

Billy Bishop Toronto City Airport Review Preliminary Land Use Evaluation

August 27, 2013

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For: City of Toronto Waterfront Secretariat

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Cover: Billy Bishop Toronto City Airport Aerial
(Source: Flickr - Vitodens)

1

EXECUTIVE SUMMARY

Aerial view of Toronto Islands and the Waterfront (Flickr - Andreas Duess)

On May 7, 2013, the Executive Committee of the City of Toronto formally adopted a request to review Porter Airlines' request to amend two provisions of the 1983 Tripartite Agreement, which governs the use of Billy Bishop Toronto City Airport ("BBTCA" or "the Airport"). The requested amendments would allow for the operation of CS100 jet aircraft at the Airport and permit the physical extension of the Airport's main runway at both ends.

In May 2013, Urban Strategies Inc. was retained by the City of Toronto to review the existing and planned land uses in the Study Area, summarize the policy framework in relation to Billy Bishop Toronto City Airport, conduct a review of airport precedents, and to develop an evaluative tool to illustrate and understand the impacts of the proposed introduction of jet aircraft and the associated expansion of Airport runways.

Methodology

This report is based on a review of Airport-related background material; a planning policy review; an analysis of existing and proposed development data provided by the City; a site visit; consultations with City staff and other consultants involved in this study, and the reports that they have produced; and airport precedent research.

Report contents and findings

This preliminary report is intended to provide a basis for the eventual evaluation of the proposed changes at Billy Bishop Toronto City Airport. The information, analyses, and evaluative tools are provided to identify existing land use conditions and the range of potential land use impacts of Airport expansion.

The report begins by defining the Study Area, and describes the existing land use conditions therein. This includes a description of the Airport site and its context area, and a detailed overview of the built form, land uses, population, anticipated future development, and existing transportation infrastructure and service in the Study Area.

The report then provides an overview of the planning framework governing the Study Area, with particular reference to policies and

guidelines that may impact development surrounding or related to the Airport. Building on that summary, the report provides an evaluation of the compatibility of planned and approved development activity in the Study Area with Airport activity, taking into account Federal airport zoning regulations.

Following the summary of planning policy and land use compatibility, the report provides a detailed comparison of six airport precedents. This comparison focuses on evaluating the relevance of each selected airport as a precedent for BBTCA and its context; identifying the planning issues raised as a result of proposed changes to airport facilities and operations; and drawing planning conclusions that are relevant to this study.

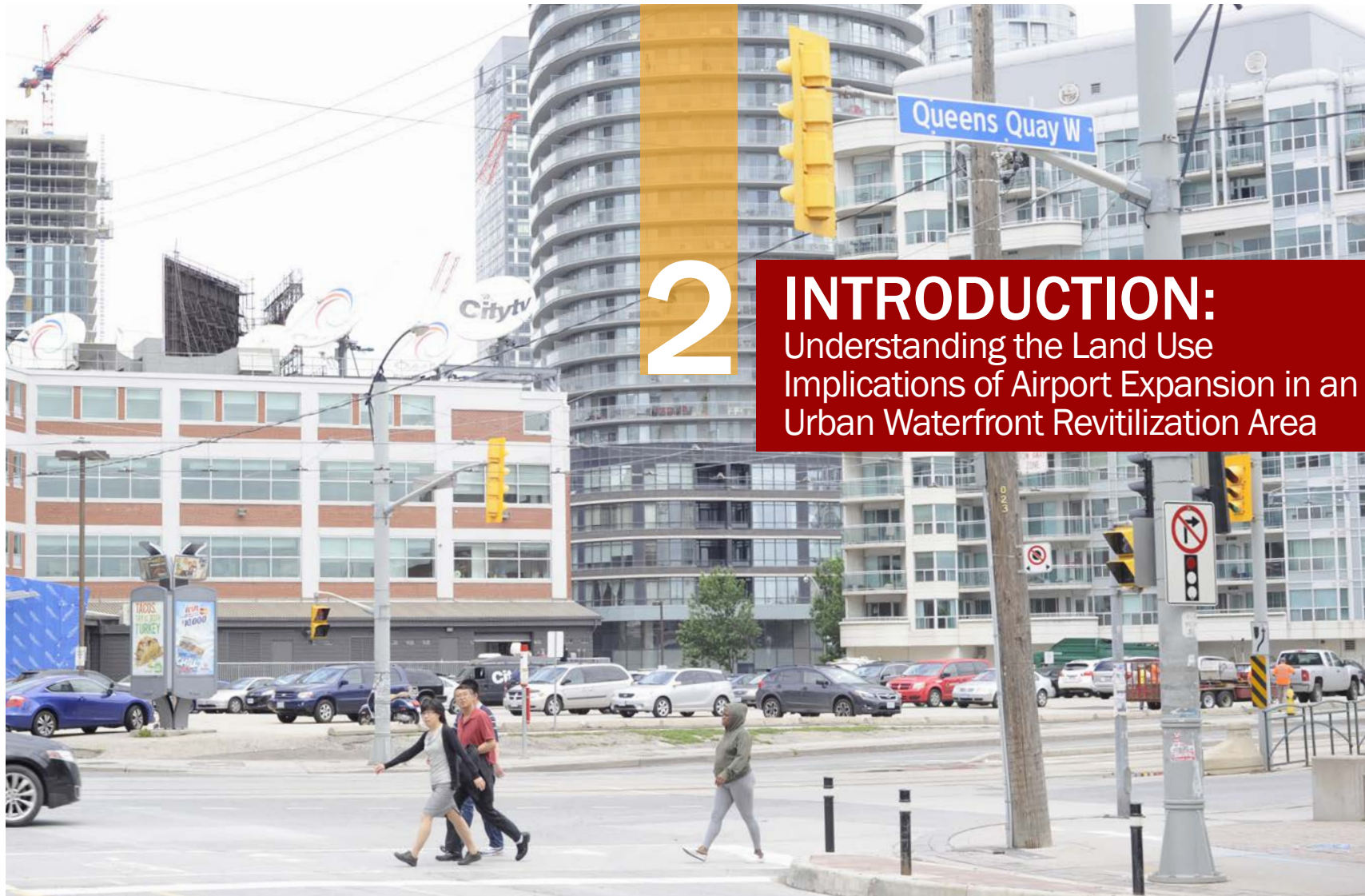
The report concludes with an explanation of the evaluative tool that was developed for this study, building on the findings and observations from the sections listed above. The tool is designed as a matrix that will facilitate the comparison of a full range of factors – from environmental impacts to traffic conditions – across three scenarios, which are summarized generally as follows:

- 1. 2012 Baseline:** Existing airport aircraft and passenger volumes
- 2. Maximizing capacity of existing facilities:** Existing airport aircraft with increased passenger volumes resulting from improved facilities and systems
- 3. Proposed Airport expansion:** Jet and turbo-prop aircraft and increased passenger volumes

These evaluation scenarios have been established in order to isolate impacts that will occur in direct relation to jets and runway expansion from impacts that may occur as a result of ongoing as-is business operation or non-jet related changes.

The matrix is presented in draft form here, and will be refined through ongoing discussion with City staff and other consultants, and through community and stakeholder input at workshops and public meetings.

In the next stage of work, Urban Strategies will populate this matrix with information produced and assembled as part of this wider study, in order to assist the City in evaluating the impacts – both negative and positive – of the proposed changes to BBTCA.



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INTRODUCTION:

Understanding the Land Use Implications of Airport Expansion in an Urban Waterfront Revitalization Area

The urban landscape north of the Airport

Billy Bishop Toronto City Airport is situated at the northern tip of the Toronto Islands, immediately across from the Toronto waterfront at the city's southern edge. Unlike many large, traditional airports that are intentionally set apart from urban areas, the context area for BBTCA currently contains a thriving mix of uses taking place in very close proximity.

From a land use planning perspective, the operation of an airport within an urban setting presents benefits and challenges for Toronto's residents and visitors and Airport stakeholders alike.

For cities, urban airports can provide regional or international travel connectivity at a convenient location, along with the associated economic benefits to businesses and personal benefits to travelers. At the same time, an airport may create nuisances or conflict with long-term planning objectives if it is too close to, or inappropriately integrated with, residential, commercial, institutional, and recreational land uses.

For airports, proximity to thriving city-centres presents obvious economic advantages, but also drawbacks. For instance, tall building construction can interfere with flight paths¹ (discussed in detail later in the report), and bird habitats, radio and telecommunications infrastructure, and even stadium lighting can be hazardous to safe airport operation.² All of these elements currently exist in the vicinity of the Airport.

For the purposes of this study, a cautious approach to evaluating the proposed introduction of jets and expansion of operations and facilities at BBTCA is warranted for two significant reasons. First, residents and community members have already raised concerns regarding Airport-related impacts, such as noise, traffic, pollution, safety, and change to the built and natural environment. Second, the City's planning policies call for the revitalization of the waterfront area surrounding the Airport. In particular, the Central

Waterfront Secondary Plan sets a clear direction and framework for transforming the waterfront and improving its connection to the rest of the city.

Because of the ambitious Central Waterfront Plan, and ongoing development in Toronto, the waterfront is poised to accommodate more residents, jobs, and recreational users than ever before, all within a rapidly changing built form and land use structure. However, as development and renewal activities continue to take shape, what is lacking is a planning framework that specifically coordinates them with any proposed visions for the Airport and its surrounding environment. As such, there is no existing list of what Airport activities or land uses are acceptable within the surrounding urban context, nor is there any available description of what urban land uses in the Central Waterfront Area are compatible with safe and efficient Airport operation. This apparent disconnection in land use planning likely relates to the origins of the Airport as a general aviation facility, and the related assumption that City-Airport planning could be managed through the Tripartite Agreement.

Clearly, the present state of the Airport and the proposed changes to its facilities necessitate a planning evaluation that considers the relationship between the Airport and the city in greater detail and identifies specific areas of conflict that may arise as City and Airport plans progress.

¹ Sypher: Mueller International Inc. Toronto City Centre Airport General Aviation & Airport Feasibility Study. December 2001.

² Federal Aviation Administration's (FAA) Southern Airports Division Office. Land Use Compatibility and Airports. A report by the Compatible Land Use Planning Task Force. Date unknown.

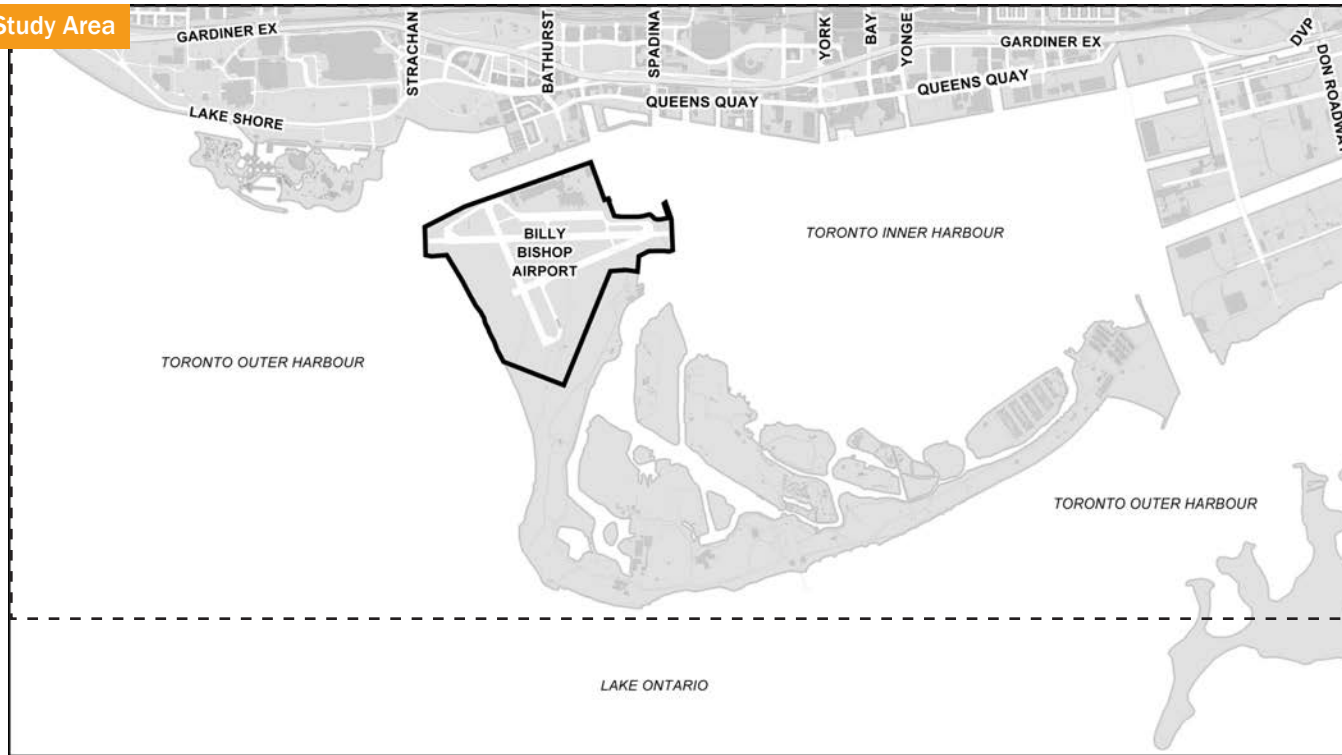


3

**STUDY AREA &
EXISTING CONDITIONS**

Leisure and residential uses immediately east of the Airport

Figure 1: Study Area



Study Area

Billy Bishop Airport

File # 13 185086 STE 28 TM

 Billy Bishop Airport  Study Area


Not to Scale
06/12/2013

As mentioned above, the context area for BBTCA currently contains a mix of uses taking place in very close proximity. On the mainland, in the broader waterfront area, the mix of uses includes: parks and recreation trails; boating and water-based recreational facilities; cultural and event spaces; housing; schools; shops, restaurants, and offices; public transit lines; local streets and major roads; a highway; and former industrial lands that are the subject of revitalization and redevelopment plans. The Toronto Islands likewise contain a mix of uses, including: the Airport; beaches; parks; houses; an amusement park; restaurants; a fire hall; and others.

Though the Airport's current and future operations should be considered within a broad and complex urban context, it is also clear

that the effects of Airport operations are most perceptible in relative proximity to the Airport's facilities. This report therefore focuses on a specific area of Toronto's waterfront, though broader municipal and provincial planning implications are taken into account and summarized (see Section 4).

3.1 The Study Area

The Study Area for the land use component of the Billy Bishop Toronto City Airport Review is bounded by the rail corridor to the north, the Don Roadway to the east, the Toronto Islands to the south, and Marilyn Bell Park to the west (see Figure 1). This includes areas of the City that may be affected by passing aircraft along flight paths approaching and departing the Airport.

Figure 2: Aerial view of the Bathurst Street Ferry Terminal and surrounding context (source: Google Inc.)



3.2 The site and immediate context

The Airport is located at the north-western tip of the Toronto Islands. The Airport is currently separated from the mainland by the Western Gap, necessitating ferry service from the mainland to the Airport. Construction of a pedestrian tunnel between the Airport and the mainland is underway, and is expected to be complete in 2014.

Many of the Airport's landside facilities are located on Eireann Quay, south of the intersection of Bathurst Street and Queens Quay West. The facilities are framed by a public park, a former industrial site, a shared community centre/school building, and surface parking lots (described in more detail below).

The Airport's mainland landside facilities consist of the Bathurst Street Ferry Terminal at the southern end of Eireann Quay, and the supporting transportation facilities. Eireann Quay consists of two lanes and is currently the only vehicular access route to the ferry terminal. The terminal's shuttle stops, taxi queue, short-term parking, and passenger pickup/drop-off loop must all be accommodated within very limited space. As such, temporary parking and taxi queue space have been established on the western portion of the former Canada Malting industrial site. Parking for the Airport is also provided at the foot of Stadium Road.

Figure 4 (left): View of mid-rise residential built form on Queens Quay looking east from Bathurst Street

Figure 3 (right): View of development on Lake Shore Boulevard looking west from Bathurst



3.3 Built form

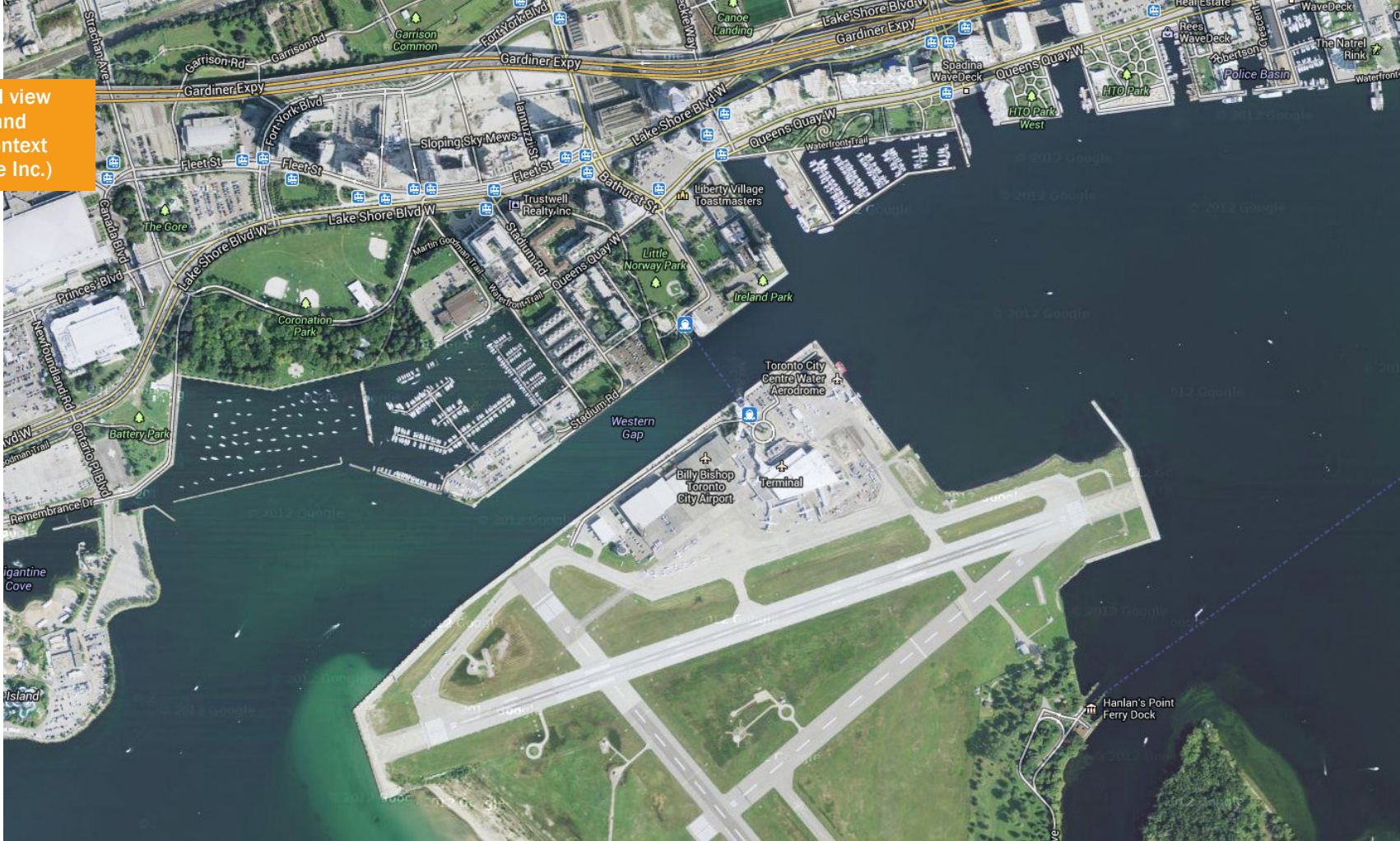
In the immediate vicinity of BBTC, a continuous mid-rise built form extends along the north side of Queens Quay, from Stadium Road to Spadina Avenue. Stepped back from the street, these residential buildings tend to stand 8-12 storeys and have commercial businesses at grade. This pattern is somewhat interrupted at the intersection of Bathurst Street and Queens Quay West, where a parking lot occupies the northeast corner.

The south side of this section of Queens Quay is generally comprised of public park and recreation space, with the exception of a mid-rise commercial/residential building at the foot of Lower Spadina and the building occupied by the City School alternative high school, the Waterfront School, and the Waterfront Community Centre at Eireann Quay.

North of Queens Quay is Lake Shore Boulevard, which features several residential buildings west of Bathurst Street. With buildings standing as tall as 35 storeys, the built form is much taller here than it is along Queens Quay, but building heights are less consistent and the streetscape is more fragmented. The built form on the south side of Lake Shore Boulevard is generally lower, with buildings standing between 2 and 12 storeys tall.

Heights tend to increase north of the Gardiner Expressway, with residential condominium towers dominating the landscape between Dan Leckie Way on the west and the Rogers Centre on the east.

Figure 5: Aerial view of the Airport and surrounding context (source: Google Inc.)



3.4 Land use and population

Residential

In 2011, there were 29,905 residents living in the Study Area, an increase of 14,237 from 2006. As the waterfront land continues to develop, new residents will move into the community, adding a significant concentration of residents to the central and eastern portion of the Study Area.

Commercial

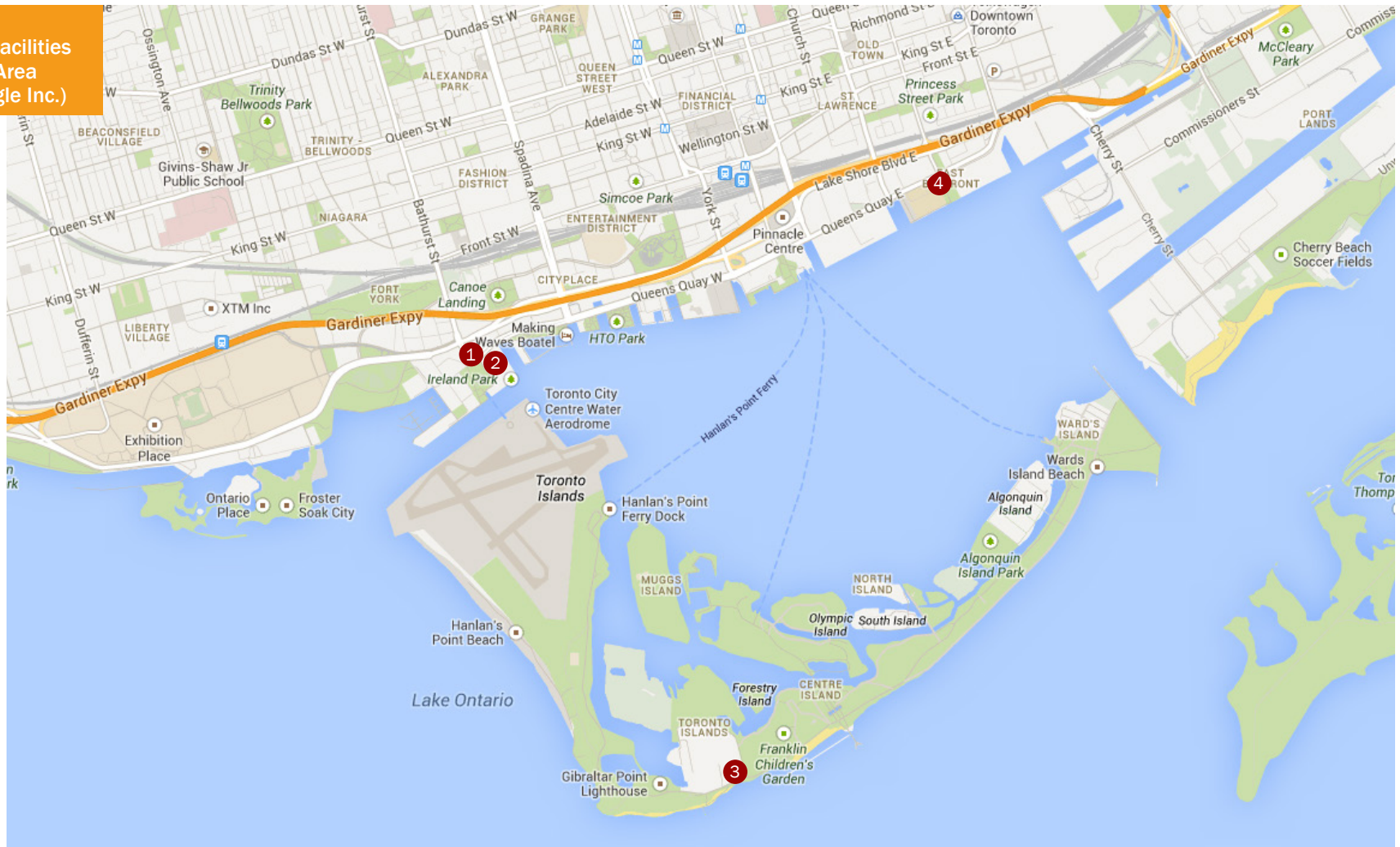
Within the Study Area, there are 430 businesses classified as office, service, or retail that, combined, employ over 22,000 people (17,270 full-time, 4,900 part-time). More than half of these businesses are offices, totaling 230 businesses that employ 17,141 individuals. Of the remaining businesses, there are

130 service businesses employing 3,964 people, and 70 retail businesses employing 1,065 people. These businesses tend to be located in the central portion of the Study Area.

Industrial

Manufacturing is relatively small but important sector within the Study Area, with a total of 11 businesses employing 562 people, 362 of which are full-time employees. These businesses are dispersed throughout the Study Area. The Redpath Sugar facility is a significant waterfront industrial use and is the main user of the industrial dockwall today. As such, the Central Waterfront Secondary Plan contains specific policies to protect this industrial use from impacts related to the area's shift from industrial to residential uses.

Figure 6:
Educational facilities
in the Study Area
(source: Google Inc.)



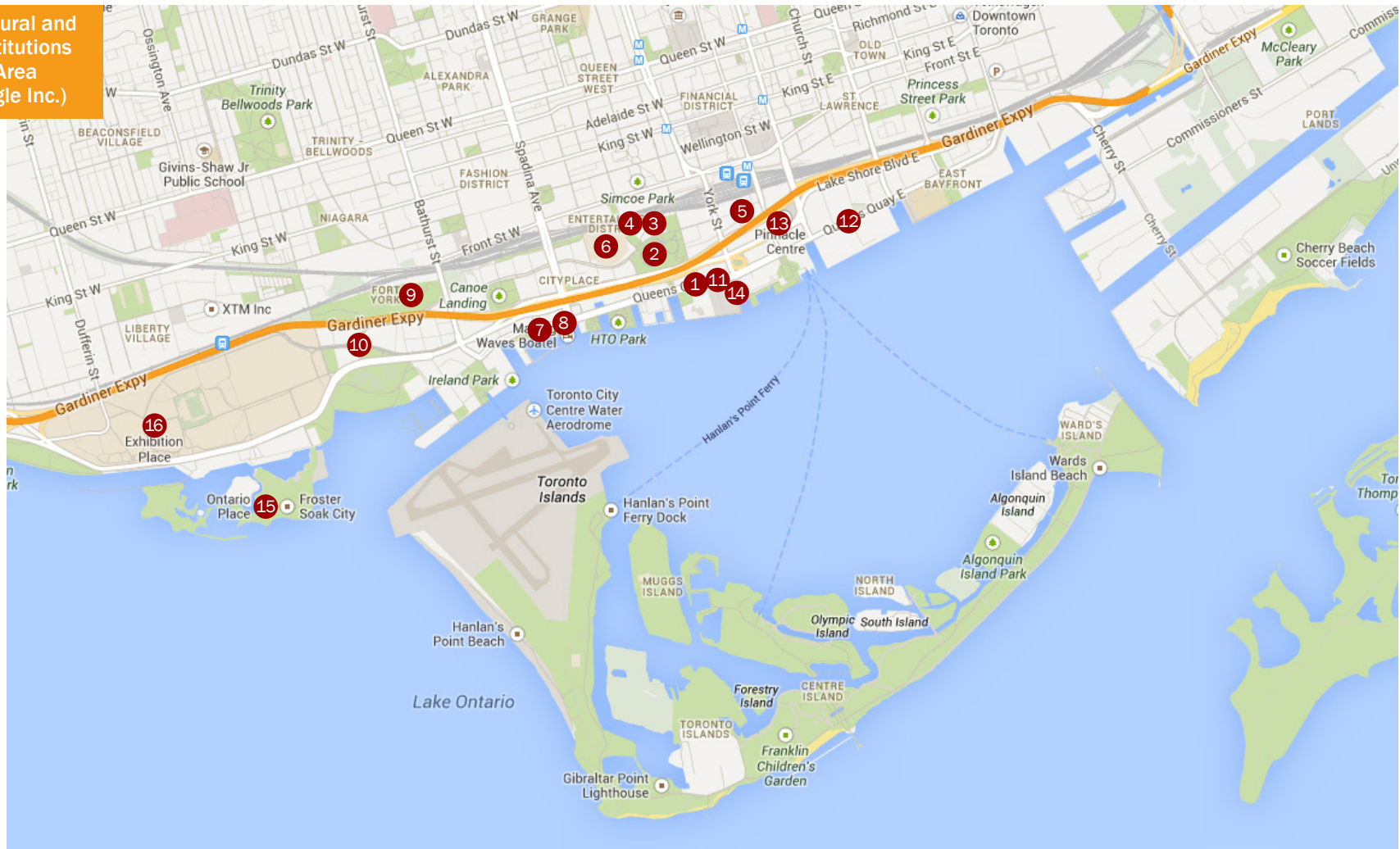
Institutional

There are currently 38 institutions in the study area, employing 1,360 individuals. Of these employees, 698 are full-time.

Among these institutional uses are four educational facilities:

- 1 The Waterfront School (JK to Gr. 8);
- 2 The City School (Gr. 11/12 - Alternative School); and
- 3 The Island Public / Natural Science Junior Public School (JK to Gr. 6);
- 4 George Brown Waterfront Campus

Figure 7: Cultural and historical institutions in the Study Area (source: Google Inc.)



Cultural and historical institutions also figure prominently in the Study Area, including the following organizations:

- ① Power Plant Contemporary Art Gallery;
- ② Roundhouse
- ③ Ripley's Aquarium
- ④ CN Tower
- ⑤ Air Canada Centre
- ⑥ Rogers Centre;
- ⑦ National Ballet School;
- ⑧ Toronto Music Garden;
- ⑨ Fort York;
- ⑩ Queen's York Rangers Museum;
- ⑪ Enwave Theatre;
- ⑫ Redpath Sugar Museum;
- ⑬ Toronto Harbour Commission Museum; and
- ⑭ Museum of Inuit Art Gallery
- ⑮ Ontario Place
- ⑯ Canadian National Exhibition (CNE)

Figure 8: Parks and open spaces in the Study Area (source: Google Inc.)



Parks and Open Space

Along the waterfront and on Toronto Islands is a network of parks and open space, providing a significant amount of active and passive recreation space in the study area, as well as a habitat for wildlife. Generally speaking, these features are well-connected by sidewalks, walkways, and the Martin Goodman and Waterfront Trails.

Immediately surrounding the Airport is a cluster of parks and open spaces that form part of this overall network. These parks and open spaces include:

- 1 **Stadium Road Park:** An 8,480 m² park located west of the ferry terminal north of the Western Gap dockwall.
- 2 **Little Norway Park:** A 24,831 m² park situated between Queens Quay Way and the ferry terminal. There is a 100 foot easement over the park immediately west of Eireann Quay, in favour of the Toronto Port Authority.

- 3 **School yard leased by Waterfront School:** A small park with a baseball diamond located just south of the City School and just west of the Airport's temporary parking lot and taxi area on the Canada Malting site. This park is currently enclosed by high chain-link fencing on all sides, which protects users from Airport related traffic but hinders connectivity to other open spaces.
- 4 **Ireland Park:** A 16,450 m² small park located at the southeast corner of Eireann Quay, below the Canada Malting site. It is currently inaccessible as a result of the ongoing Airport tunnel construction and other public works.
- 5 **Portland Slip Promenade:** A narrow open space at the northeastern edge of Eireann Quay featuring trees and benches. Currently, fencing surrounding the Canada Malting site and the temporary Airport parking facility prevents access from the plaza to Ireland Park, and hinders connectivity with the park on Eireann Quay and Little Norway Park.

Figure 9: The Official Plan Land Use Map illustrates the network of parks and open spaces in the Study Area



Figure 10: Little Norway Park extends to the edge of the ferry terminal



Presently, overall connectivity between the parks and open spaces is interrupted by Airport-related activities including the vehicular traffic along Eireann Quay, the pedestrian tunnel construction, and the temporary parking and taxi area on the Canada Malting site.

Figure 11 (left):
Little Norway Park
looking south toward
the ferry terminal

Figure 12 (right): The
leased School Yard
between Eireann
Quay and the Canada
Malting silos

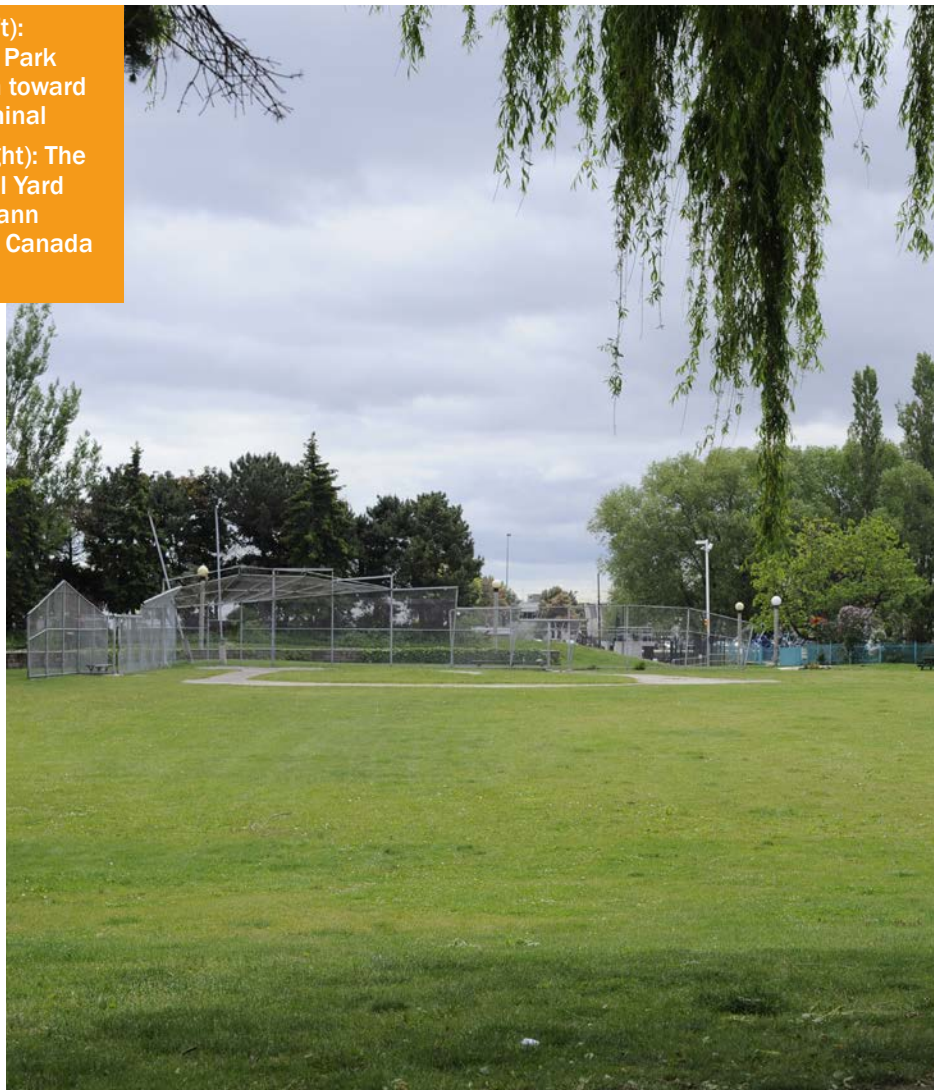


Figure 13: Ireland Park is currently inaccessible due to Airport tunnel construction and other public works



Figure 14: Portland Slip



3.5 The changing community

Within the Study Area there are currently 24 development applications, totaling 47 buildings.³ These buildings total 3,663,485m² of proposed floor area, and range from zero metres in height (for developments such as underground parking garages) to 293 metres. The tallest building currently proposed is an 88 storey tower that forms part of the development application for 1 Yonge Street.

Although there is a wide range of land uses proposed in the Study Area, at 3,003,849m², the majority of floor area proposed is residential (82% of total floor area), comprising 13,911 units. Therefore, based on a projected 1.6 persons per unit, these proposed developments represent a potential influx of 22,258 new residents to the community when the buildings are complete and occupied.

Regarding non-residential development, there is currently 764,826m² (18% of total floor area) proposed in the Study Area. Of this non-residential development, 512,028m² of floor area is proposed for offices (14%), 182,663.48m² for institutional space (5.0%), 53,874.80m² for retail (1.5%), and 16,496.03m² for industrial space (0.5%).

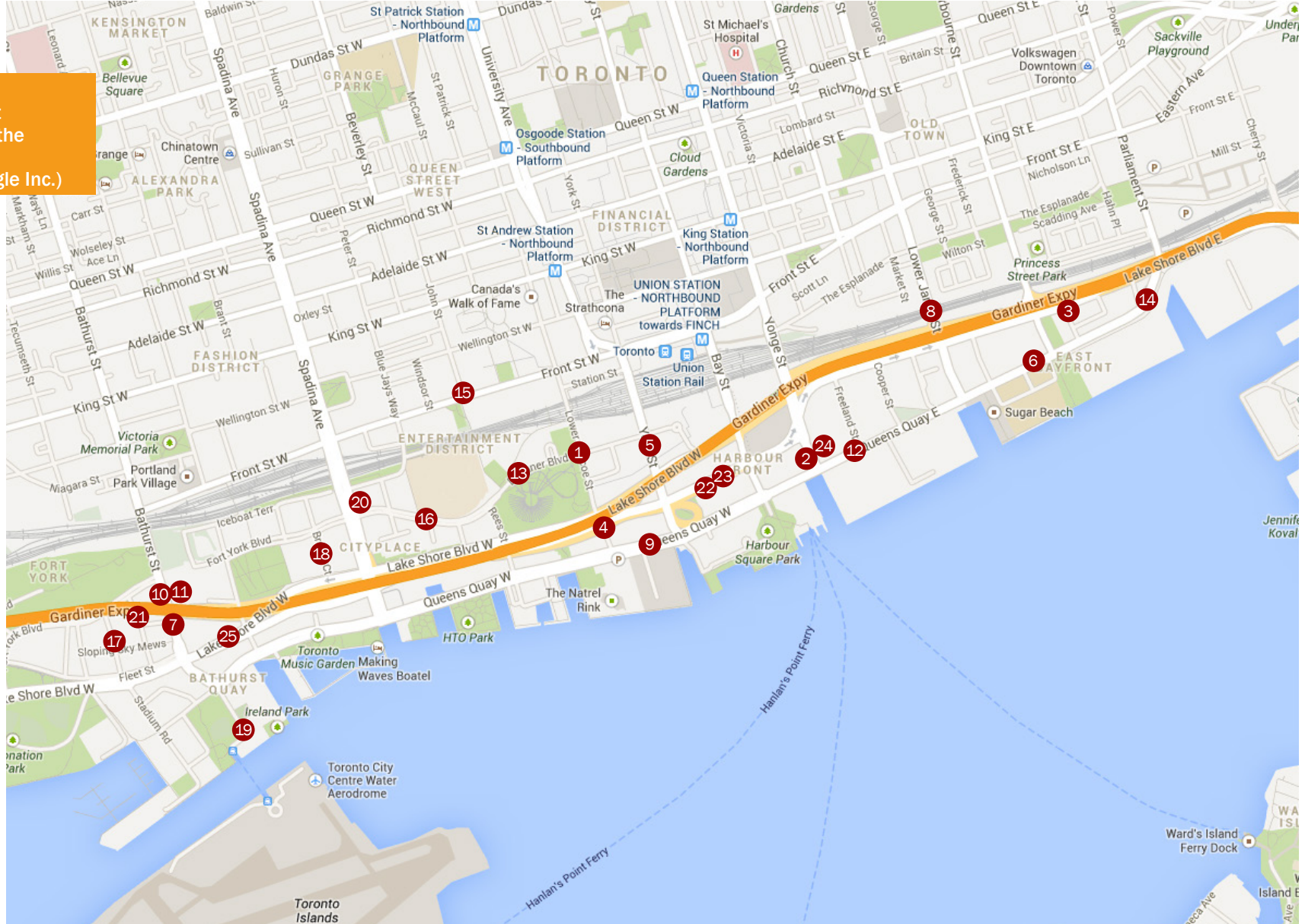
Proposed developments tend to be situated along the Central Waterfront, lining either side of the Gardiner Expressway. Closest to the Airport, on the western portion of the Study Area, proposed developments range from 15 storeys (along the south end of Bathurst Street) to 43 storeys (along the south end of Spadina Avenue). Heights tend to increase on the eastern side of the Study Area, with multiple residential and mixed-use development applications for towers over 67 storeys in height.

³ The proposed development statistics in this section do not include the recent development application for the former Daily Bread Food Bank site at 500 Lake Shore Boulevard West, which includes one 8 storey commercial building (approx. 21,031 square metres gross floor area) and two residential towers at the rear, of 37 and 41 storeys respectively (approx. 55,000 square metres of gross floor area combined).

Table 1: Floor space of proposed development in the Study Area by development type

| Proposed development type | Floor space area (square metres) |
|---------------------------|----------------------------------|
| Residential | 3,003,848 |
| Office | 512,028 |
| Institutional | 182,663 |
| Retail | 53,875 |
| Industrial | 16,496 |

Figure 15:
Development
proposals in the
Study Area
(source: Google Inc.)



- | | | | | |
|---------------------|----------------------|----------------------|-------------------------|--------------------------|
| 1 120 Bremner Blvd | 6 175 Queens Quay E | 11 24 Bathurst St | 16 315 Bremner Blvd | 21 70 Iannuzzi St |
| 2 1 Yonge St | 7 20 Bathurst St | 12 25 Queens Quay E | 17 38 Grand Magazine St | 22 85 Harbour St |
| 3 12 Bonnycastle St | 8 21 Lower Jarvis St | 13 255 Bremner Blvd | 18 20 Brunel Crt | 23 90 Harbour St |
| 4 130 Harbour St | 9 225 Queens Quay W | 14 261 Queens Quay E | 19 5 Eireann Quay | 24 1 Yonge St |
| 5 16 York St | 10 24 Bathurst St | 15 301 Front St W | 20 511 Bremner Blvd | 25 500 Lake Shore Blvd W |

Figure 16: (right)
Parking Lot at
Bathurst St and
Queen's Quay
Figure 17: (bottom)
Canada Malting site



In the immediate vicinity of the Airport, opportunities for redevelopment seem to be fairly limited. There are only two observable soft sites:

The Canada Malting silos along the eastern edge of Eireann Quay: In the Official Plan, the Canada Malting site falls under the *Parks* land use designation, and the associated policies generally prohibit development except for recreational and cultural facilities, conservation projects, essential public works, and a very limited range of other land uses. In the Central Waterfront Secondary Plan, the Canada Malting site is recognized as having significant heritage value, and the Plan encourages some form of adaptive re-use for the site. As well, Toronto City Planning has facilitated the creation of preliminary development guidelines for the site through a working group. The working group has drafted preliminary options for mixed use development that emphasize heritage preservation and re-use, as well as connectivity between the park spaces on Eireann Quay.

The parking lot at the northeast corner of Bathurst Street and Queens Quay: There has been no declaration of development interest related to this site, but given its valuable location and the current development climate in Toronto it is reasonable to assume that the site will eventually be redeveloped.

Figure 18 & 19: Plans for the revitalization of the Central Waterfront include multi-modal transportation designs (source: Waterfront Toronto)



On a broader scale, the Study Area surrounding Billy Bishop Airport features many waterfront areas that are expecting significant change. Immediately west of the Airport is Ontario Place, and plans concerning the future of that site are ongoing.

In the Central Waterfront area, the Lower Yonge Precinct is expected to experience intense redevelopment around the LCBO lands at 55 Lakes Shore Boulevard East, where several tall residential and office towers have been proposed. A Lower Yonge Precinct Plan is currently being developed to guide changes in this precinct.

At the eastern edge of the Study Area, it is anticipated that the Keating Channel Precinct and the Port Lands will change significantly over time. A planning framework is already in place for Keating Channel, which will evolve into a mixed use residential and employment area. Plans in the Port Lands are progressing, and the Port Lands Acceleration Initiative (PLAI) was initiated in October 2011 in part to accelerate development opportunities in the Port Lands through the establishment of a business and implementation plan.

3.6 Transportation

Cycling

The area surrounding Billy Bishop Airport is well served by a number of dedicated bike lanes and bike trails. One end of the Martin Goodman Trail is located directly west of Billy Bishop Airport, at Stadium Road. This 56 kilometre bike trail provides users with an uninterrupted lakefront route westward. A dedicated bike lane on Strachan Avenue provides a north/south access point for cyclists. The Waterfront Trail connects with the Martin Goodman Trail at Stadium Road and Queens Quay Way, providing both on-road and off-road cycling trails across the entire Central Waterfront.

In terms of storage, there is a bicycle lock-up station adjacent to the ferry terminal on the mainland, and the Toronto Port Authority also allows passengers to lock up their bikes on the island. It is unknown if passengers will be permitted to bring their bicycles through the pedestrian tunnel once it is complete.

Figure 20: A Bixi station at the top of Eireann Quay looking toward the ferry terminal



Two Bixi stations are located within a short walk of the Billy Bishop Airport Mainland Ferry Terminal; one at the intersection of Bathurst and Queens Quay, and another located at the intersection of Queens Quay West and Dan Leckie Way.

Transit

BBTCA is served by the 509 Harbourfront streetcar operating in an exclusive right-of-way along Queens Quay. However, Streetcar service along Queens Quay is currently unavailable due to construction. The 511 Bathurst streetcar also provides service further to the north at Bathurst and Fleet Streets. The nearest transit stop to the ferry terminal building is roughly 220 metres north at Queens Quay and Eireann Quay/Bathurst Street.

Figure 21 (below):
The 509 Harbourfront Streetcar serves the Central Waterfront area. NOTE: This is a temporary route during Queens Quay reconstruction (source: TTC)

Figure 22 (right): The 511 Bathurst Streetcar provides a north-south connection from the subway system to the Central Waterfront (source: TTC)

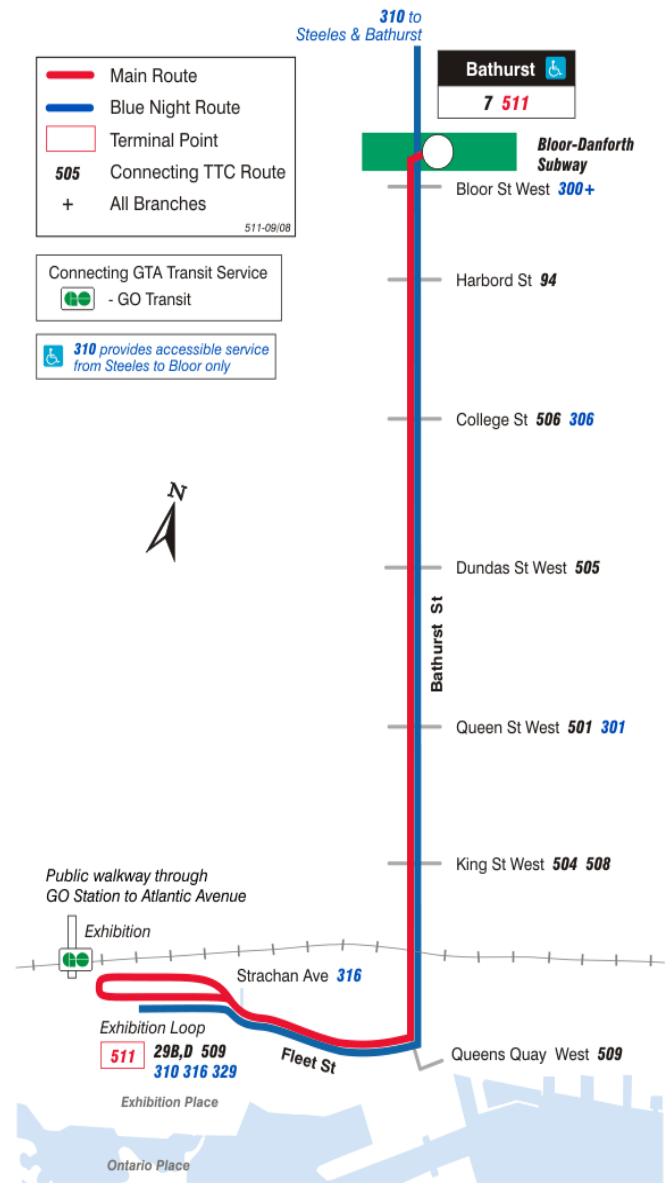
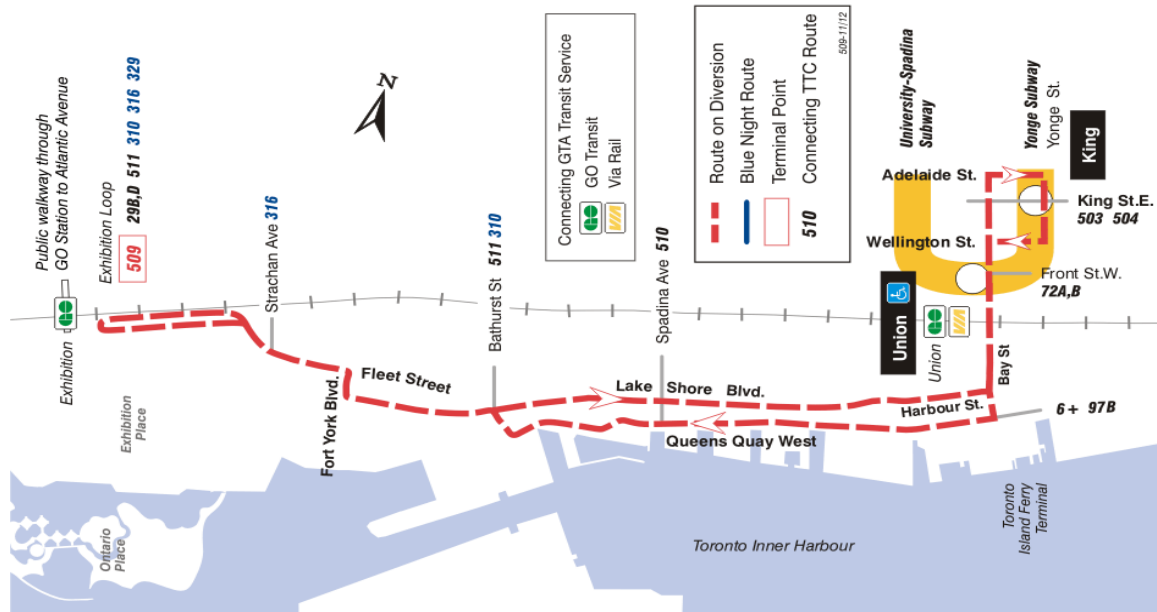
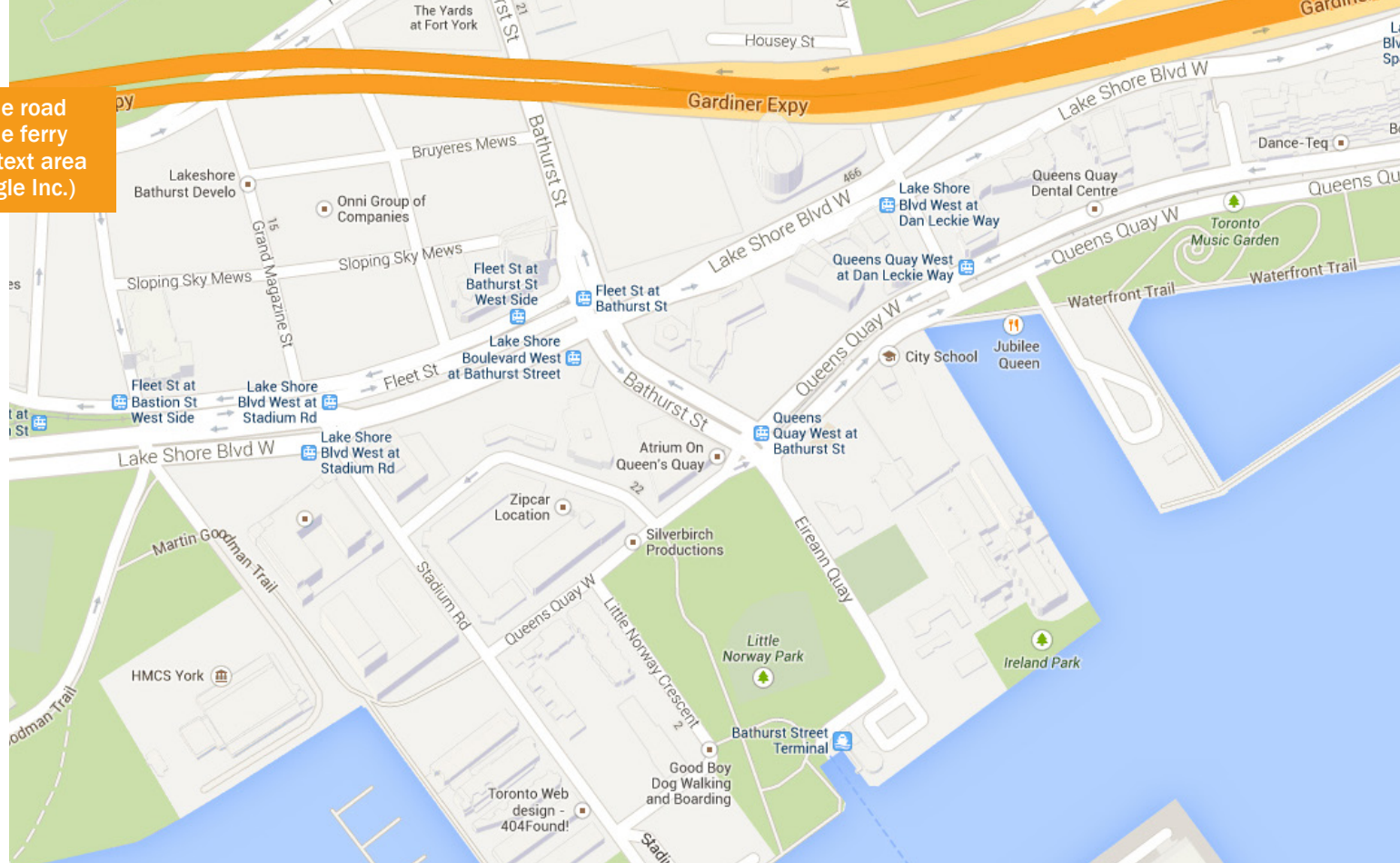


Figure 23: The road network in the ferry terminal context area (source: Google Inc.)



Road Network

The Airport's ferry terminal is connected to the broader city by one major north-south arterial road and several east-west roads. Eireann Quay provides the only direct vehicular access to the Airport's ferry terminal. It is a short road running from the ferry terminal entrance to Queens Quay West. It consists of between two and four vehicular lanes, and expands at the southern end to incorporate a taxi queue and a queue for vehicles boarding the ferry.

North of Queens Quay West, Eireann Quay becomes Bathurst Street, which serves as a major north-south arterial extending from the waterfront to York Region. From Queens Quay West to Lake Shore Boulevard West, Bathurst Street consists of four traffic lanes with two dedicated LRT lanes running along the middle of the right of way. North of Lake Shore Boulevard, the street converts to four traffic lanes, with the two centre lanes functioning as combination vehicular/LRT lanes.

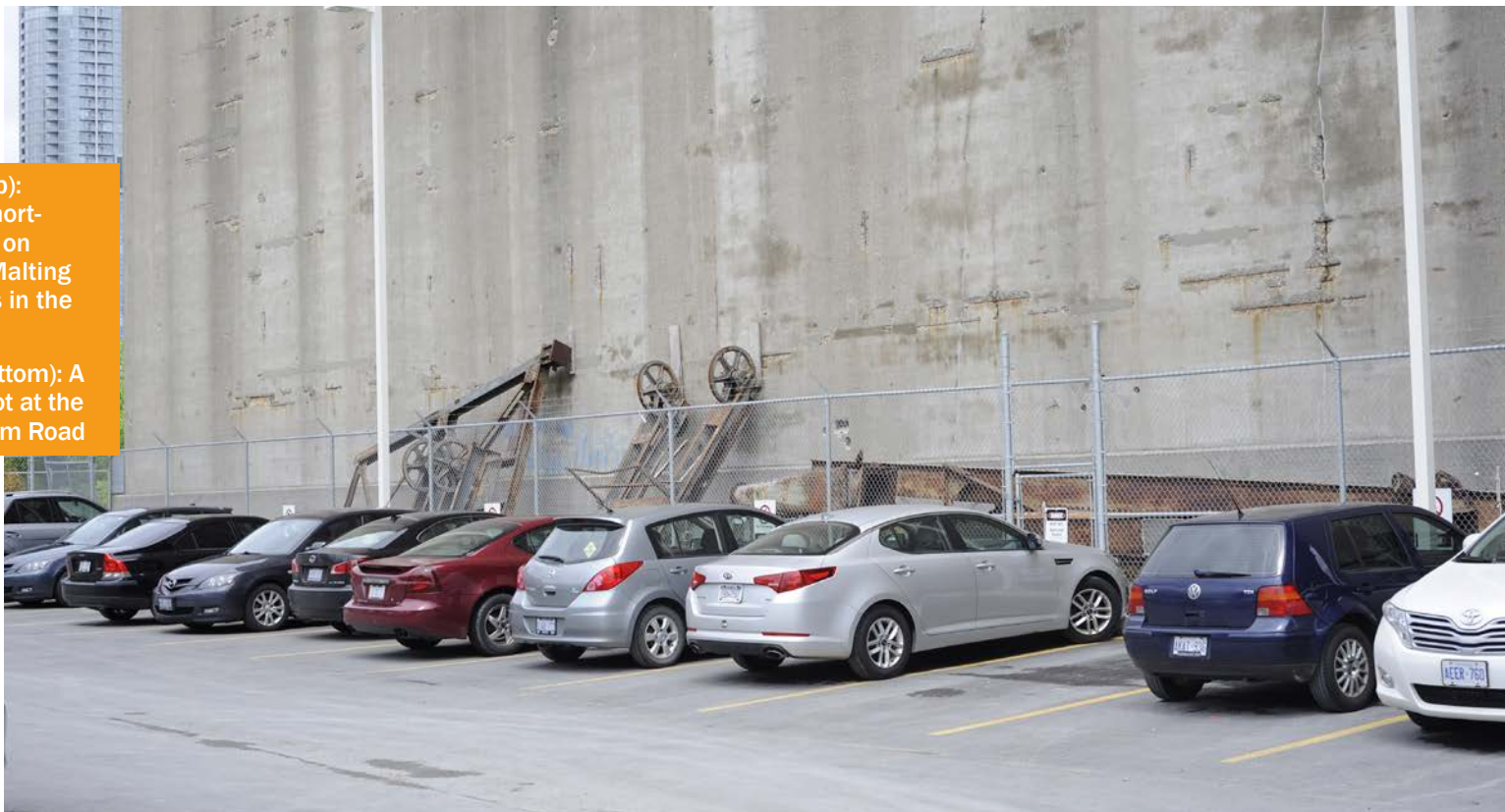
Immediately north of the ferry terminal, Queen's Quay functions as an east-west arterial running along the waterfront from Stadium Road in the west (just west of the ferry terminal) to Parliament Street in the east. It is a four-lane boulevard with two dedicated LRT lanes running along the centre.

North of Queens Quay West, the next east-west street is Lake Shore Boulevard, which functions as a major arterial running from Mississauga in the west to Woodbine Avenue in the east. In the Airport Study Area it consists of six lanes of traffic with on and off ramps to the Gardiner Expressway at Spadina Avenue. West of the Bathurst Street intersection, Fleet Street runs parallel to Lake Shore Boulevard West for several blocks, adding two more lanes of traffic and dedicated LRT lanes in both directions to the right of way.

Immediately west of the Airport there is a small network of local residential streets, including Stadium Road, Bishop Tutu Boulevard, and Little Norway Crescent.

Figure 24 (top):
Temporary short-term parking on the Canada Malting site with silos in the background

Figure 25 (bottom): A pay parking lot at the foot of Stadium Road



Parking

Parking in the immediate vicinity of the Airport is quite limited. There are two mainland pay parking lots; one on the Canada Malting site, and one just west of the ferry terminal along the Western Gap at Stadium Road. There are also parking lots at the island-side terminal and an underground parking garage at Dan Leckie Way and Queens Quay.



Figure 26 (left):
Porter Airline Airport
Shuttle Bus

Figure 27 (right):
Temporary taxi
facilities on the
former Canada
Malting site with silos
and Ireland Park in
the background



Taxis/Shuttles

Taxis are a dominant mode of access to the Airport, and the landside facilities on the mainland are largely dedicated to organizing pick-up and drop-off facilities. There is a drop-off loop for taxis and private automobiles at the entrance to the ferry terminal at the foot of Eireann Quay, and a large taxi queue at the southern end of the Canada Malting site.⁴

The Airport also provides complimentary shuttle service to and from Union Station every 15 minutes, and the shuttle bus vehicles bring passengers directly to the ferry terminal entrance via the drop-off loop at the foot of Eireann Quay.

⁴ A lease agreement currently permits the Airport to use the site for a temporary taxi and parking facility until the construction of the pedestrian tunnel is complete.





4

LAND USE POLICY, PLANNED DEVELOPMENT & COMPATIBILITY WITH AIRPORT OPERATIONS

There are many tall buildings in the vicinity of the Airport (Flickr - prayitno)

4.1 The land use policy framework for the Study Area

Though there is no specific framework coordinating City and Airport planning, there is an established hierarchy of plans and documents that provide policy direction for development near airports in general, and that guide development in the Study Area specifically (see Figure 28). The documents range in scope from the provincial to the neighbourhood level. In some cases they make specific reference to the Airport, but most do not.

A review of this planning framework reveals that higher-order policies support airport activities in general, and encourage compatible development in their vicinities. On the other hand, the area-specific policies and development guidelines in the Study Area envision land uses, built form characteristics, and transportation modes that prioritize residential and recreational users.

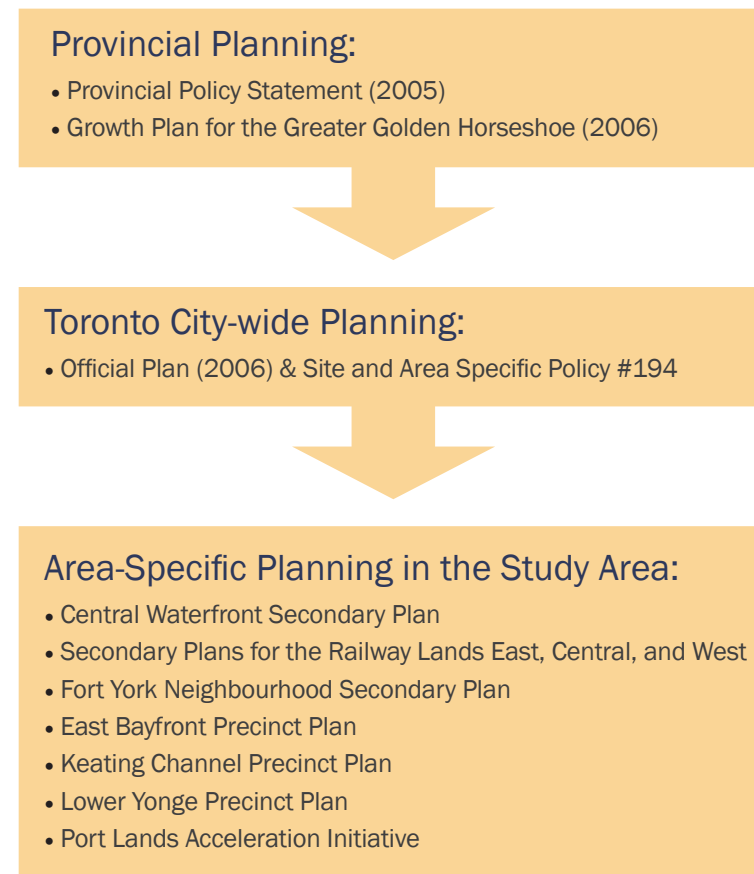
The documents and plans comprising the planning framework are summarized below with regard to their relevance to this study.

Provincial Policy Statement (2005)

The Provincial Policy Statement establishes the policy direction for matters of provincial interest related to land use planning and development, and provides the policy foundation for planning and development related regulations.

In general, the Provincial Policy Statement promotes a harmonious relationship between airports and surrounding developments, but places greater emphasis on protecting airports from incompatible development.

Figure 28: Hierarchy of plans, documents, and initiatives



Growth Plan for the Greater Golden Horseshoe (2006)

The Growth Plan for the Greater Golden Horseshoe (“the Growth Plan”) provides a framework for implementing the provincial government’s community building vision for the region to 2031. Building on government initiatives such as the Greenbelt Plan, the Planning Act reform and the Provincial Policy Statement, the Growth Plan provides a growth management policy direction for the region. With a focus on economic prosperity, the Growth Plan guides decisions relating to transportation, infrastructure planning, land-use planning, urban form, housing, natural heritage and resource protection.

In general, the Growth Plan supports employment and goods movement land uses in the vicinity of airports, where appropriate.

Official Plan (2006)

Toronto’s Official Plan is a Council-approved document that provides policies and objectives for land uses and how and where the community should grow. Prepared in consultation with residents, it is intended to reflect the vision for future change and development.

The Official Plan’s general policies do not make specific reference to the Airport, but the Official Plan does recognize the importance of airports as transportation hubs and key pieces of infrastructure that support the city’s competitiveness.

The Plan’s Site and Area Specific Policy #194 relates specifically to the Airport. It provides that Airport operations are permitted as long as they comply with the Tripartite Agreement. The Policy also supports the continued use of the Airport’s lands for aviation, and protect the existing flight paths, but requires that changes to the Airport’s facilities have no adverse impacts on the surrounding environment. Furthermore, the Policy provides that should the Airport ever close, the site should be converted to a park or a mix of park and residential uses.

In terms of land use policy, all of the Airport’s facilities – both on the Islands and on Eireann Quay – are designated *Parks* or *Natural Areas* in the Official Plan. The remainder of the Study Area is comprised of a mix of land use policy areas, including Apartment Neighbourhoods, Mixed Use Areas, Regeneration Areas, and Employment Areas, among others (see Figure 29).

Central Waterfront Secondary Plan (OPA 257, as approved by the OMB for West Don Lands 2007)

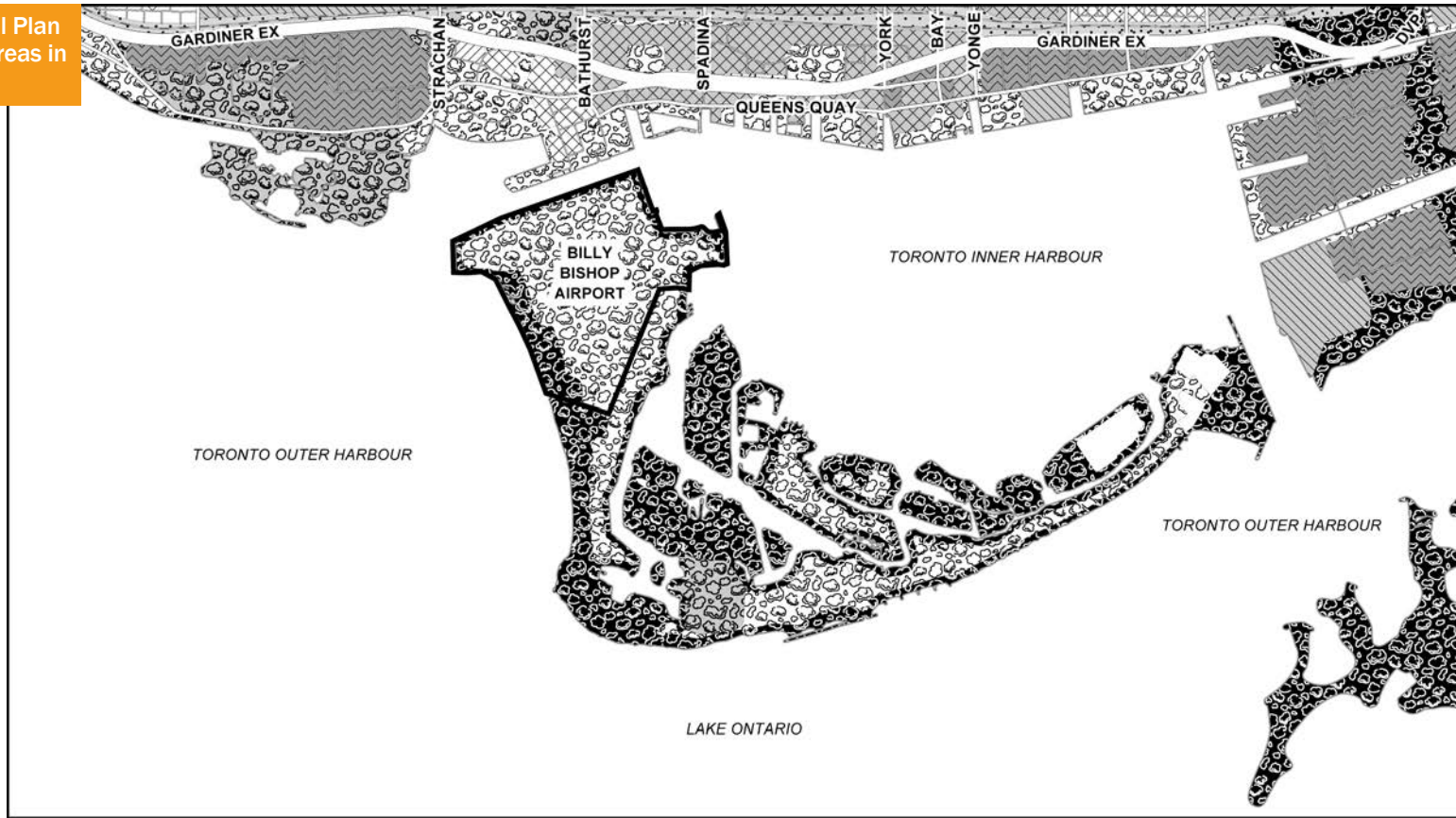
The Central Waterfront Secondary Plan provides a long-term framework for renewal activities in the Central Waterfront Area. The Plan provides “Big Moves” and “Policies” for each of its four core principles:

- A. Removing Barriers/Making Connections
- B. Building a Network of Spectacular Waterfront Parks and Public Spaces
- C. Promoting a Clean and Green Environment
- D. Creating Dynamic and Diverse New Communities

The Central Waterfront Secondary Plan specifically notes that the Toronto City Centre Airport is not part of the Plan. Nonetheless, the Plan contains several principles and policies pertaining to the lands in the immediate vicinity of the Airport. Most significantly, the Plan recognizes the Canada Malting Silos as an important heritage feature to be retained and improved through a mix of public and private activities.

In General, the Central Waterfront Secondary Plan supports the prioritization of transit and active transportation over car use, and calls for the completion of trail systems and reserving the water’s edge for public use, supported by the creation of new public spaces along the dockwall.

Figure 29: Official Plan land use policy areas in the Study Area



TORONTO City Planning

Official Plan

Billy Bishop Airport

File # 13 185086 STE 28 TM



Not to Scale
06/12/2013

Other Secondary Plans, Precinct Plans, and Initiatives

Planning documents for specific areas within the Central Waterfront area provide planning directions and policies at a level of detail that is not possible within the broader planning documents and policies. These documents include:

- Secondary Plans for the Railway Lands East, Central, and West
- Fort York Neighbourhood Secondary Plan
- East Bayfront Precinct Plan
- Keating Channel Precinct Plan
- Lower Yonge Precinct Plan (in process by Waterfront Toronto and the City of Toronto)
- Port Lands Acceleration Initiative (initiated 2011, ongoing)

These documents do not make reference to the Airport, but provide specific details regarding land use, urban design, built form, and other aspects of neighbourhood character in the Study Area, and are used as the basis of local zoning by-laws.

Railway Lands East, Central, and West Secondary Plans

These three secondary plans apply to the former railway lands roughly bounded by Bathurst Street, the Gardiner Expressway, Yonge Street, and Front Street (see Figure 30). These Secondary Plan areas are now essentially built out, with condominium residential towers, parks, community facilities, and neighbourhood amenities.

Fort York Neighbourhood Secondary Plan

The north-western portion of the Study Area is subject to the Fort York Neighbourhood Secondary Plan (2009). The Plan covers an area roughly bounded by Bathurst Street, Lake Shore Boulevard, Strachan Avenue, and the rail line (see Figure 30). The Plan envisions harmonious residential and commercial development surrounding historic Fort York, and provides land use and built form direction for the area's development, including tower locations.

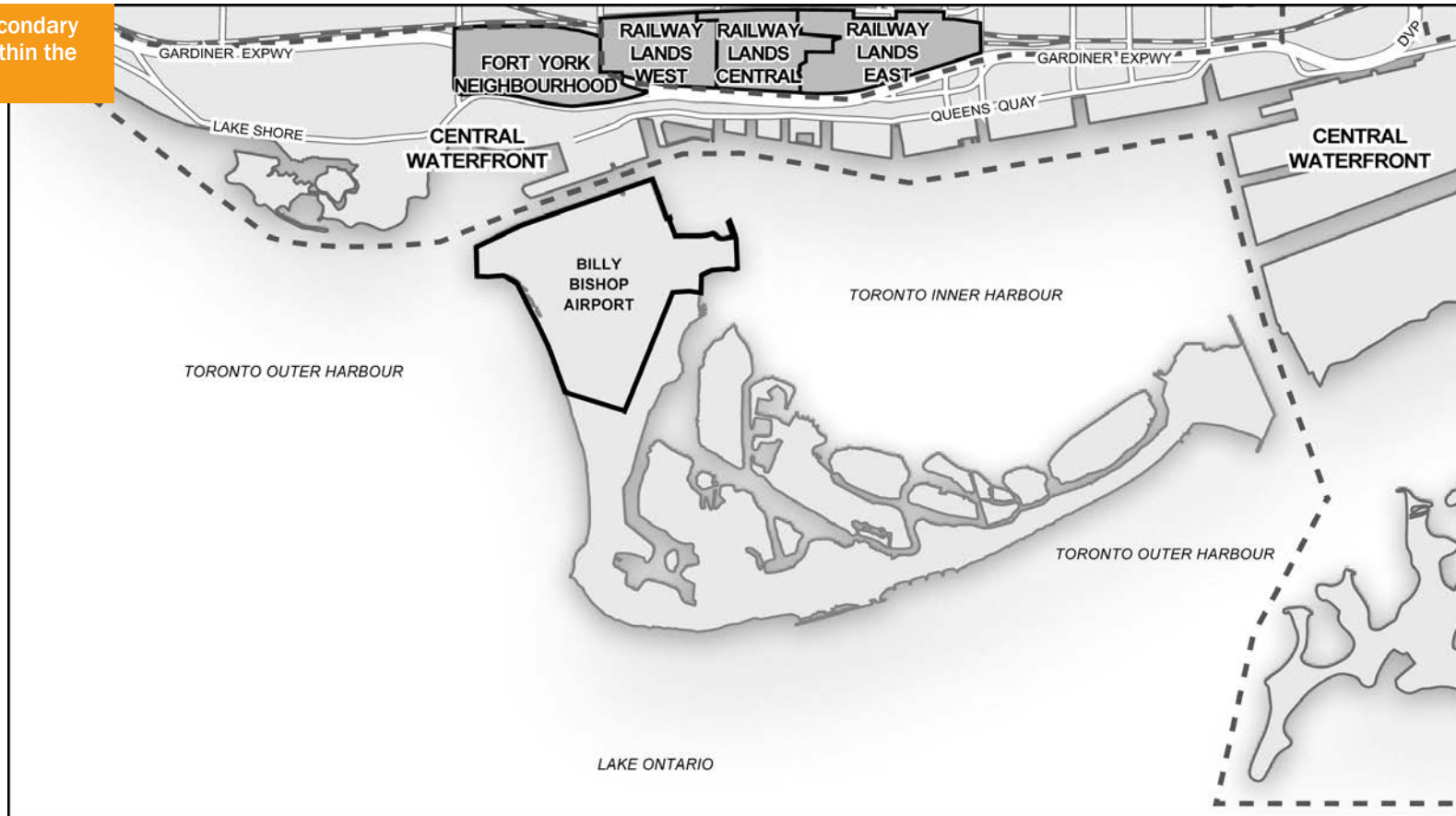
East Bayfront, Keating Channel, and Lower Yonge Precinct Plans

These three plans (and future plan, in the case of the Lower Yonge Precinct) envision the development of new mixed use communities and employment areas in the eastern half of the waterfront that are highly connected to the rest of the waterfront and the city through transit, cycling, and pedestrian networks.

Port Lands Acceleration Initiative

The Port Lands Acceleration Initiative (PLAI) was initiated in October 2011 to refine the Draft Don Mouth Naturalization and Port Lands Flood Protection Environmental Assessment (DMNP) and develop a business and implementation plan with the objective of accelerating development opportunities in the Port Lands. A final report on the PLAI was endorsed by City Council in October 2012, which recommended that City staff, Waterfront Toronto and TRCA continue their work on the Port Lands based on the findings of the PLAI. The Port Lands are currently under review through a second, more detailed phase of work, including finalizing the DMNP Environmental Assessment, completing a Port Lands Planning Framework and undertaking more detailed precinct planning for initial sub-areas of the Port Lands.

Figure 30: Secondary Plan areas within the Study Area



Secondary Plan Areas

Billy Bishop Airport

File # 13 185086 STE 28 TM

- Secondary Plan Areas
- Proposed New or Amendments to Existing Secondary Plan Areas- Yet to be Approved by the OMB

↑
Not to Scale
06/12/2013

4.2 Compatibility of Planned Development in the Central Waterfront Area with Airport Expansion

Given the anticipated changes to the waterfront community outlined in Section 3, it is important to consider whether the planned development heights in the Study Area are compatible with the existing or proposed Airport facilities and related activities.

It is clear from a review of proposed development activity and local Precinct Plans and Secondary plans that tall building development is permitted and will continue to take place in the general vicinity of the Airport. As indicated in the report mentioned below, it is also apparent that tall buildings may have an impact on airport operations. Moreover, future development may run contrary to Federal regulations.

Federal Airport Zoning Regulations (“AZRs”)

Structure heights near airports are federally regulated. Transport Canada may enact Airport Zoning Regulations in order to maintain obstacle free airspace in proximity to certified airports. These regulations are intended to both protect the operations of an airport and ensure that potential and future development surrounding an airport remains compatible with safe aircraft operation.

There is an AZR in place for BBTCA, which was enacted in 1985. The Toronto Island Airport Zoning Regulations (SOR/85-515) provide that nothing shall be constructed on any land that will exceed the elevation of the Airport’s established approach surface, outer surface, or transitional surface. At this point in this study, however, it is unclear which lands are subject to these regulations, as available surface area specifications are highly technical and difficult to interpret.

A 2001 report by Sypher:Mueller International Inc.⁵ notes that the outer approach surface for runway 08/26 (the main runway at the Airport, for which extension is proposed) is 152 metres above sea level, above which point development is not to extend. The same report identifies the Hearn Stack, which is approximately 215 metres tall (roughly comparable to a 71 storey residential tower), as an obstruction to Airport approaches, and suggests that its demolition would be beneficial to Airport operations. This provides some indication of what heights may be incompatible with Airport activities, though the locations of structures in relation to Airport surfaces will certainly be an important factor. It is therefore important to clearly determine what development heights are considered compatible with existing and proposed Airport activities, and how the approach surface standards and airport zoning regulations will change if the proposed expansion takes place.

Planned and anticipated development heights in the Central Waterfront Area

There are already several tall buildings in the Central Waterfront area, including towers on either side of the Gardiner Expressway near York Street that range in height from 200-250 metres, and a string of towers at the foot of Yonge Street that range in height from 80-120 metres.

Overall, the planned and anticipated future development across the Central Waterfront area ranges in height from 4 to 80+ storeys, though the development at the higher end of this range is anticipated only in the Lower Yonge Precinct.

Below is a summary of the planned and anticipated development heights in the Precinct Plan areas and the Fort York Neighbourhood Secondary Plan area. The Railway Lands and the Port Lands planning areas are not included in this summary because the former is already built out and the latter is subject to ongoing planning.

⁵ Sypher: Mueller International Inc. Toronto City Centre Airport General Aviation & Airport Feasibility Study. December 2001.

Planned height in the East Bayfront Precinct Plan area⁶:

- Maximum building heights of 20 metres along the waterfront
- Maximum building heights range from 38 to 52 metres along Queen's Quay
- Maximum building heights of 120 metres at key intersections along south side of Lake Shore Boulevard

Planned height in the Keating Channel Precinct Plan area:

- Several 21+ storey towers, dispersed throughout area, including at north-west corner
- Several mid-rise buildings of 7-10 storeys and podiums of 4-6 storeys
- Several base towers of 11-20 storeys

Existing and proposed height in the Lower Yonge Precinct:

The Precinct Plan for Lower Yonge is not yet complete, but the Lower Yonge Urban Design Guidelines and Transportation Master Plan EA (2013) indicates that significant new development is proposed in the area bounded by Yonge Street to the west, the Gardiner Expressway to the north, Jarvis Street to the East, and Queens Quay Way to the south. Dozens of new office and residential buildings are proposed for the area, several of which are residential towers exceeding 80 storeys.

Planned height in the Fort York Neighbourhood Secondary Plan area:

- 4-6 storey low-rise development on local residential streets
- 7 storey mid-rise buildings on Fort York Blvd
- 10 storey buildings on Fleet St
- 15 storey buildings facing Link Park
- 17-36 storey point towers above some street-related buildings

It should be noted that approved building heights exceed these planned heights in certain cases.

This preliminary review of the compatibility of planned and approved height in the vicinity of the Airport touches on one important aspect of the land use compatibility of Airport operations and the surrounding urban environment. However, the Airport/City relationship is clearly far more complicated than the compatibility between tall buildings and flight paths. In order to properly evaluate the costs and benefits of Airport expansion, a systematic evaluation of the various impacts of Airport operations – both existing and anticipated – is required. To facilitate this undertaking, Urban Strategies Inc. was tasked with creating a tool for identifying and evaluating the impacts Airport operations. This tool is described in the final section of the report.

⁶ Though every effort has been made to be consistent with building height measurement units, the East Bayfront Precinct Plan uses metres in its development guidelines. These units have not been converted to storeys due to the lack of a standard for commercial and residential storey heights



5

**AIRPORT
PRECEDENTS**

In order to identify the potential impacts of airport expansion in the Study Area, six airports were reviewed as precedents. From this list, it was determined that four airports were suitable based on their locations in similar urban and/or waterfront settings, and because they serve comparable purposes as secondary airports. Two airports, Ronald Reagan Washington National Airport and Edmonton City Centre Airport, were added to the list because they presented similar settings and functions to BBTCA. Ultimately, the following six airports were reviewed as precedents for this report:

- 1. London City Airport, UK**
- 2. Edmonton City Airport, AB**
- 3. George Best Belfast City Airport, Northern Ireland**
- 4. Bromma Stockholm Airport, Sweden**
- 5. Santos Dumont Airport, Brazil**
- 6. Ronald Reagan Washington National Airport, VA**

These six airports have been summarized in Appendix 1 to illustrate their relevance to Billy Bishop Toronto City Airport in terms of their proximity to a downtown core, passenger capacity, maximum number of flight movements, modal split, relationship to the built up area, and use as a secondary airport.

It is important to note that this list of airports is by no means exhaustive and provides room for additional precedent research.

Based on this review, it is evident that none of these airports are perfectly comparable to Billy Bishop Toronto City Airport. Firstly, all of the airports differ from BBTCA in that they allow both jet and propeller powered aircraft. In addition, only one airport, London City Airport, is located in a regeneration area similar to that of Toronto's Waterfront. In terms of passenger volumes, only two airports, Bromma Stockholm Airport and George Best Belfast City Airport, serve 2.2 million passengers per year, similar to Billy Bishop Toronto City Airport.

With respect to land use planning issues, three airports in particular – London City Airport, George Best Belfast City Airport and Edmonton City Centre Airport – provide useful planning

lessons that should be considered in evaluating the proposed expansion of BBTCA. These airports have undergone extensive public processes to determine at what capacity the airports should continue to operate, if at all. The airports reveal different outcomes that reflect local priorities or deliberative processes.

In the case of London City Airport's expansion, decision makers approved the change because they saw the facility as an economic driver for the area's regeneration efforts by attracting the financial services sector. However, this outcome was only possible with the addition of light rail service to the airport.

By contrast, in 1995 Edmonton City Council and residents saw the airport as a hinderance to non-stop travel from Edmonton International Airport, and as a constraint on downtown development and intensification. Seeing greater value in the redevelopment potential of the airport than its function as a downtown transportation hub, the City voted through a plebiscite to close the facility. (It is difficult to determine whether or not this same decision would be made today given Edmonton's rapidly changing economy.)

In the case of George Best Belfast City Airport, a stalled decision making process was blamed for thwarting potential economic benefits from a proposed runway extension. In this case, one of the Airport's largest airlines, RyanAir, withdrew its services from the facility due to a lengthy decision making process, leading the airport to withdraw its application to extend the runway.

These precedents are informative because they show that an evaluation of an airport expansion proposal must take into consideration other investments that are required to extract the full benefit of an urban airport for a city. As well, there is a need to consider the opportunity costs of urban airport sites in the context of urban growth.

All six airports are summarized in detail for comparison in Appendix 1.



6

A TOOL FOR EVALUATING THE PROPOSED CHANGES TO AIRPORT OPERATIONS AND FACILITIES

The dockwall along the Western Gap is used for recreation

6.1 The purpose of the framework

Urban Strategies Inc. has developed an evaluation framework (see Appendix 2) to organize the potential challenges and benefits associated with the proposed airport expansion, in a manner that facilitates the evaluation of individual factors across potential scenarios. As such, the framework will help to clarify which Airport-related impacts – or combinations of impacts – are directly related to the extension of runways and the introduction of jet aircraft, above and beyond the impacts occurring as a result of existing Airport activity or potential future non-jet related changes to the Airport.

6.2 Contents of the framework

The framework was developed to specifically evaluate an array of factors that may be impacted in the vicinity of the Airport due to existing, forecasted, or proposed Airport activity.

For these Local/Context Area factors, the framework provides space for observation/analysis and action/future study for each of the three study scenarios detailed below. This format facilitates an at-a-glance understanding of what is known and what requires further exploration or conformation before conclusions can be drawn.

6.3 The framework as an evaluative tool

In this preliminary iteration, the framework does not incorporate any evaluative mechanisms to aid in the objective consideration and weighting of individual impacts in order to draw overall conclusions. A methodology for evaluating the impacts associated with each factor can be more effectively established once the findings from the overall study have been finalized and compiled, and once stakeholders and community members have provided insight into the relative significance of the identified factors and impacts.

6.4 Scenarios

Three separate evaluation scenarios have been established in order to isolate impacts that will occur in direct relation to jets and runway expansion from impacts that may occur as a result of ongoing as-is business operation or non-jet related changes. In each of these scenarios, the Airport's existing conditions or capacity in terms of passengers per annum (ppa) has been used as a stand-in measure of impact for Airport operations. The number of passengers has a direct relation to impacts.

The three scenarios are as follows:

Scenario 1: 2012 Baseline

Scenario 1 is essentially the status quo, with propeller aircraft using existing runways for regional business and tourism focused air travel. The scenario is based on the following core assumptions:

- Only propeller aircraft
- No runway extensions or expansions
- No significant increase in passengers per annum from the 2012 baseline of approximately 2.3 million

Scenario 2: Maximizing capacity of existing facilities

Scenario 2 introduces the potential expansion of Airport business (in terms of ppa) without the introduction of jet aircraft or the physical extension or expansion of existing runways. For this scenario, it is assumed the increases in passengers per year will result from selling more seats per flight and/or improving the performance of existing airport facilities, and that service will remain focused on regional business and tourism related travel. In sum, this scenario is based on the following core assumptions:

- Only propeller aircraft
- No runway extensions or expansions
- Potential increase in capacity to 3.8 million passengers per annum

Scenario 3: Proposed Airport expansion⁷

Scenario 3 entails the proposed introduction of jet aircraft, and the associated extension of Runway 08/26. It is assumed that these changes will extend the commercial service area of the airport to across North America and the Caribbean, opening the possibility of adding more leisure-based destinations to the existing regional routes. The scenario is also entails based on including a potential increase of passengers per flight on the proposed higher-capacity jet aircraft. This scenario is based on the following core assumptions:

- Mix of propeller and jet aircraft (likely 75% propeller, 25% jet)
- Extension of Runway 08/26
- Potential increase in capacity to 4.3 million passengers per annum

⁷ It should also be noted that two other scenarios may arise, but were set aside for the purposes of this evaluation. First, it is possible that Transport Canada will require the extension of Runway 08/26 to comply with revised aviation regulations even if jet aircraft are not introduced to the Airport. This would mean that the passengers per year would not increase beyond the Scenario 1 baseline, but the physical expansion of the airport could nonetheless affect land use, boating activity, or the natural environment. The same would be true for a scenario wherein jets were introduced but their spatial and buffer requirements would actually hinder the number of movements per day at the airport. Passengers per year could remain constant while the expanded footprint of the airport could affect the surrounding area.



Appendix 1

Comparison Tables of
Precedent Airports

London City Airport (Flickr - Badly Drawn Dad)

Precedent 1

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value |
|---|---|---|--|---|
| <p>London City Airport, UK</p> | <p>1986, 2007 – planning application made to increase the # of flights per year, granted in July 2009</p> | <p>Yes – close to the Thames, runway is surrounded by water (previously docks)</p> <p>Yes, part of London Docklands Development Corporation. Canary Wharf, Excel, and Olympic Village</p> | <p>Yes – Newham, borough of London</p> | <p>Suitability as a means of comparison:</p> <p>London City Airport operates at a greater capacity than Billy Bishop Toronto City Airport. With approximately 3 million passengers and 120,000 flight movements a year London City Airport’s capacity is nearly 40% greater than Toronto’s (LCACC, 2013). Similar to Toronto, London City Airport is located in the City’s decommissioned docklands, an area that has recently undergone significant regeneration and redevelopment as a new, mixed use, community. Due to neighbouring residential neighbourhoods, both new and old, London City Airport is under similar constraints to BBTCA in balancing community needs and concerns with growth (London City Airport, 2012). London City Airport is located 12km from the City’s downtown core, and 4.8km from Canary Wharf, the City’s new Financial District. This distance is comparable to BBTCA’s 3.5km distance to Toronto’s city centre. Unlike Billy Bishop Toronto City Airport, the London City Airport is located directly on a light rail line (the DLR) and as a result has a high modal split of transit using passengers (London City Airport, 2011). London City Airport is a relevant precedent for the Billy Bishop Toronto City Airport in terms of growth potential, its location in a regeneration area, and distance from the financial core. The London City Airport differs from BBTCA in that it serves both propeller and jet aircraft.</p> |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? |
| <p>12 km to City Centre</p> <p>4.8 km from Canary Wharf</p> | <p>3M / 2012</p> <p>120,000 movements permitted/year</p> | <p>Propellers & Jets</p> | <p>High percentage of airport passengers use transit, very low percentage of airport workers use transit.</p> <p>66% of passengers travel to the airport via public transport (47% DLR, 18% blacktaxis), 3% take private cars.</p> <p>68% of employees take a vehicle and 29% take transit, 3% walk or bike.</p> | <p>No, London has a number of airports serving the City;</p> <ol style="list-style-type: none"> 1. London Heathrow Airport (primary) 2. London Gatwick Airport 3. London Stansted Airport 4. London Luton Airport |
| | | | | <p>Planning issues raised:</p> <p>Beginning in 2007, the London City Airport made an application to increase the number of flights per year to 120,000 from a previous limit of 80,000 flight movements (London City Airport, n.d.). A study was initiated to review multiple planning issues and their impacts (LCACC, 2007). Noise and air pollution was monitored, analyzed and forecasted to determine their impacts on the health of the surrounding community and air quality (Ibid, 2007). Three impact statements were authored; an environmental impact statement, a health impact statement and a planning statement (Ibid, 2007). The Environmental Impact Statement examined issues relating to: waste (sanitary, general, fuel, electrical), archaeology and cultural heritage, ecology and nature conservation, flood risk, water & air quality, energy, carbon dioxide emissions, noise (noise impacts on nearby schools, colleges and hospitals, open spaces, and residential communities), in addition to a noise complainant system and noise mitigation strategies. The socio-economic impacts were analyzed in terms of job creation (direct on-site vs. direct off-site, indirect vs. induced), perceived impacts on home owners and tenants, and the impact on the area’s regeneration efforts (Ibid, 2007). Ecological impacts were examined, specifically the airport’s impact on the area’s bird population and air pollution (Ibid, 2007). In July 2009, Newham City Council voted in favour of increasing the number of flight movements at the London City Airport (BBC News, 2011). The decision was appealed to the High Court by the Fight the Flights organization; ultimately, however, the supportive decision was upheld by the Court (BBC News, 2011).</p> |
| | | | | <p>Planning precedent:</p> <p>The High Court’s and Newham Council’s approval of London City Airport’s requested flight movement increase demonstrates the perceived economic impact an airport can have on an area. Both the High Court and Newham Council saw the airport as an economic driver in regenerating the area by attracting the financial services’ sector.</p> |

London City Airport, UK

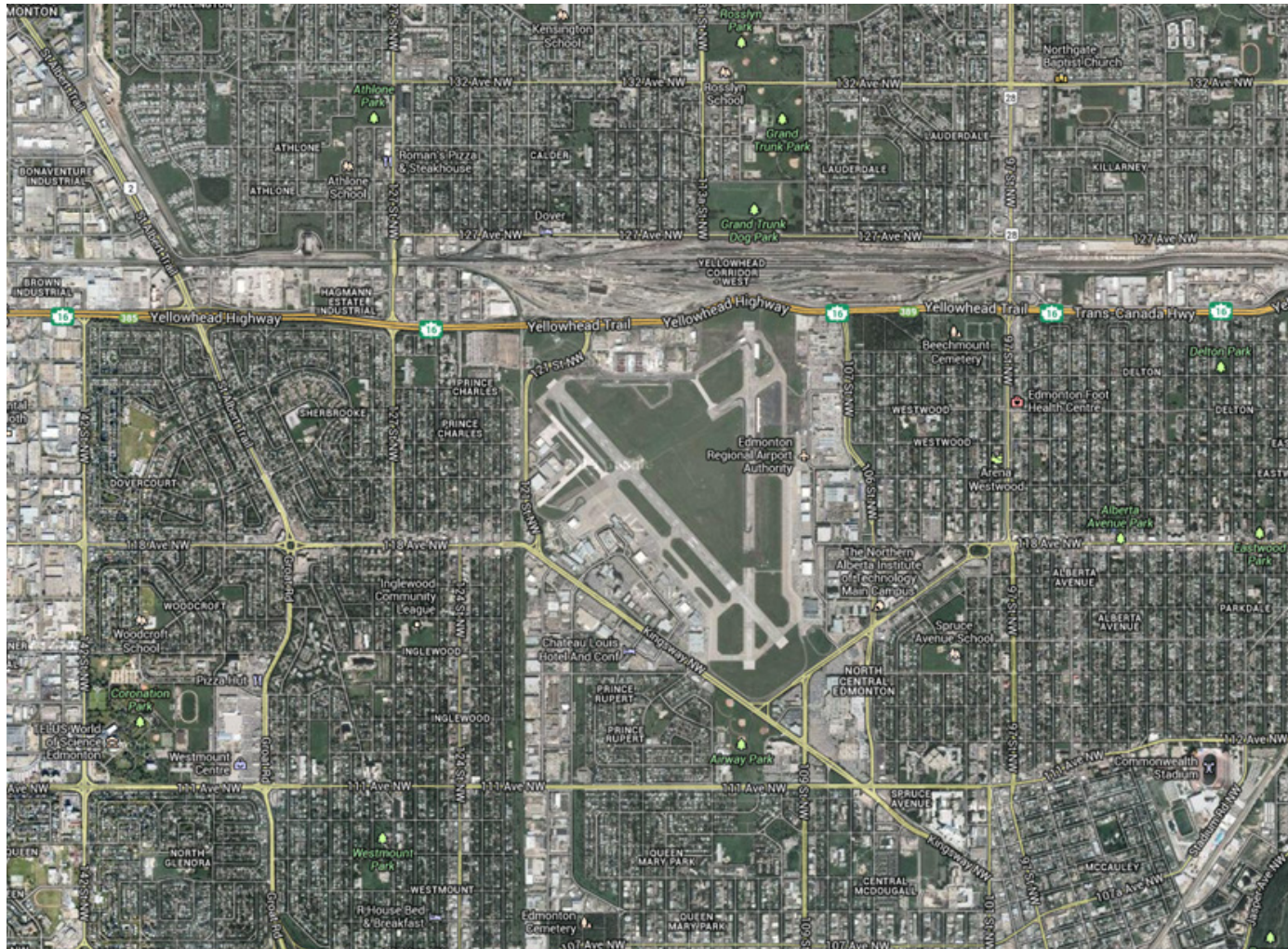


Source: Google Inc.

Precedent 2

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value |
|--|--|---|---|---|
| Edmonton City Centre Airport, AB (Blatchford Field) | 1930s | No. No – the airport lands themselves have since become a regeneration area. | Yes – low density residential & highway | <p>Suitability as a means of comparison: At time of operation, the Edmonton City Centre Airport (ECCA) operated at far less capacity than Billy Bishop Toronto City Airport. In its last year of commercial operation, 1996, the Edmonton City Centre Airport was used by 420,000 passengers, a quarter as many passengers using BBTCA (Ascend Aviation Insight, 2009). Located just 3.5 km north of Edmonton’s downtown, the ECCA had a similar urban location to the Billy Bishop Toronto City Airport. Similar to BBTCA, the ECCA was surrounded by residential uses.</p> <p>Planning issues raised: In 1995, Edmonton City Council conducted a study and held a city wide plebiscite to determine whether or not the ECCA should remain open (Reiniger, 2010). The study analyzed what impacts closing the ECCA would have from five perspectives: historical importance; economic impact; market feasibility; Medevac (Alberta’s medical emergency air service); and the public (City of Edmonton, 2013). Surrounded by a residential community, the City Centre Airport placed severe height restrictions on the neighbourhood thus limiting the area’s redevelopment and intensification potential. The revenue potential of the airport lands as a new community versus its existing use as an airport were also analysed (Ascend Aviation Insight, 2009). The City-wide plebiscite indicated that residents favoured the area’s redevelopment potential over its function as the City’s secondary airport (Reiniger, 2010). Edmonton City Council ultimately decided to close the airport as it was not reaching its highest and best use nor was it supportive of the City’s Strategic Plan which encouraged intensification within the City’s core (City of Edmonton - Corporate Services Department, 2008). Council estimated that the airport’s redevelopment would generate as much as \$486 million in revenue, over time, for the City (City of Edmonton - Corporate Services Department, 2008).</p> <p>Planning precedent: The closure of the Edmonton City Centre Airport demonstrates that the City and residents were concerned about the Airport as an inhibitor of success of the primary airport, and of planning and development objectives downtown.</p> |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? |
| 3.5km to City Centre | 417,002 / 1996 (last year the airport was publicly open) 0 commercial flight movements/year | Propellers & Jets | Information not available. | No, Edmonton International Airport is the primary airport. |

Edmonton City Airport, AB



Source: Google Inc.

Precedent 3

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value |
|---|---|--|---|--|
| <p>George Best Belfast City Airport, Northern Ireland</p> | <p>Nov. 2008 - extension application made, never constructed due to opposition from residents</p> | <p>No No – near established neighbourhood.</p> | <p>Yes – Near low density residential area</p> | <p>Suitability as a means of comparison: In November 2008, George Best Belfast City Airport applied to extend its runway by 590 metres . This extension would permit the use of the airport for longer haul flights and would widen its customer base to vacationing travellers (BBC News, 2011). At this time, the airport was operating short haul, business oriented services, similar to Billy Bishop (Ibid, 2011). In this regard, the George Best Belfast City Airport proposed extension is very similar to that of Billy Bishop Toronto City Airport. Further, with 2.2 million passengers a year the George Best Belfast City Airport operates at a similar capacity to BBTCA (Belfast City Airport, 2005). The George Best Belfast City Airport differs from BBTCA in that it serves a similar amount of passengers in approximately half (45,000) the number of flight movements (Ibid, 2005). Meaning, the George Best Belfast City Airport likely serves larger, fuller, planes in comparison to BBTCA. Located 4.8km from Belfast’s City Centre, George Best Belfast City Airport is located within a similar proximity to the downtown core as Billy Bishop. Further, the George Best Belfast City Airport differs from BBTCA in that it serves both propeller and jet planes.</p> |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? |
| <p>4.8km to City Centre</p> | <p>2.2 M / 2012 48,000 flight movements/year</p> | <p>Propellers & Jets</p> | <p>Private car - Drop off 34% Private car - Parking 17% Taxi 34% Car Hire 8% Bus / Coach / Train 6% Cycling / Walking 1% 2005</p> | <p>No, Belfast International Airport is the City’s primary airport.</p> |
| <p>Planning issues raised: The application to extend the airport’s runway was evaluated by the Planning Commission based on three factors: 1) Economic (jobs added, gross value added, benefit to businesses); 2) Environmental (air quality, drainage & water quality, ecology, traffic & transport); and 3) Social (noise impact on surrounding community) (Belfast City Council, 2010). Extension delays resulted in the airport losing one of its largest airlines, RyanAir, in October 2010 (BBC News, 2012; BBC News, 2010). As a decision had not been made by March 2012, the airport withdrew its application to extend the runway (Ibid, 2012).</p> <p>Planning precedent: The evaluation and ultimate withdrawal of George Best Belfast City Airport’s runway extension demonstrates the economic impact a runway extension can have on airlines. RyanAir cited that its withdrawal from George Best Belfast City Airport was largely due to the uncertainty of the runway extension as this would have allowed for longer haul, vacation oriented flights (Ibid, 2010).</p> | | | | |

George Best Belfast City Airport, Northern Ireland

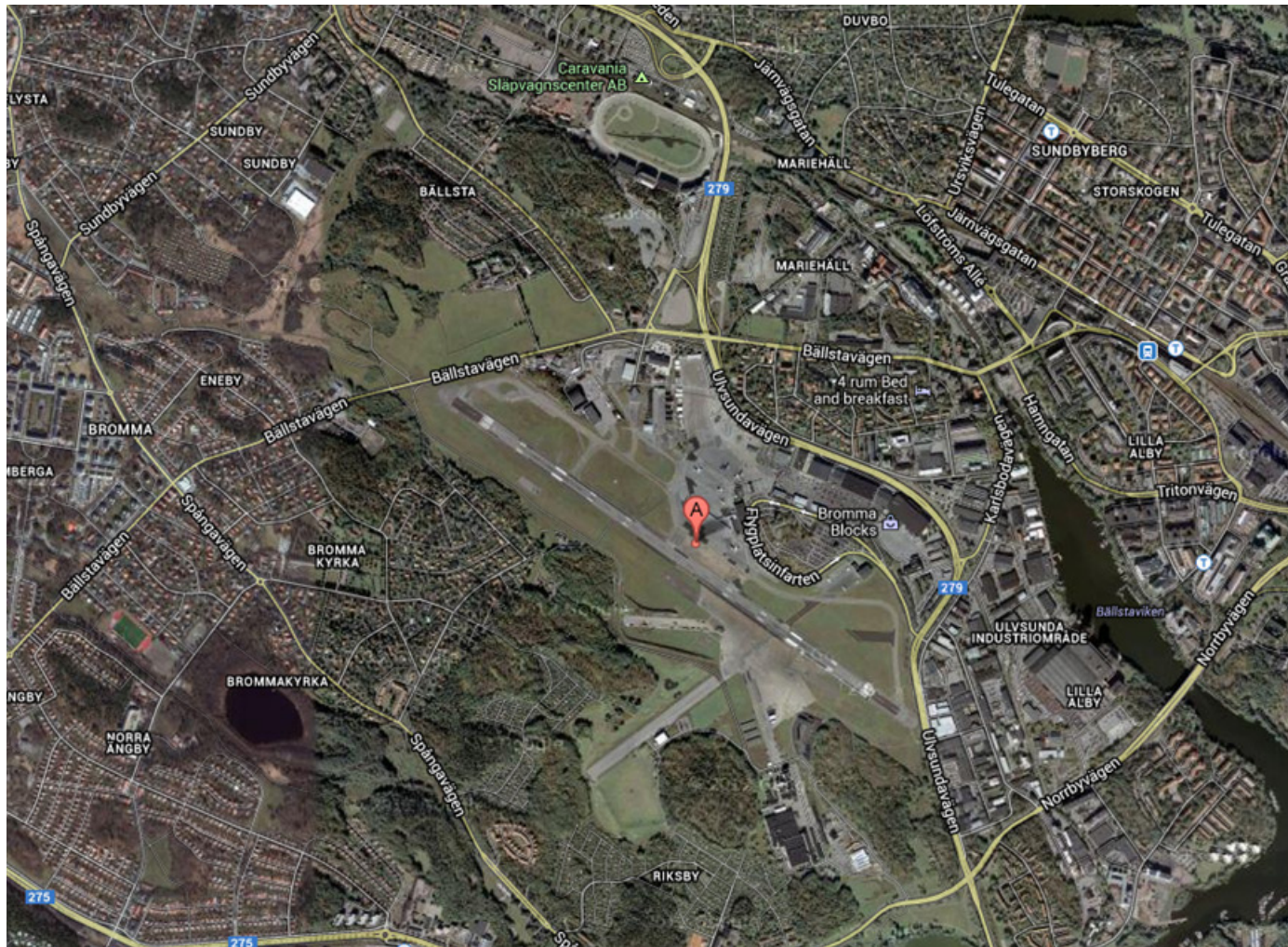


Source: Google Inc.

Precedent 4

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value | |
|---|---|--|---|--|--|
| Bromma Stockholm Airport, Sweden | 1936, limited to general aviation from 1983 – 1992, re-opened in 1994 as a domestic airport | No No – near established neighbourhood. | Yes – surrounded by low density residential | <p>Suitability as a means of comparison: With 2.2 million passengers a year over 68,000 flight movements, the Bromma Stockholm Airport operates at a similar capacity to BBTCA (Littorin, 2012). Similar to BBTCA, Bromma is near a city centre and is surrounded by a residential community and services the short haul needs of the business community (Ibid, 2012). Bromma Stockholm Airport differs from BBTCA in that it serves both propeller and jet planes and is surrounded by an established residential community.</p> <p>Planning issues raised: In 2007 Stockholm City Council was tasked with determining whether or not to renew Bromma Stockholm Airport's lease (The Local, 2007). Ultimately, Council decided to extend the airport's lease by 30 years recognizing the airport's economic benefit to the local business community (Ibid, 2007).</p> | |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? | <p>Planning precedent: Similar to the situation of London City Airport, Stockholm City Council's decision to extend the airport's lease demonstrates the perceived positive impact an urban airport has on the existing business community and in attracting new business to the area.</p> |
| 7.4km to City Centre | 2.2 M / 2011 68,000 movements permitted | Propellers & Jets | Information not available. | No, Stockholm Arlanda Airport is the primary airport serving the Stockholm. | |

Bromma Stockholm Airport, Sweden



Source: Google Inc.

Precedent 5

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value |
|---|--|---|-----------------------------------|---|
| <p>Santos Dumont, Rio de Janeiro, Brazil</p> | <p>1930s, terminal constructed 1952 and an extension was constructed in 2007</p> | <p>Yes – Also very close to recreational beach & boating area</p> | <p>Yes</p> | <p>Suitability as a means of comparison: Santos Dumont Airport operates at more than double the capacity of Billy Bishop City Centre Airport and thus is not a relevant precedent. The runways have been extended numerous times (they are currently 1,323m and 1,260 m respectively) and have been identified as some of the shortest runways in the world still allowing narrowbody jets (Boeing & Airbuses) to land (World Aero Data, 2013).</p> <p>Planning issues raised: Our research did not reveal significant studies or reports relating to the runway extensions.</p> <p>Planning precedent: Due to a lack of available information on the study and research conducted in expanding the airport’s runways, it is difficult to draw planning conclusions.</p> |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? |
| <p>4.5km to City Centre</p> | <p>4.8 M / 2009 135,373 movements/year</p> | <p>Propellers & Jets</p> | <p>Information not available.</p> | <p>No, Galeao – Antonio Carlos Jobim International Airport is Rio de Janeiro’s primary airport.</p> |

Santos Dumont, Rio de Janeiro, Brazil

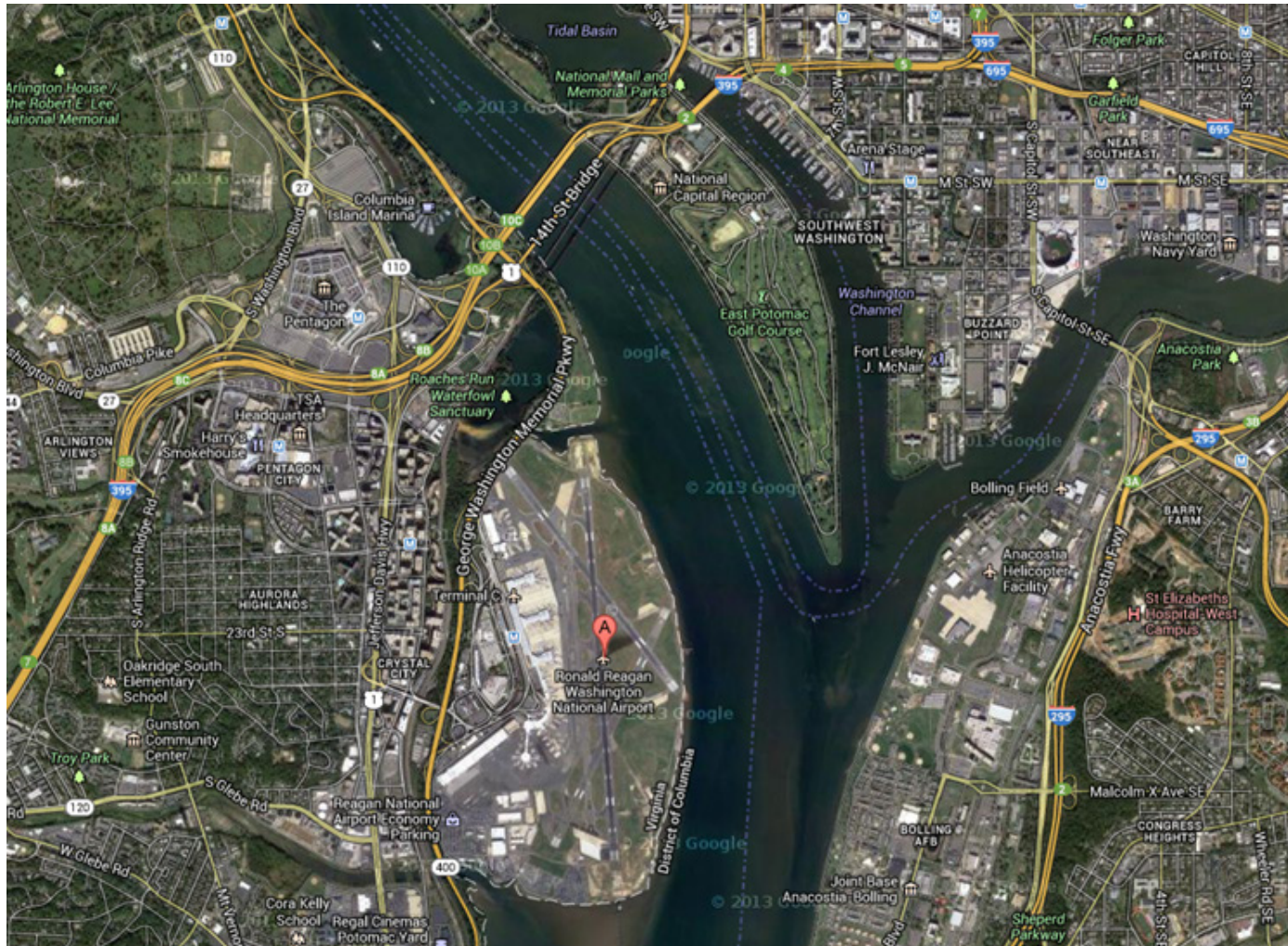


Source: Google Inc.

Precedent 6

| Airport Name | Year Constructed & Renovated | In Waterfront Area? In Regeneration Area? | In the City? | Analysis of Precedent Value | |
|--------------------------|---|---|----------------------------|--|--|
| Reagan National Airport | 1941, current terminals constructed in 1997 | Yes No – near government centre | Yes | <p>Suitability as a means of comparison: With over 19.7 million passengers per year, the Reagan National Airport operates at a far greater capacity than Billy Bishop Toronto City Airport. Reagan National Airport permits triple the number of air movements allowed at BBTCA (Metropolitan Wahington Airports Authority- Financial Strategy & Analysis, 2013). Further, the Reagan National Airport differs from BBTCA in that it serves both propeller and jet planes. In this regard, Reagan National Airport is not a strong precedent, though it is close a city centre.</p> <p>Planning issues raised: In 2012 the US Department of Transportation permitted new noise exemptions that allowed for the introduction of more long haul flights with larger aircrafts (United States Department of Transportation, 2012). The motion to permit additional long haul aircrafts was largely a political one; many Midwestern and coastal senators supported the motion citing reasons of geographic accessibility and convenience.</p> | |
| Proximity to City Centre | Passengers Per Year & Movements Per Year | Aircraft Used | Modal Split | Primary Airport? | <p>Planning precedent: Airspace prohibitions in Washington, DC require flights to make a steep climb and descent onto the runway. This precedent demonstrates that airlines are able to overcome airspace constraints in urban environments by altering their practices. Whether such alterations are desirable or safe is a subject for further analysis.</p> |
| 5.7km to City Centre | 19.7 M / 2012 288,000 movements/year | Propellers & Jets | Information not available. | No, Dulles International Airport is the primary airport serving Washington, DC. Baltimore-Washington International Airport also serves the area. | |

Ronald Reagan Washington National Airport, Arlington, VA



Source: Google Inc.

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Appendix 2

Preliminary Evaluation Framework for Local/Context Area Impact Factors



Cars leaving the Airport facilities on Eireann Quay

| Local/Context Area Impact Factors (Benefits and Constraints) | Scenario 1 | | Scenario 2 | | Scenario 3 | |
|---|--|--------------------------|---|--------------------------|---|--------------------------|
| | 2012 Baseline 2.3 million ppa No jets No physical expansion No passenger volume increase | | Maximizing existing facilities 3.8 million ppa capacity No jets No physical expansion Passenger volume increase | | Proposed Airport Expansion 4.3 million ppa capacity Jets Physical expansion Passenger volume increase | |
| | Observation/ Analysis | Action/ Further Study | Observation/ Analysis | Action/ Further Study | Observation/ Analysis | Action/ Further Study |
| Character of area | | | | | | |
| Sense of enjoyment | | | | | | |
| Perception of area's primary function | | | | | | |
| Development potential | | | | | | |
| Height | | | | | | |
| Land use compatibility | | | | | | |
| Demand | | | | | | |
| Land availability | | | | | | |
| Economic development | | | | | | |
| Existing business | | | | | | |
| Potential business | | | | | | |
| Local employment | | | | | | |
| Environment | | | | | | |
| Air | | | | | | |
| Noise | | | | | | |
| Water | | | | | | |
| Sensitive areas/habitat/birds | | | | | | |
| Parks and open spaces | | | | | | |
| Use of parks/open spaces | | | | | | |
| Open space connectivity | | | | | | |
| Recreation | | | | | | |
| Water-based activities | | | | | | |
| Recreation trails | | | | | | |
| Waterfront-related leisure and events | | | | | | |
| Safety | | | | | | |
| Aircraft emergencies | | | | | | |
| Fuel storage | | | | | | |
| Waterfront -related leisure and events | | | | | | |
| Social justice | | | | | | |
| Impacts on vulnerable populations | | | | | | |
| Transportation | | | | | | |
| Taxi/automobile | | | | | | |
| Bicycle | | | | | | |
| Pedestrian | | | | | | |
| Transit | | | | | | |
| Ferry | | | | | | |
| General Aviation (private aircraft) | | | | | | |
| Shipping (surface/water) | | | | | | |