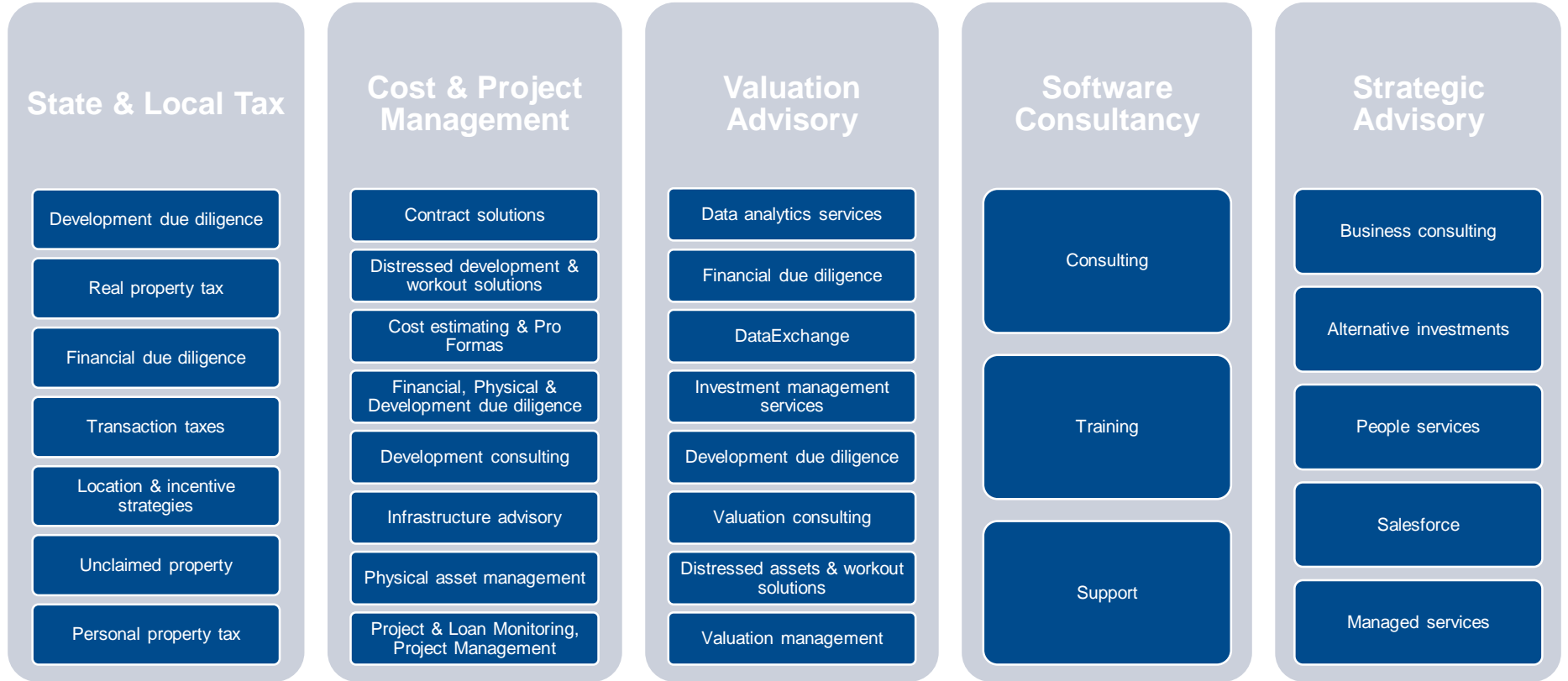


\$75B+ annual total project construction value across all sectors

Our team's accreditations

- Association for the Advancement of Cost Engineering
- Ontario Association of Certified Engineering Technicians & Technologists (OACETT)
- Professional Engineers (P.Eng)
- Project Management Professionals (PMP)
- LEED® Accredited Professional (LEED® AP)
- Royal Institution of Chartered Surveyors (MRICS / FRICS)
- Canadian Institute of Quantity Surveyors (PQS / PQS(F))
- Fellow of The Chartered Institute of Arbitrators (FCIArb)
- Member of The Association of Architectural Technologists of Ontario (MAATO)

Overview of Altus Business Units



Infrastructure Advisory

Public-private partnerships (PPP or P3) are complicated by their very nature – multiple stakeholders, differing goals, long-term financial commitments and public opinion all impact the outcomes.

Minimize risk and enhance control measures throughout the lifecycle of P3 assets with objective advice and expert services. Our team of infrastructure specialists foster transparency between public and private stakeholders with objective expert oversight and reporting.



Arts & Culture



Government



Infrastructure
(Linear & Social)



Sports & Recreation



Commercial
& Retail



Healthcare



Oil, Gas
& Energy



Water & Wastewater



Educational



Hospitality
& Gaming



Pharmaceutical



Industrial &
Manufacturing

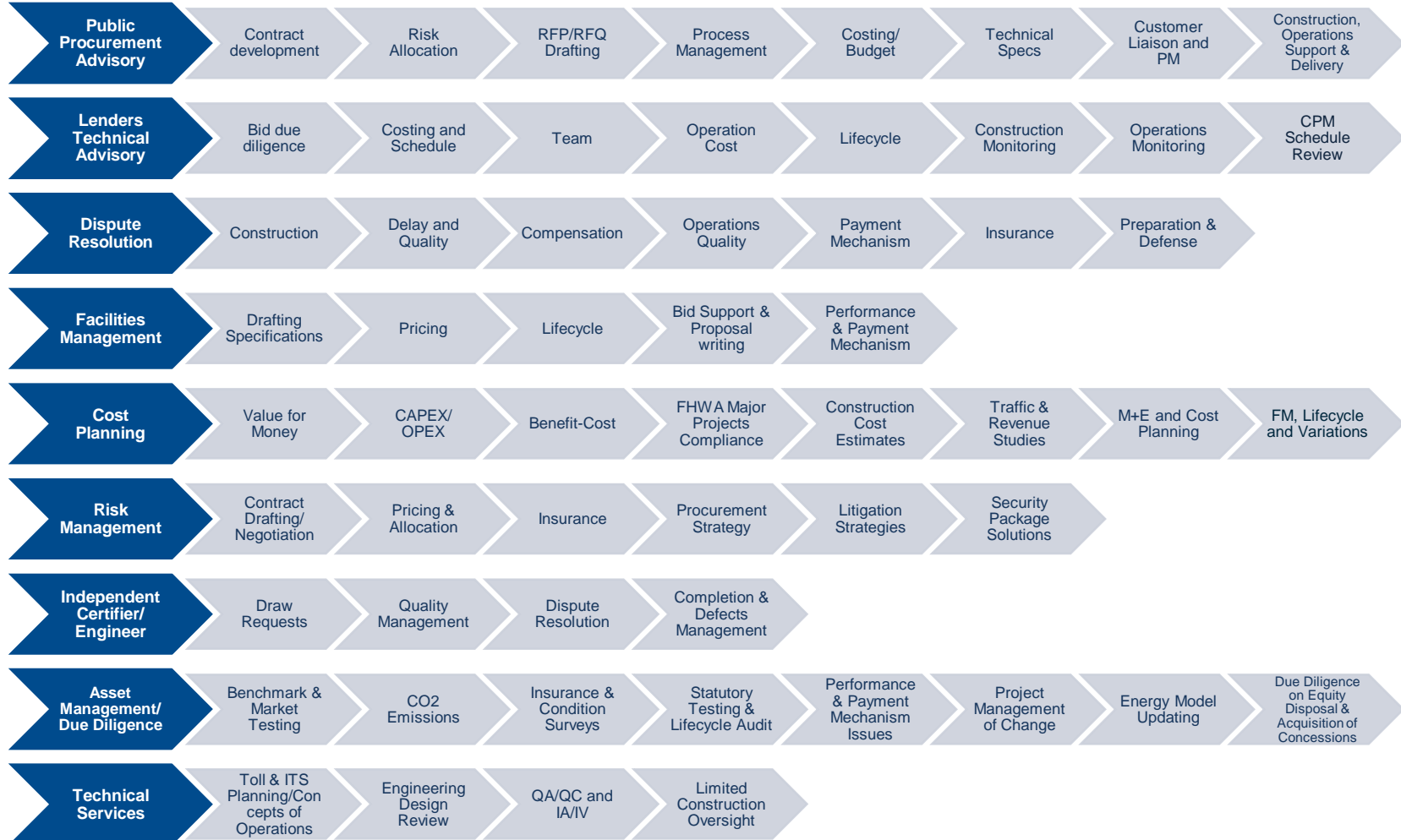


Residential
& Mixed use

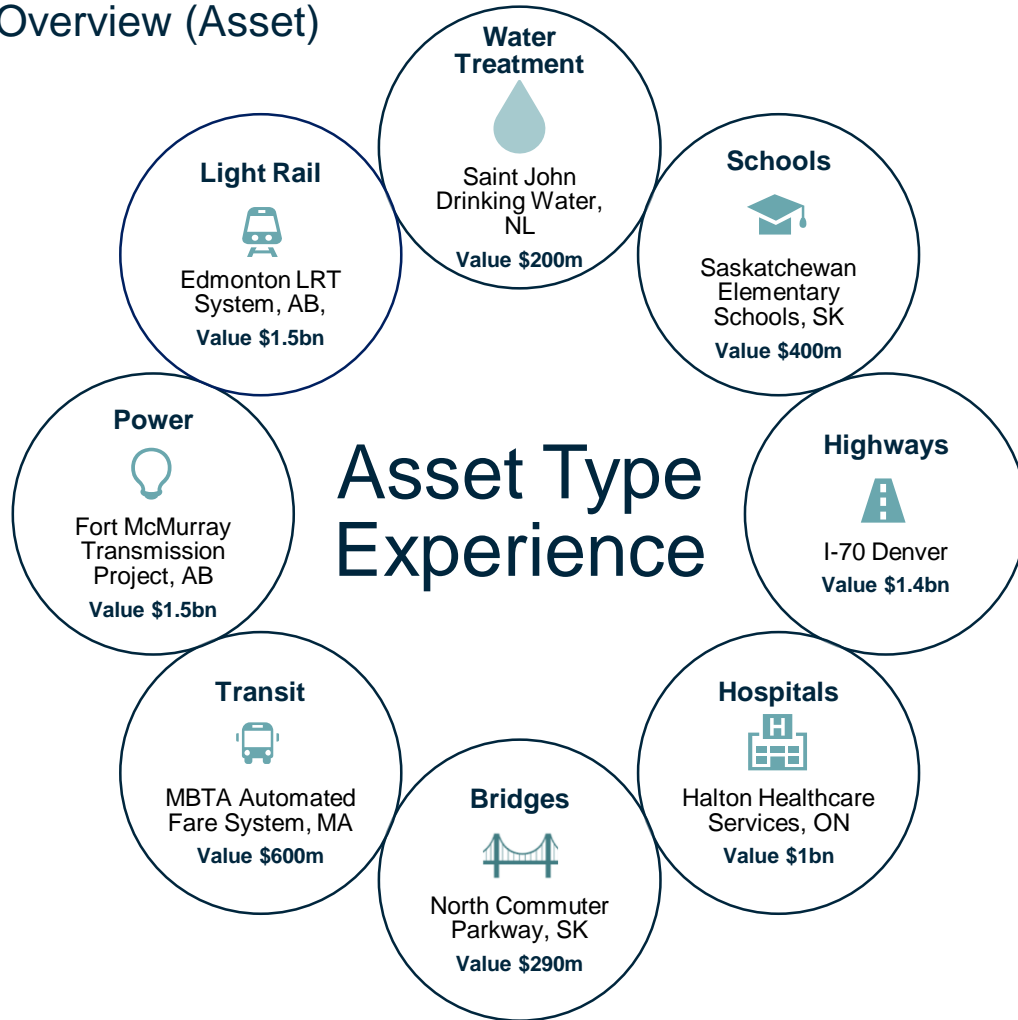
Services

- Feasibility & planning support
- Procurement advisory
- Lifecycle analysis & costing
- Lenders' technical advisory
- Independent certification
- Cost & schedule management
- Change & risk management
- Asset management advisory
- Technical services
- Dispute resolution services

Infrastructure Advisory Services



Infrastructure Advisory Overview (Asset)



US Infrastructure Project Experience



Project NEXT (I-495 Express Lanes)

Virginia
USD 485m, DBFOM
Owners Advisor (subconsultant)



DC Smart Streetlights

District of Columbia
DBFOM
Lenders' Technical Advisor



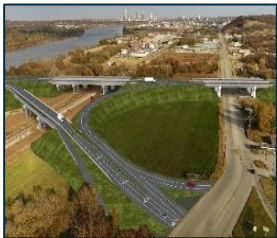
Central 70 (I-70)

Denver, CO
USD 1.5bn, DBFOM
Owners Advisor



I-75 Modernization

Detroit, MI
USD 500m, DBFOM
Owners' Advisor



Gilcrease Expressway West

Tulsa, OK
USD 290m, BF
Lenders' Technical Advisor



Fargo-Moorhead Flood Diversion

North Dakota
DBFOM
Lenders' Technical Advisor



Prince Georges County Schools

Prince George's County, MD
USD 1.2bn, DBFOM
Lenders' Technical Advisor



MBTA Automated Fare Collections

Boston, MA
USD 400m, DBFOM
Lenders' Technical Advisor



Altus Group

Case Studies

Gilcrease Expressway

Tulsa, OKLAHOMA

Project Overview

Delivery Model: BF

Expected Construction Cost: \$290M USD

Project Scope

- Extension of the Gilcrease Expressway West, Tulsa OK.
- Approx. five (5) miles of expressway extension of four-lane, divided toll highway
- New bridge over the Arkansas River, an additional 21 bridges and new interchanges
- Will operate as an all-electronic tolled facility (PIKEPASS and PlatePay systems)
- Construction of tolling gantries at locations to be determined by the Authority;
- Separate contract(s) will be procured by the Authority for the furnishing, installation and testing of the tolling equipment
- PA will require as part of the Contract Services the scheduling of construction to accommodate such furnishing, installation and testing of the tolling equipment.

Altus Services



Services: Lenders' Technical Advisor

- Currently providing project monitoring during the Construction Phase.

MBTA Automated Fare Collections Boston, MASSACHUSETTS

Project Overview

Delivery Model: DBFOM
CAPEX: \$465M USD

Project Scope

- This project is an automated, account-based open fare system for the MBTA.
- The system was created to replace the MBTA's current fare collections system and enable customers to pay fares by tapping contactless bank cards, mobile phones and fare cards.
- This project demonstrates Altus knowledge of Transit P3, knowledge of availability payment methodology, ability to support projects from initial proposal through implementation, and our knowledge and expertise in understanding the perspective of owners, project proponent and financiers.
- It also demonstrates our ability to support successful project delivery in a highly regulated, cross-jurisdictional environment.

Altus Services



Services: Lenders' Technical Advisor

- Successfully provided due diligence review during pre-bid phase.
- Project reached Financial Close in July 2020.
- Currently providing project monitoring during the Construction Phase.

Fargo-Moorhead Flood Diversion Channel Fargo-Moorhead, NORTH DAKOTA

Project Overview

Delivery Model: DBFOM

Estimated Construction Cost: \$1B+ USD

Project Scope

- This DBFOM Project involves the construction of a 20,000 cubic feet per second, 30-mile long, 1,500-foot-wide flood diversion channel within the Fargo-Moorhead Metropolitan Area in North Dakota.
- Key scope items include the flood diversion channel, a diversion channel outlet, two pairs of interstate highway bridges, 10-12 country road crossings, 3 to 4 railroad bridges, two aqueducts and other associated structures.

Altus Services



Services: Pre-Bid Lenders' Technical Advisor

- Successfully provided due diligence review during pre-bid phase.
- RFP bid submission was in April 2021.
- Currently awaiting selection of Preferred Proponent.



Altus Group

Our People

Canada Leadership – Mr. Paul Hughes, Senior Director



Paul Hughes M.Sc., FCIArb, FRICS
Senior Director

 30+ Years of Industry Experience

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Paul is a successful business leader in Public Private Partnerships (Infrastructure Development) with extensive experience in the construction, property and business outsourcing sectors. Paul possesses excellent analytical skills with drive and focus on enhancing success on earnings on multimillion and billion-dollar projects and outcomes through good relationships and service agreements. He is a collaborative, articulate and an excellent negotiator with a track record of success. A relationship builder, uniting cross functional teams and organizations to build consensus and solutions to achieve objectives.

Paul has previously held high-level executive positions as Senior Vice President – PPP Asset Management and Project Management (Carillion Canada, Toronto, Ontario, 2006 to 2013), Commercial Director (Carillion National Building, 2005 to 2006), General Manager and Director (Carillion Specialist Services, 2003 to 2005).


- *John Hart Generating Station*
- *Ottawa LRT Confederation Line*
- *Humber River Hospital*
- *ESAP Energy Modernization*
- *Emily Carr University, Design & Arts Building*
- *Saint John Safe Clean Drinking Water Project*
- *Macdonald Block Redevelopment*
- *William Osler Health System - Peel Memorial Centre for Integrated Health and Wellness*

US Leadership – Mr. Roger Boothe, Director, Infrastructure US



Roger Boothe MBA, PMP, DBIA
Director, P3 Infrastructure

 30+ Years of Industry Experience

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 roger.boothe@altusgroup.com

Roger Boothe is a public-private partnership advisory expert with emphasis on Tolling & Traffic Management. Expertise in Systems Engineering with emphasis on the “left side of the V Diagram”. Thirty years of experience in the transportation industry, with leadership roles in some of the United States’ largest highway P3s, with constructed costs in the billions of dollars.

Unique perspective combining private-sector and government work experience and knowledge, with emphasis on planning, programming, investment, contracts and financial management, and construction of Transportation Infrastructure, Asset Management and Intelligent Transportation Systems. Expert in all elements of Public/Private project financing models and Design/Build project delivery model. Experienced in a broad spectrum of strategic, marketing, project management and communications activities; expertise in finance, business management, and strategic planning

- *Georgia SR400 Express Lanes*
- *Maryland I-495/I-270 P3 Program*
- *Project NEXT (495 Express Lanes)*
- *Gilcrease Expressway*
- *I-10 Mobile River Bridge*
- *MBTA Automated Fare Collections System (2.0)*
- *Fargo-Moorhead Flood Diversion Channel*
- *DC Smart Street Lights*

Infrastructure Advisory Team

