



AN INTRODUCTION TO OUR

# AVIATION SECTOR SERVICES

# DELIVERING WORLD-CLASS AVIATION SOLUTIONS



300+

number of different airports worked on across 32 countries

200+

employees with aviation project experience

50+

aviation specialists, including six qualified pilots

## AIR TRANSPORT IS ESSENTIAL TO THE EVERYDAY LIFESTYLES OF MILLIONS OF PEOPLE GLOBALLY. AT WSP, WE UNDERSTAND THE COMPLEX INTERACTIONS BETWEEN THE INDIVIDUAL COMPONENTS OF AN AIRPORT AND EXACTLY WHAT IS NEEDED TO MAKE A WORLD-CLASS AIRPORT WORK.

This understanding is derived from having delivered projects at more than 300 different airports across 32 countries worldwide.

Our extensive multidisciplinary capability enables us to provide a full range of design, project management and environmental services at every stage of an aviation project – from strategic planning and analysis, through architecture, engineering and construction, to maintenance and operations.

At WSP, we believe that our success is based on our clients' success. We focus on building long-term relationships that enable us to support our clients to realize their objectives. Our clients choose WSP because we combine specialist expertise with a comprehensive understanding of the challenges they face.

### WE PROVIDE SUPPORT TO

GOVERNMENTS &  
REGULATORY AGENCIES

AIRPORT AUTHORITIES

AIRPORT OPERATORS

AIRLINES

CONTRACTORS

ARCHITECTS

### OUR GLOBAL PROJECT COVERAGE TO DATE





## OUR AVIATION SERVICES

OUR LARGE-SCALE IN-HOUSE TEAM OF AVIATION SECTOR SPECIALISTS ENABLES US TO ASSEMBLE CUSTOMIZED PROJECT DELIVERY TEAMS FOR ANY AVIATION PROJECT WORLDWIDE. WE CAN OFFER EXPERT CONSULTANCY FOR SPECIALIST INPUTS, OR CREATE MULTIDISCIPLINARY TEAMS TO DELIVER FULLY INTEGRATED SOLUTIONS, TAILORED TO THE SPECIFIC NEEDS OF EVERY PROJECT.



### MANAGEMENT

Project Management  
Design Management  
Construction Management  
Quality Management



### MASTER PLANNING, FACILITY SIZING & REGULATIONS

Terminal and Facilities Planning  
Airfield Planning  
Master Planning  
Capacity Analysis & Development Phasing  
Regional & National Policy Studies  
Simulation & Modelling  
Regulation Performance Reviews  
Regulatory Compliance Audits  
Aerodrome Certification  
Municipal Integration



### STRATEGY, FORECASTING & FINANCIAL ANALYSIS

Demand Forecasting  
Economics  
Strategy  
Market Research & Benchmarking



### PASSENGER TERMINALS, CONTROL TOWERS & OTHER AIRPORT BUILDINGS

Functional Layout Planning  
Passenger Flow Analysis & Simulation  
Architecture & Interior Design  
Civil & Structural Engineering  
Mechanical Engineering  
Electrical Engineering  
Vertical Transportation  
Façade Engineering  
Baggage & Other Specialist Systems  
Fire Engineering & Life Safety  
Lighting Design  
Security



### AIRSIDE INFRASTRUCTURE (RUNWAYS, TAXIWAYS, APRONS)

Airfield Pavements & Apron Systems  
Aeronautical Ground Lighting  
Signage and Markings  
Ground Support and Associated Facilities  
Surface Water Drainage  
Stormwater Management  
Runway End Safety Area (RESA)  
De-icing Facility  
Field Electrical Centre (FEC)



### LANDSIDE INFRASTRUCTURE (SURFACE ACCESS, UTILITIES)

Integrated Surface Access Planning  
Road  
Rail  
Automated People Mover Systems  
Bridges  
Tunnels  
Car Parking Facilities/Revenue Systems  
Power, Telecomms, Gas  
Water, Sanitary, Storm



### AIRSPACE, NAVIGATION & METEOROLOGICAL AIDS

ATC Tower Sight-Line Studies  
Approach Lighting Systems  
Air Navigation Coordination  
Obstacle Limitation Surfaces  
Aircraft Instrument Approaches  
Meteorological Facilities



### CARGO, TESTING & FIXED BASE OPERATOR FACILITIES

Cargo Centre Maintenance  
Maintenance Hangars  
Specialist Engine Testing Facilities  
Fixed Base Operator Facilities



## COMMUNICATIONS & IT NETWORKS

IT/Communications  
Audio Visual  
Passenger Information Systems



## AIRPORT SAFETY & SECURITY

Security Strategies  
Threat Identification & Risk Assessments  
Fire & Life Safety  
Safety Management Systems & Training  
Quality Assurance Auditing  
Aircraft Rescue and Fire Fighting (ARFF)  
Facilities Planning & Design  
ARFF Operational Assessments



## ENVIRONMENTAL, SUSTAINABILITY & WASTE MANAGEMENT

Social & Environmental Pre-Feasibility  
Environmental Assessment  
Carbon Management & Climate Change  
Policy Development & Positioning  
Environmental/Sustainability Performance  
Sustainable Design  
Acoustics/Noise & Vibration  
Waste Management  
Bird Strike Hazard Analysis  
Wildlife Programme Management



## AIRPORT OPERATIONS ADVISORY

Operations Manuals  
Meteorological Analysis  
Instrument Approach  
Procedure Assessment



## AIRPORT CITIES, FREE TRADE ZONES

Airport Cities/Aerotropolis  
Free Trade Zones  
Bonded Warehousing  
Express Logistics Facilities  
Land Use Planning



## HELIPORTS

Surface-Level & Roof-Top Heliports  
Heliport Design & Certification  
Flight Path & Obstruction Zoning Analysis



## TECHNICAL & BUSINESS ADVISORY

Public Private Partnerships (P3)  
Privatization, Finance & Funding  
Business Planning  
Due Diligence  
Tender Management & Support



## SOFTWARE SOLUTIONS

Airport Landing Fee & Revenue  
Management (ALFA)  
Airport Land Use Analysis &  
Management (AVGIS)



## OUR PROJECT EXPERIENCE

WSP HAS AN IMPRESSIVE PORTFOLIO OF PROJECTS IN THE AVIATION SECTOR HAVING DELIVERED MORE THAN 600 INDIVIDUAL AVIATION PROJECTS WORLDWIDE. BELOW ARE SOME SELECTED PROJECT EXAMPLES.

600+

individual aviation  
projects completed  
Worldwide



### 1 FORT McMURRAY AIRPORT, CANADA

Client: Fort McMurray Airport Authority

Project Value: CDN\$243 million

Status: Completed

Services: Planning, Regulatory Compliance, Engineering, Project Management and Construction Administration.

Description: The international airport at Fort McMurray has been redeveloped and expanded. This project consisted of an airfield expansion with four new taxiways, apron and associated visual and electronic navigational aids to support CAT I precision approaches. The expanded airside facilities, including a new terminal building, now accommodate up to eight gated aircraft positions, ranging from regional jets to B747 aircraft.

### 2 PROVIDENCIALES INTERNATIONAL AIRPORT, TURKS AND CAICOS ISLANDS

Client: Turks & Caicos Islands Airports Authority (TCIAA)

Project Value: CDN\$40 million

Status: Completed

Services: Detailed Design, Design and Project Management, Airport Planning, Airfield Civil, Electrical Engineering, Operational Planning, Structural Engineering, Construction Supervision Inspection, Geotechnical, Quality Assessment.

Description: The airside engineering and design services included various conceptual designs which ultimately resulted in a 1,748 ft. runway extension, reconstruction of existing apron including 48,000m<sup>2</sup> concrete apron expansion, new connecting taxiway, 7.7km of perimeter security fencing, asphalt overlay of all existing pavement surfaces and replacement of the airfield electrical systems.





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### 3 IQALUIT INTERNATIONAL AIRPORT

**Client:** Government of Nunavut  
**Project Value:** CDN \$300 million  
**Status:** Ongoing

**Services:** Geotechnical, Site Planning, Infrastructure Assessment, Schematic Design, Technical Specifications, Quality Assessment.

**Description:** This capital project, the first Public Private Partnership (P3) of its kind in Canada, will see the construction of new airside surfaces, a new combined services building and new 10,000m<sup>2</sup> international airport terminal facility which will replace the current facilities. WSP was retained to work on the Owner's behalf to oversee technical aspects for all project elements.

### 4 LONDON HEATHROW TERMINAL 5 – SATELLITE BUILDINGS, UNITED KINGDOM

**Client:** British Aviation Authority (BAA)  
**Project Value:** CDN\$6.4 billion  
**Status:** Completed

**Services:** Civil Engineering, Structural Engineering, Mechanical Engineering, Electrical Engineering, Environmental Assessment.

**Description:** Terminal 5 is a new terminal at London Heathrow Airport, and the main building is the largest free-standing structure in the UK. This project also included the delivery of two new satellite buildings, a visual control room, railway station, multi-storey car park and new road connections, as well as ancillary structures, forward maintenance units, ground pens, fuel farm and de-icing stores, completed to a fast-track construction programme.

### 5 HAMAD INTERNATIONAL AIRPORT – AIRPORT CITY, QATAR

**Client:** New Doha International Airport (NDIA)/ Office for Metropolitan Architecture (OMA)  
**Project Value:** CDN\$10 billion

**Status:** Ongoing

**Services:** Engineering and Environmental Services Masterplanning Process.

**Description:** Hamad International Airport (HIA) is a new airport constructed on reclaimed land south-east of Doha, due to open in 2014. The HIA Airport City project established a masterplan for the future expansion of the airport and the construction of a new airport city, maximising the long-term benefit of the airport to Doha. The Airport City will include new headquarter complexes for Qatar Airways and Qatar Civil Aviation Authority, a major railway interchange, and commercial and residential development.



## ABOUT WSP

WSP and Parsons Brinckerhoff have combined and are now one of the world's leading engineering professional services consulting firms. We bring together our 34,000 staff, based in more than 500 offices, across 40 countries to provide engineering and multidisciplinary services in a vast array of industry sectors, with a focus on technical excellence and client service.

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