Taking airport design to new heights

Airports
1 in 3 passengers in North America will go through an airport where we have completed a major project.
We’re taking airport design to the next level. From roadway to runway, from full terminal design to retail tenant, our deep understanding of airport operations drives us to create airport destinations that are more efficient, more memorable, and safer than ever before.
Happy passengers, increased traffic, successful airports.
Projects completed at over 200 airports worldwide. Client relationships lasting over 20 years. We have a deep understanding of airport operations and the in-house expertise necessary to deliver a successful airport project.

Working with our clients, we uncover and celebrate the unique cultural, geographical, and topographical aspects of their region and country, and integrate it into our designs. We also use art and architecture to differentiate our airport projects and make them more enjoyable and easier to get around. We apply our extensive retail design expertise to make shopping a natural part of the travel experience, and respond with creativity to make essential safety and security requirements as seamless and non-intrusive as possible.

Outside the terminal, our runway and taxiway work has laid the foundation for airports across North America. Whether we’re developing energy-efficient approaches to runway surfacing, applying electrical and lighting designs to make every take-off and landing safe, or designing airport roadways that are easy to navigate, our goal always is to get eager travelers on their way with ease, while bringing greeters and loved ones together just that little bit faster.

We use design to help make our clients’ airports more enjoyable, profitable, and efficient; we use it to help take them to new heights of success.
For most passengers, there’s a certain sensory rush at lift-off. At its core, the sensation is gravity-defying. Which is why it takes such specialized engineering skill to ensure each takeoff occurs without incident. At Stantec, we work hard to keep every leg of the passenger journey safe and efficient. We design runways, taxiways, and aprons; lighting and navigational aids; refueling systems; and perform safety area studies and upgrades; utility engineering, and pavement management studies with the passenger first and foremost in our minds.

Airport pavements have traditionally been designed and constructed to a higher standard and tolerance than other pavements. However, growth in aircraft traffic and the introduction of larger aircraft have impacted pavement performance and service life. We work closely with airports on all aspects of asphalt and concrete pavements for runways, taxiways, and aprons, providing design specifications, maintenance programs, and construction management and quality control along the way. Like every other piece of an airport, we’re always looking for better ways to do things. As part of our research and development initiative to explore the potential benefits of using Warm Mix Asphalt (WMA) on airport construction projects, we recently prepared a special study at Logan International Airport on the environmental benefits and construction efficiencies of using WMA pavements.

Keeping airports open and safe during these projects is essential. We create logical and realistic phasing plans that reduce impacts to airport operations, make safety a priority, and enable airports to go further with their services in the long run.

1 Runway reconstruction, Greenville Municipal Airport, Greenville, ME
2 Runway and taxiway rehabilitation, Logan International Airport, Boston, MA
3 Engineered Materials Arresting System with integrated ALSF-2 lights, Logan International Airport, Boston, MA
airport terminal design projects worldwide.

Kopperscape at US Departures Lounge, Edmonton International Airport, Leduc, AB
Have you ever heard the phrase “getting there is half the fun”? The right airport can complement a great travel experience by making it easy for passengers to find their way through check-in, bag drop, and security, and to get to their gate. It also provides opportunities to eat, shop, and relax along the way.

We don’t just design the terminal, we design the entire passenger experience. That’s why our airport designs consistently rank in the top 10 in independent passenger satisfaction surveys. We integrate important features directly into our designs, like intuitive wayfinding, art installations that act as memorable place-making devices, and retail, food, and beverage facilities that deliver the level of quality and variety that sophisticated customers expect.

We collaborate with you and all airport stakeholders—passengers, airlines, authorities having jurisdiction, tenants, and the local community—whether we’re designing a renovation, expansion, or brand-new terminal building. And when it’s time to build, we know how to plan the work for the least possible disruption to airport operations.

We can’t control missed connections or weather delays, but when your passengers are “stuck at the airport,” we do all we can to make sure they don’t feel that way.

**Designs that feel like destinations**
Eat. Shop. Relax. And do it all while you’re checking in, stopping over, or leaving for a vacation or business trip. This is what today’s passenger expects, so an effective and attractive retail program is an important part of any modern commercial airport terminal. The ingredients for success are simple—blend award-winning airport terminal design expertise with proven experience in high-visibility, high-impact, and high-performance retail design. Few companies have what it takes to successfully combine these ingredients. We do.

From the retail master plan to the individual tenant design guidelines, we know how to create places where passengers can relax over a meal or a drink, make a few purchases, or rejuvenate with a massage. We create shops where passengers can buy gifts for those who stayed home, replacement items for essentials that got left on the bed, souvenirs to remember the trip, simple pleasures, and luxury indulgences. Our concession planning approach puts the right mix of stores in the right places, in a way that celebrates local culture while complementing the airport’s design. And we know how to do it in a manner that maximizes the airport’s revenues without compromising efficiency.

The result? An airport that elevates both the passenger experience while maximizing revenue potential.
We know airports. And we know retail. So we know that successful airport retail store design needs to draw from both pools of knowledge, equally.

Even within a single airport, signage zones, storefront feature zones, blade signs and closure lines take on different meanings in pre-security and post-security areas, and in stores that are located within holdrooms versus in-line food and beverage installations. Passengers passing through each of these areas have different priorities, which lead to different dwell times and flow routes. We design stores for airports, stores that understand passengers.

To draw in passengers, airport stores must successfully project their own brand identity while respecting the local circumstances and brand identity of the airport. We believe that airport retail programs can successfully combine global brands with local flair and flavor. Our services, from award-winning interior design to image branding and development, make airport retail work.
Travel can be stressful. That’s why the infrastructure surrounding an airport—the roadways, parking spaces, walkways, and transit facilities—and the infrastructure underneath the airport, such as the utilities and drainage, are so important. They’re often the first thing your passengers experience, and we want that first impression to be positive and lasting.

We make it easier to start the journey. We’ve developed bypasses and roundabouts, urban connectors, and intersection upgrades for many primary, secondary, and local roadways, along with upgraded access for numerous airports. No one’s getting lost on our watch. And we look at the whole site, completing engineering analyses to identify existing on-site and off-site utilities, potential system upgrades to meet current and future project demands, and efficient utility corridors. We pay the same attention to our parking facilities, creating spaces that welcome passengers and make them feel secure in leaving their vehicle as they begin the next phase of their journey.

We understand the need to create a seamless travel experience from landside to airside and, eventually, back again.

1. JFK International Airport Delta Terminal 2 and 3 Renovations, New York, NY
2. Winnipeg International Airport Parkade, Winnipeg, MB (Stantec Architecture + Pelli Clarke Pelli)
3. Lynden Pindling International Airport, Nassau, Bahamas
Baggage?
Check.

The average passenger doesn’t think about how his or her bag gets from check-in to carousel, but we do. And we’re always thinking of ways to make that trip more efficient, more accurate, and safer.

From conveyor design restraints to sorting and screening requirements, from coordination with existing building systems to accommodating future terminal system expansion, we’ve met the challenges that make baggage system design so specialized. We use that understanding to create solutions that meet the financial, functional, and operational goals of airport designers, operators, airlines, and other stakeholders.

Feasibility studies. Structural analysis. Simulation modeling. We use the most effective tools to incorporate the design of baggage systems seamlessly into the early planning stages of an airport terminal project; this means baggage system design is integrated into every design decision.

So relax. We’ve got baggage.
What do I need to build? When? And how will I pay for it?

These are important questions we’ve helped many of our clients answer. Long before a shovel breaks ground, our clients are using Stantec’s airport strategic planning services to help them envision and plan the growth of their airport over the long term.

Our airside, landside, and terminal planning and design specialists produce integrated results that meet the needs of airport users, regulatory agencies, and the surrounding community. Airport master plans, layout plans, feasibility studies, terminal gate studies, land use evaluations, airspace analyses, land and easement acquisitions, and equipment purchases are just some of the ways we help our clients plan for the future. We also identify possible non-aeronautical development opportunities.

We have experience with a wide range of funding options, including federal grant administration, passenger facility charges, and public-private partnerships. We can help secure the funding our airport clients will need for capital improvement projects and programs ranging in size from large commercial airports to small general aviation airports.
Anyone who has ever been stranded on the side of the road with the gas gauge needle pointing to empty understands the importance of fuel. For airports, we make sure the right fuel gets to the right place in the right way.

Our team specializes in the design of fleet, aviation, compressed natural gas (CNG), and other fuel-dispensing and storage facilities. Our team has designed aircraft fueling and vehicle maintenance facilities, and has designed, or consulted on, numerous unique fueling applications, including performance-based designs, deployable fueling systems, and alternative fuel facilities. Our specialists sit on national fuel system code committees and are national leaders in the rental car and CNG markets.
We partner with airports all over the world to make sure that safety and security are visible, and tangible, to pilots and passengers alike. Through our design of airfield-approach lighting systems and navigational aids (NAVAIDs), we enhance the operational and safety characteristics of our clients’ airports.

Our airport electrical engineers are recognized for their expertise and experience in airfield lighting, electrical vault design/upgrade, approach lighting systems, NAVAIDs, and airfield lighting control and monitoring systems. And we don’t stop there. We’ve assisted in the update and revisions of various FAA Advisory Circulars pertaining to airfield electrical design standards, and have provided similar services to U.S. Department of Defense officials in related military design manuals.

Environmental Services

Airports are significant interventions in the local landscape, and even the smallest airport project may need planning, permitting, and mitigation to minimize its environmental impact. Such permits and approvals require a multi-faceted project development approach.

We identify natural and human environmental impacts and create mitigation plans that are endorsed by the airport sponsor, community members, and affected regulatory agencies. Our resources and commitment enable us to find solutions that reflect and balance the interests of the many parties involved.

We have completed environmental assessments, vegetation and wildlife hazard management plans, wetland delineations and mitigation, and natural resource inventories for airports big and small. And, we back this up with in-house expertise in hazardous materials testing, site assessments, and mitigation.
Stantec brings communities together through our work in over 200 airports worldwide.
Design with community in mind

We’re active members of the communities we serve. That’s why at Stantec, we always design with community in mind.

We collaborate across disciplines and industries to bring buildings, energy and resource, and infrastructure projects to life. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships.

Since 1954, our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients’ needs in more creative and personalized ways. With a long-term commitment to the people and places we serve, Stantec has the unique ability to connect to projects on a personal level and advance the quality of life in communities across the globe. Stantec trades on the TSX and the NYSE under the symbol STN.