

**TORONTO PEARSON:**

# **GROWTH, CONNECTIVITY, CAPACITY**

The future of a key regional asset

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**URBAN  
STRATEGIES  
INC**



**Toronto  
Pearson**



# 1 INTRODUCTION

Southern Ontario is growing so significantly that regional air travel demand will start to approach a capacity milestone by the mid-2030s, even after contemplated expansions at Toronto Pearson. That is the essential conclusion reached by the Greater Toronto Airports Authority (GTAA) after recent in depth analyses of passenger trends and economic and population growth in the region. The dynamic health of the city region's economy is good news, as is the fundamental role Toronto Pearson plays in enabling and fuelling that growth as it emerges as one of the world's most significant airport hubs. It is a story of remarkable success, but also of major future challenges.

Now is the time to start planning to accommodate the growing demand and to start designing an airport system for Southern Ontario that continues to be a key driver of its transformation into a leading global urban region. Toronto Pearson and the other

airports in Southern Ontario are major city-building assets, but they also represent one of the most significant planning challenges for the future of the region. Regional stakeholders must consider how and where to accommodate increasing air travel demand, and also ensure that the region's airports are readily accessible through strong ground transportation connectivity.

The region's air travel system constraints will otherwise become impediments to economic activity. Valuable air travel activity will simply divert to other airports in other city regions in the world, and those that can accommodate that demand will enjoy the benefits. Our loss will be their gain.

To prevent this, and to ensure the continued economic success of the region, decision makers, airport stakeholders, planners, and the public must begin a dialogue to consider some critical air travel planning questions:

- How can the region's governments and airport communities work more collaboratively? What are their mutual interests?
- What air transportation model should the region pursue in the face of the expected growth: Uncoordinated planning at multiple airports or an integrated and optimized regional airport system?
- How can planners and decision-makers leverage the inherent connectivity provided by airports to inform infrastructure investment and overall development decisions?
- What ground transportation connections (rail, bus, truck, and car) are needed to support regional air travel demand and economic growth?

This paper highlights Toronto Pearson as a key global connection and an economic asset locally, regionally, and internationally, and describes the existing and anticipated air travel demand in the region. It then outlines the planning options available for Southern Ontario to address the critical and combined issues of population and air travel growth. Ultimately, it puts the public on notice that air travel capacity in Southern Ontario, and as importantly the associated ground transportation connections, will not meet future demand unless there is immediate, proactive, and coordinated planning.

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**“Growth is coming.  
The time to plan for it is now.”**

- Howard Eng, CEO, Greater Toronto Airports Authority

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## 2 THE SIMULTANEOUS GROWTH OF TORONTO PEARSON AND THE REGION

Air travel activity at Toronto Pearson has risen dramatically in a generation. Canada's major air carriers continue to grow demand and use Toronto Pearson as a key hub airport. The number of annual passengers travelling through the Airport grew from 10.5 million in 1974 to 21 million in 1994. That trajectory continued for two more decades, and in 2014 Toronto Pearson moved 38.6 million passengers, accommodating 92 per cent of the 42.2 million passengers served in the region that year. Air travel is roughly doubling every twenty years.

Toronto Pearson's growth is an expression of the growth of our regional metropolis. Put simply, Southern Ontario is booming. More and more people are choosing to visit and settle in a diverse, metropolitan region, increasingly competitive at a global level in its quality of life, business opportunity and economic prosperity. The region also is without question the economic heart of Canada, and the engine driving Ontario's 2014 GDP of \$721 billion, which represents 36 per cent of the total national GDP.

In this period of growth the region's population, economic success and air travel have fuelled each other. With the strength of the economy the regional appetite for air travel—particularly international trips—has expanded, and the region's airports have responded with additional capacity, allowing more people to travel for personal trips and business, and opening the region to visitors and commerce.

### 3 EXPECTED REGIONAL GROWTH AND THE LIMITS AT TORONTO PEARSON

The future outlook for Southern Ontario is even more impressive. Growth projections suggest that the region's population and economic performance will continue to increase over the next three decades. By 2043 it is expected that Southern Ontario will be home to 15.5 million people,<sup>1</sup> and the provincial GDP will be greater than \$1 trillion. Meanwhile, a conservative estimate of air travel demand over the next two decades by the GTAA puts Toronto Pearson Airport at roughly 65 million passengers per year by the mid-2030s, with no signs of slowing down. By 2043 the regional air travel volume is expected to reach a staggering 90 million passengers annually, or more.

This is a significant outcome of the region's economic growth, but how much more air travel demand can our regional air transport system accommodate?

The current regional air travel capacity across all airports in Southern Ontario is estimated to be around 70 million passengers per year, even taking into account already planned capacity investments at Toronto Pearson. The implications are sobering: by the mid to late 2030s, regional air travel demand will approach a capacity making it more difficult to accommodate expected demand for air travel. With no plan in place to increase the region's air travel capacity there will be a demand/capacity gap of around 24 million passengers by 2043.

### 4 ECONOMIC SIGNIFICANCE OF TORONTO PEARSON TO TORONTO, ONTARIO AND CANADA

The economic implications of a regional air capacity shortfall are significant. Toronto Pearson is a vital piece of regional and national infrastructure that both generates and facilitates economic growth. It is a global hub that connects people to and from the world's most significant business centres, increases visitation to the region's attractions and events, increases foreign direct investments, attracts new business opportunity and creates and supports employment.

Today Toronto Pearson facilitates an estimated 277,000 jobs across the province and accounts for \$35.4 billion in economic impact. That represents 5.6 per cent of the total GDP of Ontario. Based on anticipated growth, by 2030 it will facilitate 478,000 jobs in the province and generate \$62.1 billion in economic impact, or 6.6 per cent of the Ontario GDP.

Toronto Pearson's economic impact is directly linked to its location, scale and reach. At the heart of a major growth region that extends across the border, the airport serves 12.5 million potential customers in a 3-hour drive time catchment area that includes London, Kitchener, Hamilton, Barrie, Kingston, Buffalo, and Rochester. That number rises to between 150-200 million people when one considers a catchment area based on either a 90 minute or two hour flight time, reflecting the real market area for international airports.

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<sup>1</sup> Based on an estimate from McKinsey & Company that is aligned with Government of Ontario projections, including Places to Grow



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**“If you’re lucky enough to have a hub,  
you better support it.”**

- Richard Florida, Director of Cities at the  
Martin Prosperity Institute

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Building on its strategic regional location, Toronto Pearson is successfully expanding its international reach and profile. From 1985 to 2014 Toronto Pearson increased its percentage of international passengers from 48 per cent to 60 per cent, and it is expected that the share of international travellers will increase to almost 70 per cent by 2033. International hub airports bring substantial benefits and drive economic growth. Direct connections to other global destinations fuel more travel, more trade, and more opportunity than regional and domestic airports, returning significant economic benefits to the region.

Toronto Pearson is especially strong in this regard. Unlike many other international hubs where the majority of travellers are simply connecting to other flights, 70 per cent of Pearson’s passengers are so-called “Origin and Destination” (or O&D) travellers visiting or returning to the Airport’s surrounding region. Toronto Pearson is not simply a major local job generator; it is an international gateway that draws people and economic activity into the region.



## 5 HOW DOES TORONTO PEARSON COMPARE TO GLOBAL CITY AIRPORTS

In addition to supporting the regional economy, Toronto Pearson is emerging as a significant global hub airport. While North America's 13<sup>th</sup> busiest airport for total passengers, it is the 2<sup>nd</sup> busiest for international passengers. Its global standing also is increasing; in 2014 it was ranked the world's 23<sup>rd</sup> busiest airport for international travellers. With approximately two thirds of its passengers international travellers, Toronto Pearson has not yet achieved the level of top global hubs like London Heathrow (93 per cent international) or Dubai International (98 per cent international), but it is undeniably a major player on the world air travel stage and punching significantly above its weight. In terms of providing global connections Toronto Pearson already outpaces major US airports such as John F. Kennedy (54 per cent international) and Chicago O'Hare (15 per cent international).

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**“Toronto Pearson allows local businesses to go global and global businesses to connect locally.”**

- Jan De Silva, President & CEO, Toronto Region Board of Trade

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Toronto Pearson also is now growing at a faster pace than many of its global competitors as it accommodates the rapidly increasing air travel demand to and from Southern Ontario, leveraging its significant geographical and regional advantage that many cities around the world could only hope to emulate. The projected gap in capacity to accommodate expected demand therefore represents a major threat to the region's economic competitiveness.

Airport	2014 Passenger Traffic (millions)	% Change, 2013-2014
London Heathrow	73.4	+1.3%
Dubai International	70.5	+5.5%
Charles de Gaulle	63.8	+2.6%
Singapore Changi	54.1	-0.2%
John F. Kennedy International	53.2	+5.8%
<b>Toronto Pearson International</b>	<b>38.6</b>	<b>+6.8%</b>

Source: Airport traffic statistics, GTAA Passenger Traffic statistics, Airport Council International, press search, via McKinsey & Company

## 6 THE TWO STRATEGIC OPTIONS FOR TORONTO PEARSON

The looming demand/capacity gap is a wake-up call for Southern Ontario, and not just for those in the aviation industry. Toronto Pearson and the other airports in the regional system are so essential to the success of the region that the issue requires the attention of decision makers, planners, the business community and the general public in addition to airport and airline operators.

**“Smart cities prioritize airports in their growth plans.”**

- Bruce Simpson, Director, McKinsey & Company



**Two possible courses of action have been developed into scenarios for discussion:**

## **I. STATUS QUO**

In this scenario, planning for each airport in the region carries on in a largely uncoordinated manner, and each facility reaches capacity due to its own constraints. Some airport specialization and minimal coordination among airports might occur to meet demands, but without a coordinated plan to maximize collective airport benefits.

The implication of a status quo approach is an inability at a regional level to accommodate air traffic demand. Air travel constraints will impede regional economic activity, and other airports in other cities will accommodate the valuable air travel activity that our region cannot. This scenario is currently playing out in London, England. The airports within the London air travel system have a collective maximum capacity of 130 million passengers annually. London Heathrow accounts for more than half of these passengers, and is operating at 99 per cent capacity with its two existing runways. The challenge is that the real demand in the London city-region is actually 170 million passengers annually. Many of the 40 million passengers that London cannot accommodate are diverting to other European hub cities and to Dubai International Airport, which is unconstrained by a dense urban context.

## **II. CREATE AN INTEGRATED SYSTEM OF AIRPORTS IN SOUTHERN ONTARIO WITH COMPLEMENTARY ROLES**

The second scenario is to increase the regional coordination among airports so that they function as a multi-airport system instead of a collection of individual airports. The key difference in this scenario is that each airport takes on a particular role—an air travel division of labour—so that the overall air travel capacity is optimized to best meet the range of demands.

Formal and informal multi-airport systems are increasingly common in global city-regions. In North America, the clearest example of a formal multi-airport system is that operated by the Port Authority of New York & New Jersey, which includes John F. Kennedy, Newark Liberty, La Guardia, Stewart, Teterboro, and Atlantic City airports. Each airport plays a distinct role. For instance, John F. Kennedy is the main hub for international travel and cargo while LaGuardia specializes in short-to-medium haul travel. Newark plays a continental and more discount-priced international role. Even the relatively small Teterboro Airport has a key function: it acts as a general aviation (GA) reliever so that the small, private aircraft of the high-end business community do not take up commercial capacity at the major airports.

Well-known European examples include those in the London city-region, which includes the London Heathrow, Stansted, Luton, Gatwick, and London City airports, and the Paris city-region that relies on both the Charles de Gaulle and Paris-Orly airports.

An integrated, multi-airport system for Southern Ontario could take a number of forms, and the GTAA has initiated dialogue with airport stakeholders to assess the development of a multi-airport system that would best suit the air travel demands in Southern Ontario. An air travel division of labour already appears to be emerging in the region even without coordinated planning. As Toronto Pearson is increasingly becoming an international travel and cargo hub, Billy Bishop Toronto City Airport (BBTCA) provides short- to medium-haul travel within eastern North America, Oshawa Municipal Airport is increasing its private executive-class travel profile, and Hamilton International Airport is leveraging its strengths as a leading multi-modal cargo and courier airport.





A plan for an effective multi-airport system would need to consider all of the airports in the region in a coordinated manner to ensure that their services are complementary and not directly competitive, to maximize the system's effective capacity. It also will be critical to connect each airport to the region's urban centres through effective ground transportation, and public transit in particular. For a multi-airport system to succeed and truly support the prosperity of the region, each component must be highly accessible or else travellers will choose to use the most convenient airports, reducing the viability of the poorly connected airports while overburdening those that are well connected.

An integrated approach to ground transportation and the overall types of services provided would allow the region to maximize its comparative air advantage, so that the combined operations of the airports benefit the region as a whole. Transportation planning for the regional airport system should prioritize ease of access to and from each airport individually, but there also may be opportunities to improve the connections between the airports themselves. This would provide even greater travel choices for customers.

## 7 THE GROUND TRANSPORTATION IMPLICATIONS OF ACCOMMODATING AIRPORT GROWTH

Ground transportation to area airports will be critical for the region under any future air travel scenario. By 2043 there will be 15.5 million people residing in Southern Ontario—how will they get to and from Toronto Pearson and other regional airports? The regional economy and the success of the air transportation system depend on convenient trips from home or the office to the airport. In many international destinations the trip from the airport to the city centre is severely constrained by high levels of traffic congestion and a lack of transit investment. Southern Ontario may well be beginning to approach this point.

It is clear that reliance on single occupancy vehicles will no longer adequately service airport demand. In 2043 we will see a 25-35 per cent increase in driving times compared to 2014 conditions, and passengers will need to leave much earlier than ever before prior to their departure time due to traffic, creating severe passenger anxiety. Southern Ontario will need to follow the example of other successful regions and invest in airport-focused transportation systems that can provide reliable, convenient connections to key urban centres.

As a rule, best-in-class city regions invest in combinations of high speed rail, rail and bus rapid transit connections to their airports. These systems increase airport access for travellers and employees, connect airports to city centres and other transport nodes, and drive mutual airport and regional growth. London Heathrow is a prime example of a well-connected airport that serves the city-region. Travellers can pay a premium for direct access from the airport to central London via the Heathrow Express, or pay less for local service on the Heathrow Connect, and less again for the slower Underground line. Bus services also link the airport to a series of National Rail lines. Even with these effective existing transit services, new connections to the airport are under construction. Once completed, the new Crossrail transit system will provide metropolitan-wide high-speed rail service for London and the South-East, connecting the airport to significant employment areas such as the City and Canary Wharf, as well as commuter areas to the east and west of the city centre.

Integrated transportation planning has connected Greater London to its airport by considering the air, rail, and roadway systems holistically. Southern Ontario must emulate this model, and in particular focus on the crucial “last kilometre” connections to airports. In Southern Ontario, airports are not currently a focus of municipal and regional transportation planning because they are perceived as quasi-federal entities. However, airports like Toronto Pearson are in fact major transit hubs, and must be considered as integrated components of municipal and regional transportation systems.

A growing number of existing and planned transportation routes approach Toronto Pearson, including the existing GO Transit Kitchener line, the planned Regional Express Rail system, the under-construction Eglinton Crosstown, and even the SmartTrack concept, but none include plans to connect directly to the Airport. The new Union Pearson Express service does connect directly to the airport, and is an encouraging first step in integrated regional transportation planning. However, the Union Pearson Express system will only serve 800 passengers per hour, or 8 per cent of the passengers arriving by surface, and much more connectivity is needed to meet regional growth needs.



Passengers want proximity, flexibility and certainty when it comes to air travel, and will pay a premium for well-connected airports. Regional transportation investments—particularly those approaching Toronto Pearson—should be planned with this in mind, and should seize the opportunity to provide systems of supporting infrastructure that will connect everybody to the airports, and from the airports to the rest of the world.

Better transit connectivity can also support economic activity locally, as Toronto Pearson and the associated commercial and industrial lands are major employment areas in their own rights. Toronto Pearson has a 40,000 person employee community, of which just 17 per cent currently use transit to get to work. According to Metrolinx data, the surrounding employment area hosts an additional 245,000 employees,<sup>2</sup> which when combined with Toronto Pearson’s 40,000 employees represents the region’s second largest employment area after downtown Toronto.

Providing improved transit connectivity to Toronto Pearson and the surrounding employment lands could significantly reduce work-related private automobile trips in the area and provide safe and convenient travel options for employees.



Wikimedia - Craig James White

<sup>2</sup> March 3, 2015 Presentation to Metrolinx Board of Directors on Transportation Study of the Pearson Airport Area



## 8 THE PLANNING PROCESS GOING FORWARD

There is no longer any question of whether Southern Ontario could or should be a global urban region; it has achieved that status in every respect, and become a metropolis that is growing, thriving, diversifying and increasingly connected to other places around the world. The region may have acquired this status somewhat unintentionally, but the region must now face its future growth without hesitation and with proactive planning, so that its future population of 15.5 million people feel empowered by urban growth and not constrained by it.

The region's airports will play a major role in accommodating and supporting this growth, and there is a real opportunity to get out ahead of air travel demand by enhancing and optimizing aviation infrastructure and the ground transportation components that support it. Successful global city-regions have prioritized airports as part of their growth plans; regions that have not planned ahead for growth inevitably regret it. Regions that cannot keep pace with air travel demand will quickly see it divert to other regions, and it is very difficult and expensive to build infrastructure to fix a problem after it emerges. The London Heathrow experience is sobering and should not be repeated here. The Port Authority of New York and New Jersey is currently moving proactively to face their own growth challenge, and is poised to invest \$8 billion in the region's airports, including \$3.4 billion for new terminals at LaGuardia and Newark Liberty International airports. While these investments are badly needed to meet existing demand, they are catch-up measures expected to be very disruptive.

Southern Ontario can prevent the loss of un-accommodable demand and disruptive mid-stream upgrades by initiating the planning process now, but the window of opportunity is limited. Airports require long-term planning cycles of 20-30 years to support the development of large scale infrastructure like terminals and runways. Major ground transportation investments take nearly as long. The first decision that politicians, airport operators and planners must therefore make is simply to commit to coordinated transportation and land use planning at the regional scale, beginning immediately. The process will be complicated, so the region cannot afford to delay the dialogue. Of course, air carriers will also be essential participants in these discussions, as no air transportation plan can be viable without their input.

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**“There is no greater regional challenge or opportunity for planning and infrastructure development of the Toronto region than that presented by the maturation of Pearson International Airport. How we respond to this opportunity will define our future as a global city.”**

- Richard Joy, Executive Director, Urban Land Institute (ULI) Toronto

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Once the region's air travel stakeholders, planners, and decision-makers have committed to planning together to accommodate 90 million air passengers by 2043, they should address the critical questions outlined at the outset of this paper:

- **How can the region's governments and airport communities work more collaboratively? What are their mutual interests?**
- **What air transportation model should the region pursue in the face of the expected growth: uncoordinated planning at multiple airports or an integrated and optimized regional airport system?**
- **How can planners and decision-makers leverage the inherent connectivity provided by airports to inform infrastructure investment and overall development decisions?**
- **What ground transportation connections (rail, bus, truck, and car) are needed to support regional air travel demand and economic growth?**

The product of these discussions should be a coherent, long-term plan to integrate infrastructure funding, transportation planning (road, rail and air), and land use planning in the region and to support the role of airports as economic catalysts that drive major regional economic benefits.

For its part, the GTAA is taking a proactive stance and is laying out facts, engaging with the airlines, and reaching out to the governments and the surrounding communities. It is now time for other airport operators, decision-makers and planners to join the discussion and seize the opportunity to plan for successful regional growth.



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