Appendix 1: Billy Bishop Toronto City Airport Capital Program 2019 Update

Billy Bishop Toronto City Airport Capital Program 2019 Update

Date: May 1, 2019

Presented By: Bojan Drakul / Christopher Sawicki
Location: CLC Presentation

PORTS TORONTO

Agenda

- Review Status of Ongoing and Upcoming 2019 Capital Projects by PortsToronto
- Review 2019 Projects by Airport Tenants

PORTS TORONTO

Overview

- Five Year Capital Plan for 2019 to 2023 was approved by the Board in January

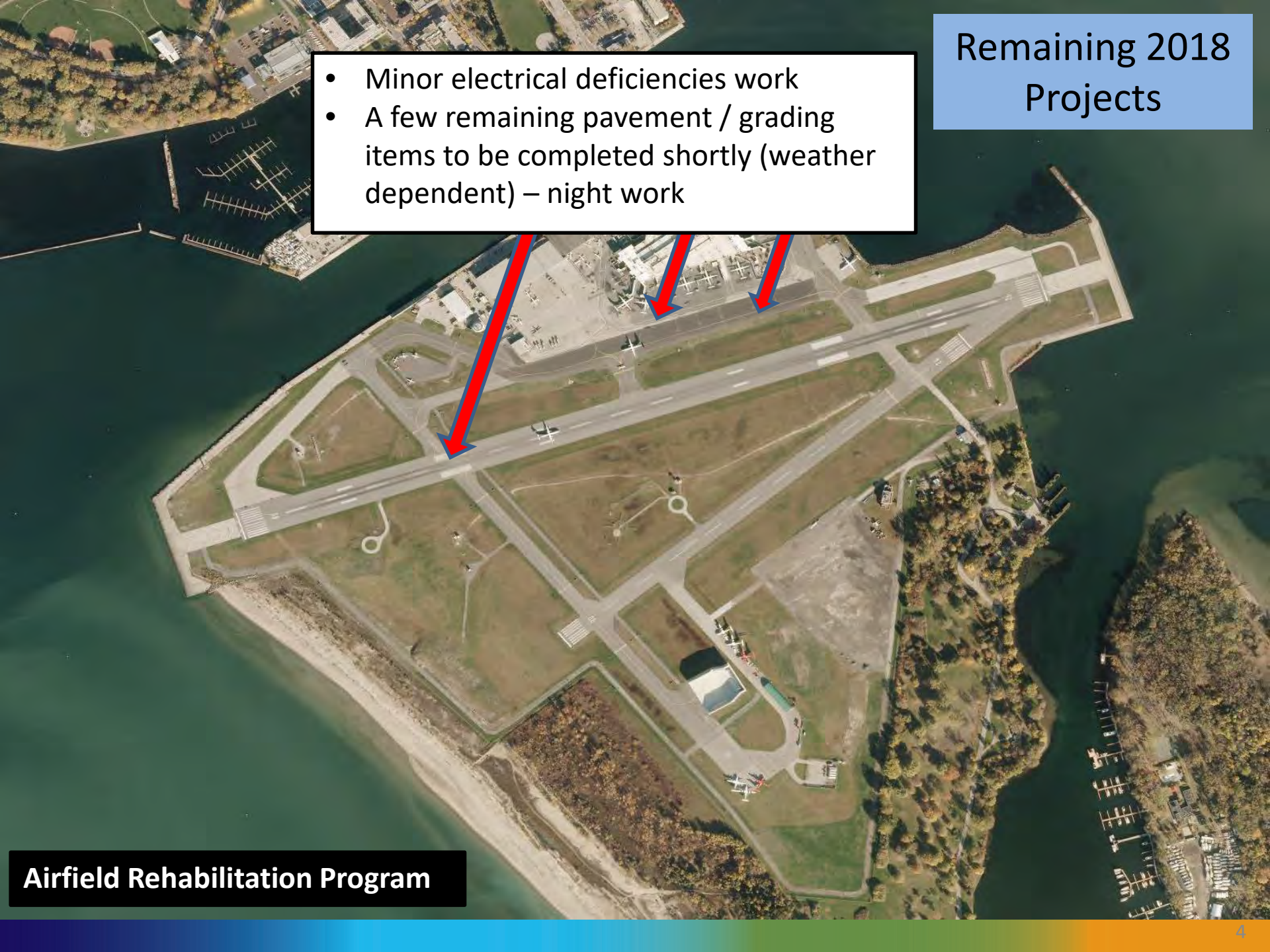
- This year's program is not as extensive compared to previous years

- Sustainability and environmental protection continue to be at forefront of all our project developments

PORTS TORONTO

Remaining 2018 Projects

- Minor electrical deficiencies work
- A few remaining pavement / grading items to be completed shortly (weather dependent) – night work



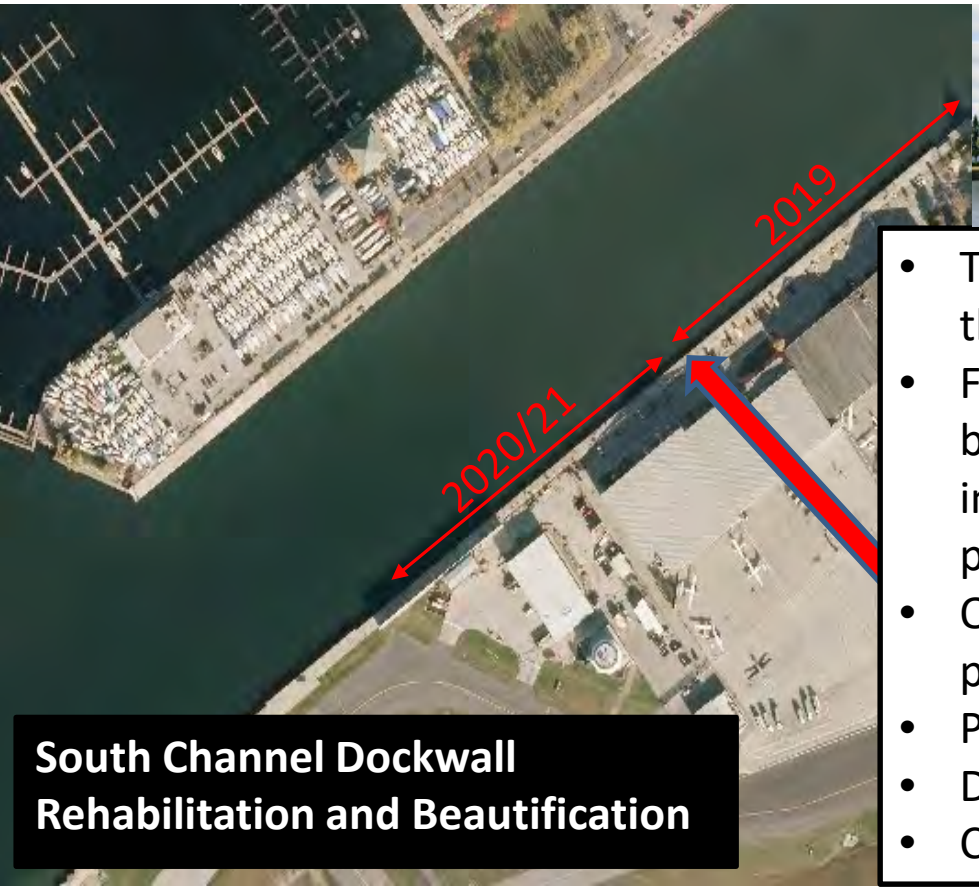
- Update to airport access including improvements to traffic flow and passenger experience
- Storm water management updates
- Coordinated with Bathurst Quay Neighbourhood Plan and Dockwall Repair including Record of Site Condition for change of land use from industrial to parks and open space
- Construction start in early Summer

City Side Modernization

2019 Projects

- Drainage improvements to be made to reduce risk of flooding of the PTF facility
- Design underway with construction in the summer 2019
- Construction details yet to be developed

Drainage Improvements at Airport Turning Circle



South Channel Dockwall Rehabilitation and Beautification

- The project includes stabilization and repair of the c.1913 dockwall
- Following repair, construction of public boardwalk and greenspace will commence including timber boardwalk, seating, and native plantings
- Opportunity for MNCFN art installation at prominent airport location
- Project split into two stages (years)
- Design works underway
- Construction start Summer 2019

"Marilyn Bell I"

- The MB1 to be the first lithium-ion battery powered electric vessel to operate in Canada
- The key goals:
  - ✓ eliminate pollutant CO_2 emissions from current diesel engines
  - ✓ reduction of the noise emissions
- Contract to be Awarded to Canal Marine shortly
- Approximately 10 months to complete
- Conversion will take place in a dry-dock facility (offsite)
- Timing somewhat weather dependent

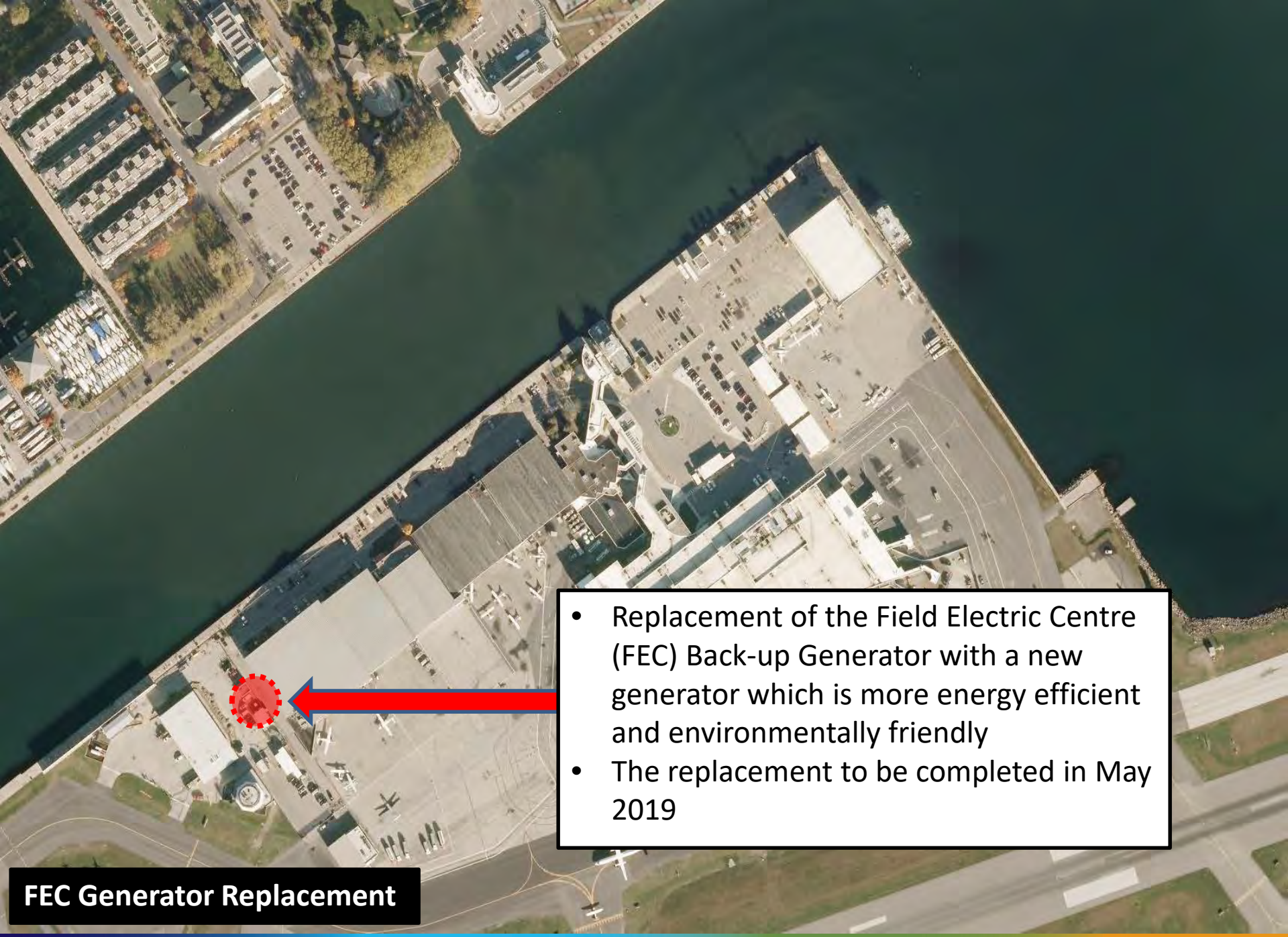
"Marilyn Bell I" (MB I) Ferry Electrification

Stormwater and Glycol Management Study

- Study commenced in late 2018
- Study to be completed in the fall – opportunity for consultant to assess all four seasons
- Recommendations for any improvements

- Replacement of a Diesel Fire Pump
- New motor which is more energy efficient, quieter, and runs cleaner already replaced
- Aging pump in the process of being replaced

Diesel Fire Pump Replacement



- Replacement of the Field Electric Centre (FEC) Back-up Generator with a new generator which is more energy efficient and environmentally friendly
- The replacement to be completed in May 2019

FEC Generator Replacement

- Replacement of current incandescent lighting with new, energy efficient LED lighting fixtures
- Scheduled for May/June 2019 and expected to last approximately 30 days

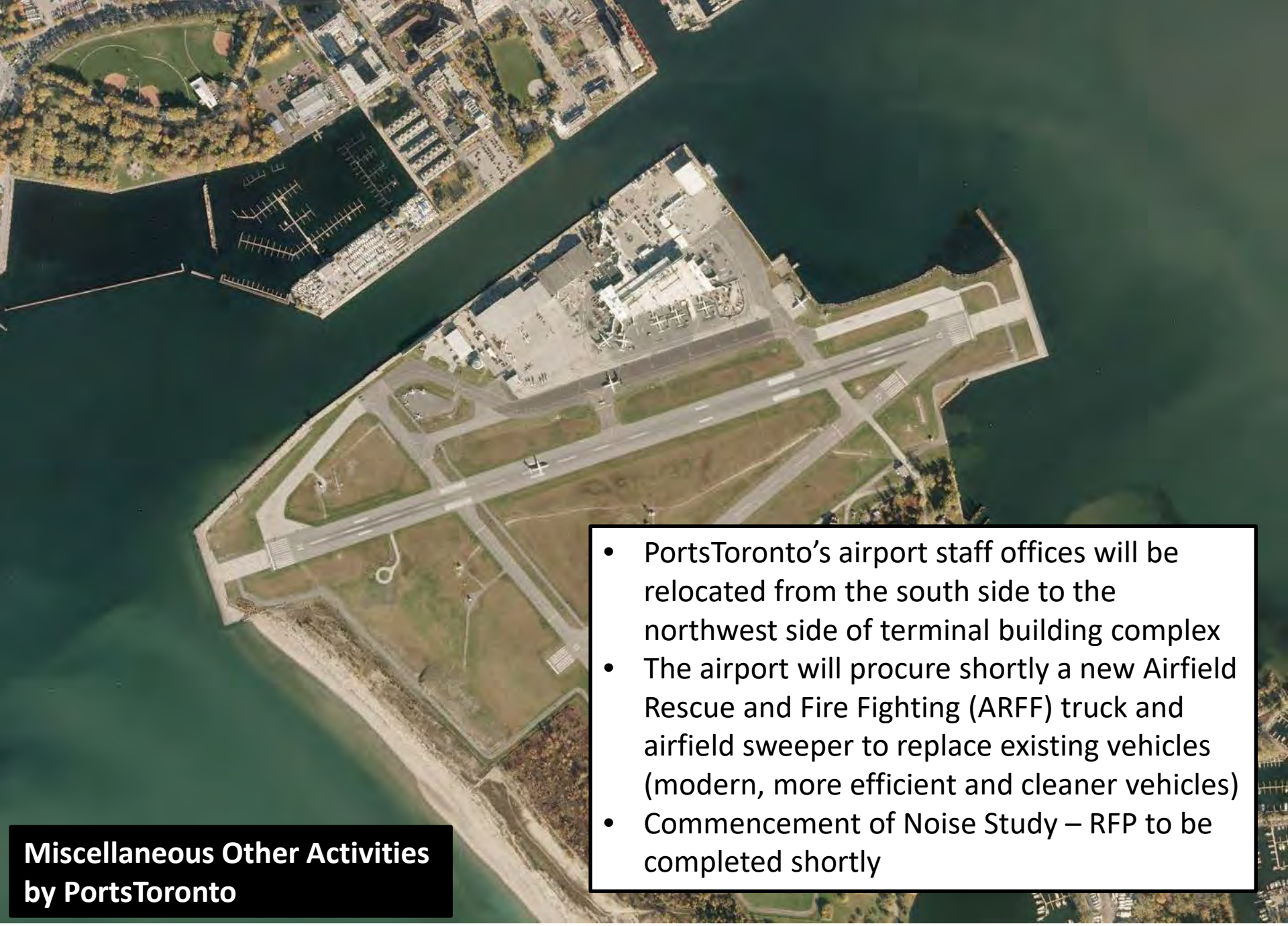
Energy Improvements Project (Lighting Retrofit)

New Retail Services

- The project includes multiple retail “pre-security” establishments
- New product and fresh food service offerings to passengers, staff and visitors
- Project phase I implementation scheduled for Spring/Summer 2019

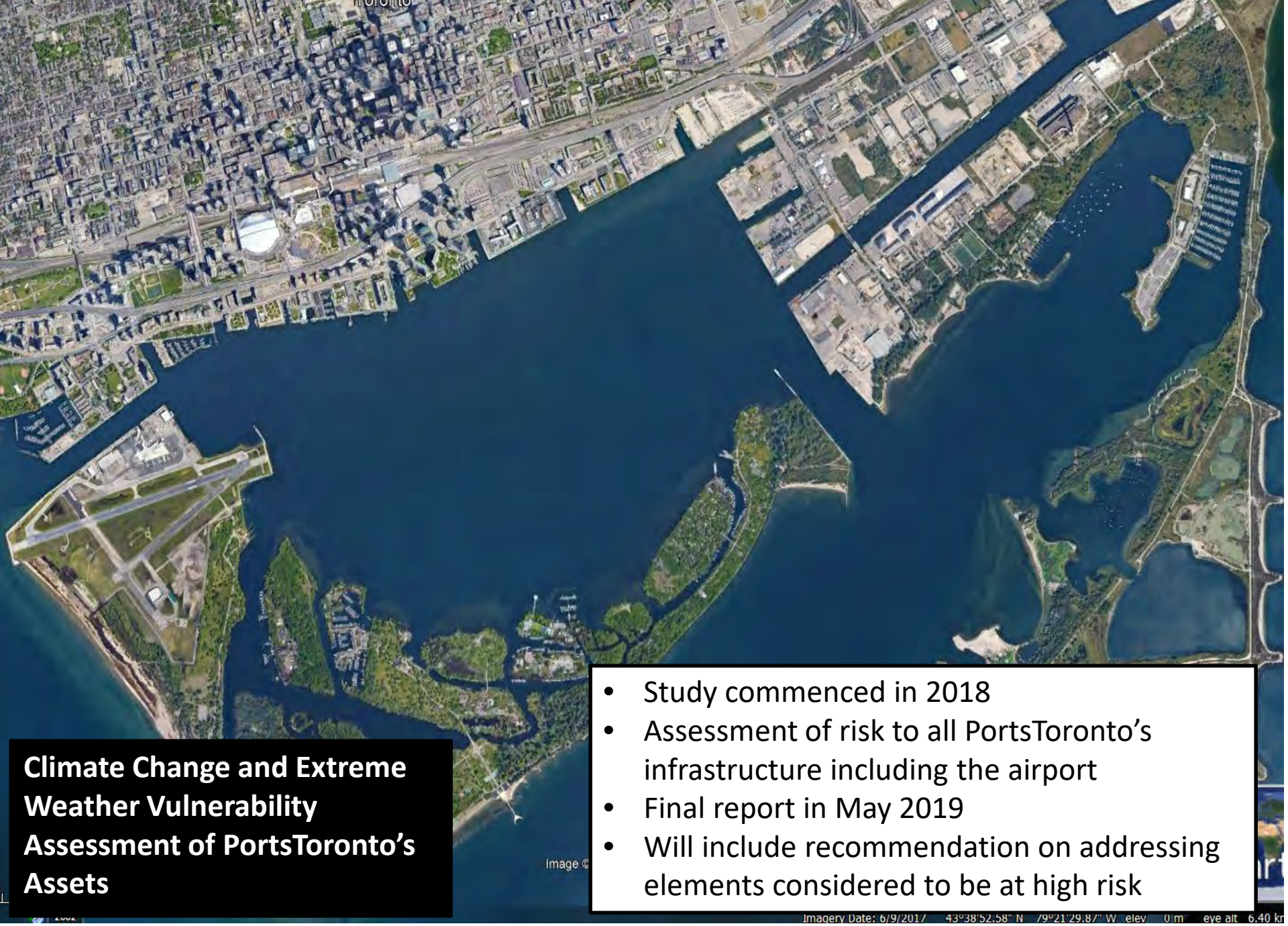
Island East Dockwall Rehabilitation

- The project includes minor repairs to the east dockwall – to be completed this year with some in-water work requirement
- Major repairs anticipated to be completed in 2022



Miscellaneous Other Activities by PortsToronto

- PortsToronto's airport staff offices will be relocated from the south side to the northwest side of terminal building complex
- The airport will procure shortly a new Airfield Rescue and Fire Fighting (ARFF) truck and airfield sweeper to replace existing vehicles (modern, more efficient and cleaner vehicles)
- Commencement of Noise Study – RFP to be completed shortly



Climate Change and Extreme Weather Vulnerability Assessment of PortsToronto's Assets

- Study commenced in 2018
- Assessment of risk to all PortsToronto's infrastructure including the airport
- Final report in May 2019
- Will include recommendation on addressing elements considered to be at high risk

Major Projects by Airport's Tenants

New Hangar (Stolport FBO Project)

- Stolport is currently designing a new hangar
- Anticipated the hangar will be constructed in 2019
- Located west of the existing Hangar 1

- PortsToronto will continue providing Bi- Annual project updates through various development stages
- Any new tenants' projects will also be identified as tenants submit facility alteration permits requests to PortsToronto
- Mitigation of impacts due to construction noise / lighting / traffic will be prioritized with contractors for each project
- Use of barging not anticipated for 2019 as the proposed projects do not require large amounts of material hauling

2018/2019 Program

- PortsToronto headquarters moved from 60 Harbour Street to 207 Queens Quay West

PortsToronto Headquarters Move

PORTS TORONTO

Appendix 2: Billy Bishop Toronto City Airport Sustainability Report 2018

BILLY BISHOP
TORONTO CITY AIRPORT

Sustainability Report 2018

BILLY BISHOP TORONTO CITY AIRPORT

Canada

60 Harbour Street, Toronto,
ON M5J 1B7 Canada

The Toronto Port Authority, doing business as PortsToronto since January 2015, is a government business enterprise operating pursuant to the Canada Marine Act and Letters Patent issued by the federal Minister of Transport. The Toronto Port Authority is hereafter referred to as PortsToronto.

For more information on this report please contact:

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PortsToronto's Sustainability Report is available online at PortsToronto.com.

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Executive Message

Welcome to our second annual Billy Bishop Toronto City Airport Sustainability Report, an important document that serves to keep our community and partners informed of the important work we do to conduct our operations in a sustainable manner and reduce our carbon footprint. Within the framework that defines sustainability for Billy Bishop Airport, this report details our progress in the areas of environmental protection, economic performance and community engagement. This year's report also includes a new section—People and Culture—that speaks to our commitment to health and safety in the workplace and the well-being of our team.

As an urban airport located in the heart of one of the world's greatest cities, Billy Bishop Airport is a unique asset and a source of great opportunity. The airport drives business by connecting Toronto to global markets. It encourages tourism by bringing people to Toronto from destinations throughout eastern North America. It supports the health of Ontarians by providing a base for Ornge Medevac services to facilitate urgent care and organ donation. It generates revenue and provides jobs for the region and invests in the community to build infrastructure and support charitable organizations. Billy Bishop Airport plays an integral role in servicing Toronto and contributing to what makes this city world class.

However, with the opportunity that comes with operating an urban airport in one of the world's greatest cities comes heightened expectations and responsibility to conduct business in a manner that reflects balance between commercial imperatives and community interests. It is our commitment to balance that drives our efforts to innovate in order to further enhance the sustainability of our operations and mitigate the impacts associated with running an airport.

From completing a significant $35 million rehabilitation program to modernize the airport's airfield, including the construction of a Ground Run-Up Enclosure (GRE) facility that has virtually eliminated noise complaints related to engine testing; to continuing to choose 100% green electricity from Bullfrog Power—the only airport in Canada to do so; to forming a community-based Noise Sub-Committee to further understand and mitigate noise from our operations, this year's report identifies the progress we have made in sustainability and outlines the plans we have put in place to maximize our efforts and achieve our environmental goals.

This year, we will release our updated Master Plan for the airport that will provide a long-range vision for the airport, including a study of current sustainable practices as well as new opportunities to implement additional processes and measures to reduce traffic and enhance public space in the vicinity of the airport. I am pleased to report that, to date, we have held two public meetings and more than 70 smaller group meetings with community members, government partners, First Nations communities, and airport stakeholders as part of a comprehensive public consultation process to ensure the overall plan captures various perspectives to best address the airport's role in the economy, transportation network and community.

The collaborative working relationship that we have established with all of our partners has become a defining component in our sustainability program and has resulted in innovative measures introduced at the airport. For example, the airport's Curfew Fine Policy, to redirect funds from curfew violation fines toward community organizations, was proposed by a member of the community at one of our meetings.

In the case of the airfield rehabilitation program, with input from our community and airport partners, we introduced various measures to minimize construction impacts on both the community and the environment, such as an innovative barging operation that removed the equivalent of 6,000 trucks off the airport's neighbouring roads. Completing this significant three-year program was no small feat, yet with a collaborative plan in place designed to pre-empt potential operational and community disturbances, the project was completed on budget and ahead of schedule with virtually no disruptions to airport operations, travellers and the surrounding community.

While I am tremendously proud of our journey to date in sustainability, our work in this area remains ongoing with new projects and plans constantly in the works. This year, we will lead the way in environmental initiatives by converting the Marilyn Bell I biodiesel airport ferry to electric-power, which will significantly reduce greenhouse gas emissions and noise in the neighbourhood. This retrofit represents a unique technological advancement in the airport's fleet and will be the first 100 percent electric lithium-ion powered ferry in service in Canada.

Looking ahead, we will continue to highlight areas where there is room for improvement so that we can best analyze the results of our work and address areas where more can be done. By investing in the long-term future of the airport and enhancing the sustainability of our operations, we are also aiming to serve the City of Toronto by fueling the economy, connecting people, and implementing innovative programs and infrastructure that will have a meaningful and lasting impact on the world class city that we are so fortunate to call home. We hope you enjoy reading more about Billy Bishop Airport and the work we do to strike an effective balance on Toronto's waterfront.

Gene Cabral
Executive Vice President
Billy Bishop Toronto City Airport

Business Units

BILLY BISHOP TORONTO CITY AIRPORT

Billy Bishop Airport is Canada's ninth-busiest airport and welcomed 2,807,208 business and leisure travellers in 2018. The airport offers service to more than 20 cities in Canada and the U.S. with connection opportunities to more than 80 international destinations via our airlines' networks. As Canada's sixth-busiest airport with passenger service to the United States, Billy Bishop Airport is an important international gateway and a key driver of Toronto's economy. Each year, the airport generates more than $470 million in Gross Domestic Product (GDP) and supports 4,740 jobs, including 2,080 directly associated with airport operations.

A base for award-winning commercial air carriers Porter Airlines and Air Canada, Billy Bishop Airport is known throughout the travelling community for its word-class customer service and convenience. The airport's proximity to downtown in conjunction with the state-of-the-art pedestrian tunnel, enhanced shuttle service, shorter lines and newly unveiled passenger lounges have made Billy Bishop Airport the travel hub of choice for business and leisure travellers alike.

The airport has been recognized with a series of passenger driven awards, including being named one of the top airports in North America in both the Airports Council International's (ACI) Airport Service Quality Awards and Skytrax World Airport Awards, the premier international airport awards voted on by 13.8 million passengers worldwide. Billy Bishop Airport was also named one of the top ten best international airports by Condé Nast Traveler.

Billy Bishop Airport also serves as a base for Ornge, an air ambulance service, two Fixed Base Operators, FlyGTA and Heli Tours, and is home to a personal/general aviation community that includes approximately 50 private planes and one flight school.

Corporate Governance

Billy Bishop Toronto City Airport is owned and operated by PortsToronto, the successor agency of the Toronto Harbour Commissioners (THC), which managed the Toronto Harbour from 1911 to 1999. As part of a broad strategy developed by the federal government to modernize the administration of ports, the Toronto Port Authority, now PortsToronto, was established in 1999 to operate the port, marina, airport and its land holdings.

Established under the *Canada Marine Act*, PortsToronto is a government business enterprise that is mandated to be financially self-sufficient and receives no federal, provincial or municipal funding. PortsToronto operates in accordance with the *Canada Marine Act* and Letters Patent issued by the federal Minister of Transport in addition to a series of specific policies and procedures. The Letters Patent include requirements related to PortsToronto's board of directors and outlines the activities that can be undertaken by the organization.

PortsToronto is accountable to the federal government through Transport Canada, and is guided by a nine-member board of directors composed of individuals appointed by all levels of government—federal, provincial and municipal. Six members of the board are appointed by the Minister of Transport in consultation with committees representing four identified user groups—commercial, recreation, airport and port operations. The City of Toronto and the Province of Ontario have a direct governance relationship with PortsToronto via their appointees to the PortsToronto board of directors. The PortsToronto board met 20 times in 2018.

The following four standing committees oversee various organizational matters, various facets of our operations and assess recommendations from management:

- Audit and Finance
- Governance and Human Resources
- Communications and Outreach
- Pension

The board relies on these committees to facilitate business and guide its decisions. During 2018, the committees met 28 times.

For more information about PortsToronto governance, please visit our website.

The board of directors is appointed as follows:

One appointee nominated by the federal Minister of Transport

One individual appointed by the City of Toronto

One individual appointed by the Province of Ontario

Six individuals appointed by the federal Minister of Transport in consultation with the below industry groups.

- Commercial
- Airport
- Port-related activities/operations
- Recreational business

All individuals nominated by the Minister of Transport are appointed by the Governor in Council.

Board of Directors

G. MARK CURRY
(retired August 2018)

HELLEN SIWANOWICZ
(appointed June 2018)

DARIN E. DESCHAMPS

ROBERT D. POIRIER
Chair of the Board

AMANDA WALTON

DON MCINTYRE
(appointed June 2018)

JAN INNES

Senior Management

DEBORAH WILSON
Vice President of Communications and Public Affairs

CRAIG MANUEL
Vice President and General Counsel

GENE CABRAL
Executive Vice President, PortsToronto and Billy Bishop Airport

GEOFFREY A. WILSON
Chief Executive Officer

ALAN J. PAUL
Senior Vice President and Chief Financial Officer

CHRIS SAWICKI
Vice President of Infrastructure, Planning and Environment

SUSTAINABILITY COMMITTEE

At PortsToronto, all employees are responsible for conducting business in an environmentally sustainable manner and are encouraged to look for areas of improvement within their day-to-day activities. For the last several years PortsToronto, owner and operator of Billy Bishop Airport, has benefited from the efforts of a Sustainability Committee, comprising of staff from each business unit including the airport. The committee meets monthly to share ideas and identify strategies for employing environmental best practices throughout PortsToronto's business units and operations.

From introducing battery disposal bins at the airport to continuing to provide staff with reusable water bottles, new and innovative ideas are consistently generated by members of the Sustainability Committee.

The committee also manages a sustainability calendar to mark special events for employees to participate in, including the annual Foreign Object Debris Pick-Up at Billy Bishop Airport, Earth Hour and Waste Reduction Week. PortsToronto strives to promote sustainability in a monthly internal newsletter and encourage employees by creating contests designed to engage staff and increase knowledge and awareness of environmentally friendly practices that can be implemented both in the office and at home.

The PortsToronto Sustainability Committee met eight times in 2018.

Sustainability Committee

MIKE DWYER
Outer Harbour Marina

SARAH SUTTON
Communications and Public Affairs

MIKE DAVID
Infrastructure, Planning and Environment

JESSICA PELLERIN
Communications and Public Affairs

REBECCA DIANA
Works and Environmental Services

MIKE LAMONT
Works and Environmental Services

JOHN HUGGETT
Health and Safety

MIKE RIEHL
Port of Toronto

ANGELA HOMEWOOD
Infrastructure, Planning and Environment

GARY COLWELL
Billy Bishop Airport

ANGIE STEWART
Outer Harbour Marina

Approach to Sustainability

Billy Bishop Toronto City Airport is proud to present our second annual Sustainability Report. Recognizing the importance of sustainability, this report summarizes Billy Bishop Airport's continued efforts to employ environmental best practices.

Billy Bishop Airport is committed to engaging in an ongoing dialogue on opportunities to maximize sustainability efforts within our airport and our community. Through our 2018 Sustainability Report, we continue to build upon the strong foundations and goals that we have set for ourselves in the inaugural edition of this report. This annual Sustainability Report for Billy Bishop Airport endeavours to consolidate all of the work we are doing so that we can continue to measure our efforts and maximize the impact of our sustainability initiatives.

Our Sustainability Reports are structured around four priority areas that together define sustainability at PortsToronto:

I. Environmental Stewardship
II. Community
III. People and Culture
IV. Economic Performance

In this year's report, a comprehensive performance summary is included that provides an at-a-glance overview of progress on key performance metrics that align with Billy Bishop Airport's priority areas and sustainability goals.

Our Sustainability Report is guided in part by the Global Reporting Initiative (GRI). The GRI has pioneered and developed a comprehensive Sustainability Reporting Framework that is widely used around the world. It includes guidance in four key areas: economic, environmental, social and governance performance. We use the GRI standards to inform our reporting and will continue to do so in our future reports.

OUR PRIORITIES

This year we undertook efforts to refine our sustainability priorities and to ensure that our report reflects the sustainability goals that are most relevant to Billy Bishop Airport, our government partners and our stakeholders. Together with Delphi Group, we conducted three workshops with PortsToronto leadership and employees to evaluate these priorities. Our report reflects the areas of greatest importance to Billy Bishop Airport's sustainability efforts and these represent our areas of focus. In 2019, we will continue to refine our process for setting and meeting sustainability goals, and engaging external stakeholders for input as part of our effort toward addressing and reporting on the issues of highest significance to our stakeholders.

In July 2018, Billy Bishop Airport renewed its agreement with Bullfrog Power Canada to power all of its operations with green energy. The new agreement runs until July 31, 2022.

WORKING WITH GOVERNMENT PARTNERS

PortsToronto is a key federal government agency that works with other agencies to manage the harbour, engage in projects and work collaboratively to ensure a vibrant waterfront. As such, our management and staff members are engaged with all levels of government to ensure collaboration and coordination of current operational works and future projects along the waterfront.

As the owner of Billy Bishop Airport, PortsToronto has regular meetings with the City of Toronto, Transport Canada, Waterfront Toronto and the Mississaugas of the New Credit First Nation, and is a member of several Landowner and Stakeholder Advisory Committees for projects including the Bathurst Quay Neighbourhood Plan, Waterfront Transit Reset, the Waterfront School Playground Master Plan, Toronto Island Master Plan, East Gap Break Wall Pier Restoration, and the Port Lands Planning Framework.

PortsToronto staff also provide technical support to several agencies and committees on projects including the Port Lands Community Risk-Based Assessment, Port Lands Flood Protection and Enabling Infrastructure Project, Port Lands Public Realm and River Project, and the Gibraltar Point Erosion Control Project.

We are also a key agency supporting the work of Aquatic Habitat Toronto (AHT), which represents a consensus-based partnership among agencies with a vested interest in the improvement of aquatic habitat on the Toronto Waterfront. AHT partners include the Toronto and Region Conservation Authority (co-chair), the federal agencies of Environment Canada (co-chair) and Fisheries and Oceans Canada, the provincial Ministry of Natural Resources and Forestry, the City of Toronto, Waterfront Toronto and PortsToronto.

Performance Summary 2018

ENVIRONMENTAL STEWARDSHIP

Sustainability Indicator	Target / Goal	Progress	Details
CARBON FOOTPRINT	35 percent carbon reduction below 2015 levels by 2030	Ongoing	Exploring and implementing initiatives to reduce emissions
BULLFROG POWER	Continue partnership with Bullfrog Power Canada to purchase 100% renewable electricity	Achieved	Billy Bishop Airport renewed its agreement with Bullfrog Power Canada in 2018 to power all of its operations with 100% green electricity
ELECTRICITY INITIATIVES	Airfield Rehabilitation Program	Achieved	Completed 100 per cent LED lighting retrofit of the airport's airfield
BILLY BISHOP AIRPORT FERRY	Conversion to biodiesel fuel	Achieved	Converted airport ferry to biodiesel fuel in April 2018, which reduced emissions by 18 tCO_2e
	Conversion of the Marilyn Bell I airport ferry to electric power	Ongoing	Plans underway to convert the biodiesel fuel-powered airport ferry to electric power
NO-IDLING POLICY	Discourage vehicles from idling on PortsToronto premises	Ongoing	Billy Bishop Airport continues to promote a No-Idling Policy through staff newsletters, educational materials, and in its facility designs
PROMOTE ACTIVE TRANSPORTATION	Encourage passengers and staff to walk, bike, shuttle or use transit to get to and from the airport	Ongoing	2018 modality study by Dillon Consulting confirms 42 per cent of travellers walk, bike or take transit from the airport—one of the highest percentages in North America
SPILLS TO THE ENVIRONMENT	Ensure process and care to avoid spills that could impact the environment	Achieved Achieved	No significant spills to the environment in more than a decade, including 2018 Introduced "duplex" pump to the airport's glycol pumping system to offer further protection against glycol runoff
ENVIRONMENTAL REGULATORY COMPLIANCE	Ensure complete compliance with environmental regulation	Achieved	No incidents of significant environmental non-compliance or fines levied against Billy Bishop Airport

Performance Summary 2018

ENVIRONMENTAL STEWARDSHIP

BATTERY AND ELECTRONICS WASTE	Ensure safe and proper disposal of batteries and electronics and divert these items from landfill sites	Achieved	Launched Battery and Electronics Recycling Program to divert electronic waste from unsafe disposal
NOISE MANAGEMENT	Address noise complaints with the community	Ongoing	Conducted meetings at the Community Liaison Committee and introduced a Noise Sub-Committee to ensure noise concerns were identified and addressed

COMMUNITY

Sustainability Indicator	Target / Goal	Progress	Details
COMMUNITY INVESTMENT	Invest in projects, communities and organizations	Achieved	Billy Bishop Airport invested in 14 community organizations in 2018
STAKEHOLDER AND COMMUNITY ENGAGEMENT	Consult with the community and stakeholders on the Airport Master Plan	Ongoing	Held two public meetings and met with more than 70 groups including neighbourhood and community associations, elected officials, government agencies and First Nation communities on 2018 Airport Master Plan

Performance Summary 2018

PEOPLE AND CULTURE

Sustainability Indicator	Target / Goal	Progress	Details
HEALTH AND SAFETY NON-COMPLIANCE	Strive for zero instances of health and safety non-compliance	Achieved	No incidents of significant health and safety non-compliance in 2018
LOST TIME INJURIES	Strive for zero workplace injuries	Not Achieved	Four injuries occurred in the workplace
TOTAL LOST DAYS	Work to ensure there are no lost days as a result of workplace injuries	Not Achieved	Twenty total lost days due to workplace injury
STAFF WELLNESS PROGRAM	Promote Health and Wellness in the Workplace	Achieved	Launched Wellness Program to promote both physical and mental health in the workplace

ECONOMIC PERFORMANCE

Sustainability Indicator	Target / Goal	Progress	Details
CITY BUILDING INFRASTRUCTURE	Invest in City Building and Public Infrastructure	Ongoing	Completed $35-million-dollar Billy Bishop Airfield Rehabilitation Program
SUPPORTING THE ECONOMY THROUGH JOB CREATION	Create and support local jobs	Ongoing	Billy Bishop Airport supports 4,740 jobs in Ontario in 2018, including 2,080 directly associated with airport operation*

**InterVISTAS 2017 Economic Impact Report*

2019 Goals and Targets

ENVIRONMENTAL STEWARDSHIP

Sustainability Indicator	Target / Goal	Progress	Details
CARBON FOOTPRINT	35 percent carbon reduction below 2015 levels by 2030	Renewed goal	Exploring and implementing initiatives to reduce emissions
BULLFROG POWER	Continue purchase and use of renewable electricity for all Billy Bishop Airport operations	Renewed goal	Review partnership with Bullfrog Power every four years, thereby optimizing green electricity efforts by continuously exploring new and innovative ways of reducing energy consumption
ELECTRICITY INITIATIVES	Modernize electrical systems and lighting to reduce consumption	New goal	Replace existing light fixtures at Billy Bishop Airport with energy-efficient LEDs, resulting in annual kilowatt hour energy savings of approximately 60 per cent
EQUIPMENT UPGRADES	Update fleet and retire low-performing vehicles	Renewed goal	Plans underway to convert the biodiesel fuel-powered airport ferry to electric power Ongoing replacement of operational vehicles and equipment with hybrid models, where commercially feasible
PROMOTE ACTIVE TRANSPORTATION	Encourage passengers and staff to walk, bike, shuttle or use transit to get to the airport	Renewed goal	Continue to promote alternative transportation to and from the airport through public relations campaigns and facility design, including the installation of a new bicycle rack and maintenance station
SPILLS TO THE ENVIRONMENT	Ensure process and care to avoid spills that could impact the environment	Renewed goal	Continue efforts to maintain a record of 0 spills to the environment
ENVIRONMENTAL REGULATORY COMPLIANCE	Ensure complete compliance with environmental regulation	Renewed goal	Continue efforts to maintain a record of 0 instances of non-compliance to environmental regulation
SUSTAINABLE PROCUREMENT POLICY	Introduce and implement PortsToronto's Sustainable Procurement Policy	New goal	Implement a sustainable procurement policy applicable to new and existing suppliers

2019 Goals and Targets

ENVIRONMENTAL STEWARDSHIP

Sustainability Indicator	Target / Goal	Progress	Details
ORGANIC WASTE COLLECTION AND DIVERSION	Partner with Wastenot Farms Organics Recycling	New goal	Launch partnership with Green Bins Growing program to recycle organic waste through Wastenot Farms' organic worm hatchery
	Improve accuracy of waste-diversion reports	Renewed goal	Improve the accuracy of waste-diversion reports at Billy Bishop Airport and promote recycling and composting among employees
NOISE MANAGEMENT	Address community noise complaints and mitigation initiatives in Community Liaison Committee meetings	Renewed goal	Continue to hear and address noise complaints and hold four Noise Sub-Committee meetings 2019
TRAFFIC MANAGEMENT	Reduce vehicle traffic associated with the airport	Renewed goal	Continue to reduce vehicle traffic and idling at the airport by improving the efficiency of traffic flow by way of a newly reconfigured approach to passenger and vehicle operations

COMMUNITY

Sustainability Indicator	Target / Goal	Progress	Details
COMMUNITY INVESTMENT	Invest in projects, communities or organizations	Renewed goal	Continue to invest in local initiatives to promote greener, healthier and empowered communities
CURFEW VIOLATION FEES	Re-invest funds from curfew violations to improve noise mitigation in surrounding community	New goal	Airport Curfew Fine Policy initiated in early 2019 to redirect funds from curfew violation fines toward community organizations

2019 Goals and Targets

PEOPLE AND CULTURE

Sustainability Indicator	Target / Goal	Progress	Details
HEALTH AND SAFETY NON-COMPLIANCE	Strive for no instances of health and safety non-compliance	Renewed goal	Continue efforts to maintain a record of 0 instances of health and safety non-compliance
LOST TIME INJURIES	Strive for no workplace injuries	Renewed goal	Continue efforts to achieve a record of 0 workplace injuries
TOTAL LOST DAYS	Work to ensure there are no lost days as a result of workplace injuries	Renewed goal	Continue efforts to achieve a record of 0 lost days resulting from workplace injuries
STAFF WELLNESS PROGRAM	Promote Health and Wellness in the Workplace	Renewed goal	Continue to support physical and mental wellness in the workplace through monthly staff newsletters and activities that promote health and wellness

ECONOMIC PERFORMANCE

Sustainability Indicator	Target / Goal	Progress	Details
CITY BUILDING AND INVESTING IN PUBLIC INFRASTRUCTURE	Continue to invest in City Building and Public Infrastructure	Renewed goal	Repair and enhance the south dock wall in the Western Gap and contribute to the repair of the dock wall corners in ferry slip near Ireland Park
	Support City of Toronto-Led Bathurst Quay Neighbourhood Plan	Renewed goal	Continue to invest in components of the City of Toronto-led Bathurst Quay Neighbourhood Plan to address access issues in the vicinity of the airport and improve the public realm

Environmental Stewardship

24 schools were selected for greener playgrounds through Evergreen Canada's Children's Program.

ENVIRONMENTAL STEWARDSHIP

Located just a few short minutes from downtown Toronto—Canada's largest city—Billy Bishop Airport has become an important and convenient gateway for travellers seeking connections to key business and leisure destinations. However, operating an airport that is part of a thriving, mixed-use urban waterfront requires a commitment to ensure that our operations remain in balance with the surrounding community and that a sustainability plan inclusive of environmental protection and green business operations is in place.

In our efforts to be sustainable and power our operations using renewable hydro sources, we are striving to ensure that we reduce the environmental impact of our operations through processes and choices that make a difference.

The environmental stewardship section of the report is based on an extensive internal review, expert analysis from Delphi Group and feedback from our stakeholders.

Billy Bishop Airport's targeted priority areas related to environmental stewardship are as follows:

I **Carbon Targets and Climate Change Action Plan**

II **Environmental Performance**

III **Environment and Community Health**

IV **Ecosystem Protection**

Delphi Group

Environmental Strategies. Business Solutions.

The environmental priority areas detailed in this report were assessed by Delphi Group. As a pioneer in sustainability and environmental risk management, Delphi Group has more than 25 years of experience helping some of Canada's best-known companies improve the sustainability of their organizations — as well as the local and global communities in which they operate. For more information, visit www.delphi.ca.

Carbon Targets and Climate Action Plan

In 2017, Billy Bishop Airport set a 2030 emission goal of 35 per cent below 2015 levels.

In 2017, Billy Bishop Airport identified the opportunity to connect its sustainability goals to policy initiatives prioritized by all three levels of government as a means to continue to achieve meaningful results. The federal and provincial governments and the City of Toronto have climate change emission reduction goals in place until 2050. These targets will help guide Billy Bishop Airport in reducing our organization's carbon footprint.

For example, the federal government released a Pan Canadian Framework for Climate Change Action in December 2016 that has since been updated as part of the *Federal Sustainable Development Strategy,* and the provincial government released *Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan* in November 2018. These documents will further identify the policy framework and direction for achieving a low-carbon future and meeting the governments' established GHG reduction goals.

In 2017, Billy Bishop Airport undertook a target setting process with support from Delphi Group. After reviewing energy and GHG reduction opportunities across our operations and assessing different carbon-reduction scenarios, Billy Bishop Airport set the target of a 35 per cent carbon reduction below 2015 levels by 2030. This target supports those set by the municipal, provincial and federal governments.

Government Emissions Reduction Targets

JURISDICTION	2020 EMISSION GOAL	2030 EMISSION GOAL	2050 EMISSION GOAL
Federal	17 percent below 2005 levels	30 percent below 2005 levels	80 percent below 2005 levels
Provincial	15 percent below 1990 levels	37 percent below 1990 levels	80 percent below 1990 levels
Municipal	30 percent below 1990 levels	Not Identified	80 percent below 1990 levels

Billy Bishop Airport is engaged in consultations on the draft 2019-2022 Federal Sustainable Development Strategy, as part of the Federal Ministry of Environment and Climate Change's plan towards a more sustainable future.

GREENHOUSE GAS EMISSIONS

Minimizing greenhouse gas (GHG) emissions is a global necessity. Emissions generated by any operation need to be carefully monitored and reduced where feasible. Under this strategic priority, Billy Bishop Airport works to manage emissions and energy use from all of our operations.

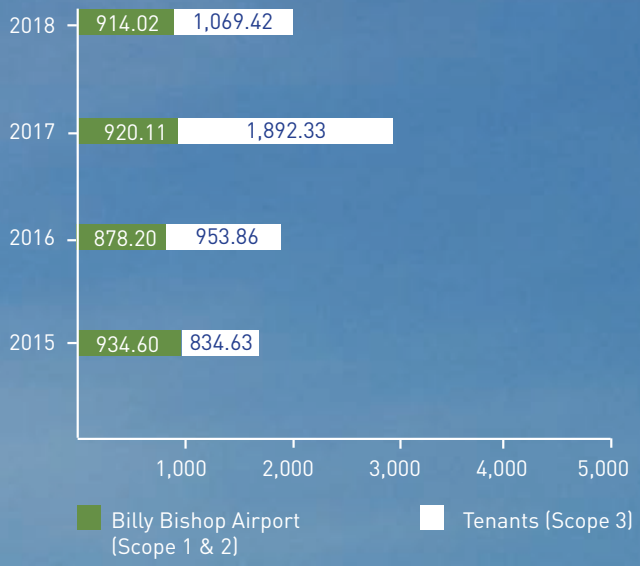
The first step to managing emissions is to establish a baseline. Billy Bishop Airport engaged Delphi Group to calculate our GHG emissions for each year since 2012. In 2017, we established 2015 as our base year. The multiple years of emissions data has allowed us to understand the sources of our GHG emissions and the operational influences that affect our emissions over time.

Billy Bishop Airport's Scope 1 GHG emissions arise primarily from the energy used in our buildings and vehicles and the fuel used to operate the ferry at Billy Bishop Airport. We also track GHG emissions from the buildings and vehicles operated by our tenants, where we have data.

Our emissions have been relatively stable over the past four-year period. The emissions from our own operations in 2015 were highest over the past four years, and total emissions decreased in 2018 from 2017. This decrease is mainly attributable to decreased natural gas consumption for facility heating and decreased fuel used in Billy Bishop Airport's ferry and fleet.

Billy Bishop Airport's overall GHG emissions are modest, however, we continue to make efforts to improve our energy management practices and reduce our energy consumption and associated GHG emissions consumption. Our efforts to reduce GHG emissions focus on our buildings and vehicles.

ANNUAL GHG EMISSIONS BY SCOPE FOR BILLY BISHOP AIRPORT AND TENANTS



Each year that Billy Bishop Airport measures its GHG footprint, we update the emissions factors reported and provided by Environment and Climate Change Canada (ECCC). The emission factors provided each year by ECCC, in its National Inventory Report (NIR), have a two-year delay. For example, the current NIR only provides emission factors from 1990-2016. When emission factors become available for 2018, they will be updated to ensure that our GHG footprint is as accurate as possible. Updates in data quality can also impact the historical emission factors disclosed by ECCC, which Billy Bishop Airport accounts for in its GHG footprint calculation.

Since joining the bullfrogpowered community, Billy Bishop Airport has displaced more than 12,361 tonnes of CO_2.

This is the equivalent of taking 2,608 cars off the road for one year.

It is the amount of carbon that would be sequestered by more than 4,737 hectares of forest in one year.

*Our GHG emissions are calculated using the globally recognized GHG Protocol developed by the World Resources Institute and World Business Council on Sustainable Development.

Connecting Communities for a Clean Energy Future

In 2018, we saw the IPCC release a special report on the impacts of global warming of 1.5 C above pre-industrial levels. This report outlines that if we are to limit warming to 1.5 C we must drastically reduce our carbon emissions and rapidly transition to clean energy. For nine years, PortsToronto has been helping this transition by purchasing green energy from Bullfrog Power for its entire operations, including Billy Bishop Airport, and continues to be among the largest green energy purchasers in the country by bullfrogpowering all of its facilities and operations with clean, renewable electricity.

Billy Bishop Airport is the only airport in Canada to be bullfrogpowered entirely by renewable electricity across all operations and facilities, including the airport's 853-foot pedestrian tunnel and connecting buildings.

How does bullfrogpowering a building or tunnel work? Bullfrog Power's generators put 100 per cent green electricity onto the grid to match the amount of conventional power used across all of Billy Bishop Airport's facilities and operations. Across Canada, Bullfrog Power's green electricity comes from a blend of wind and low-impact hydro power sourced from new Canadian renewable energy facilities.

Billy Bishop Airport is not only reducing its environmental impact but is also supporting green energy projects across Canada. Through the partnership with Bullfrog, Billy Bishop Airport also impacts diverse communities throughout Canada by helping to fund green energy projects on their local hockey rinks, schools, greenhouses and more. In 2018 Bullfrog supported numerous community projects, such as solar powering an orca research facility on the coast of BC and helping the Hiawatha First Nation in Ontario with a solar installation on their Old Railway Stop gathering place.

Billy Bishop Airport is reducing CO2 emissions, and helping Canada transition to a cleaner energy grid. By choosing clean power and encouraging sustainable actions, Billy Bishop Airport is helping to further the conversations happening all around us about how we can improve our own communities by committing to sustainable actions today. Communicating the importance of sustainability and supporting green energy are essential if we are to achieve the goals set out in IPCC's report.

Congratulations to Billy Bishop Airport on another year of sustainability milestones and their continued support of renewable energy.

Sean Drygas
EVP, Bullfrog Power Sustainability Solutions

BULLFROG POWER: PORTSTORONTO'S MOST SIGNIFICANT GHG NEUTRALIZATION EFFORT

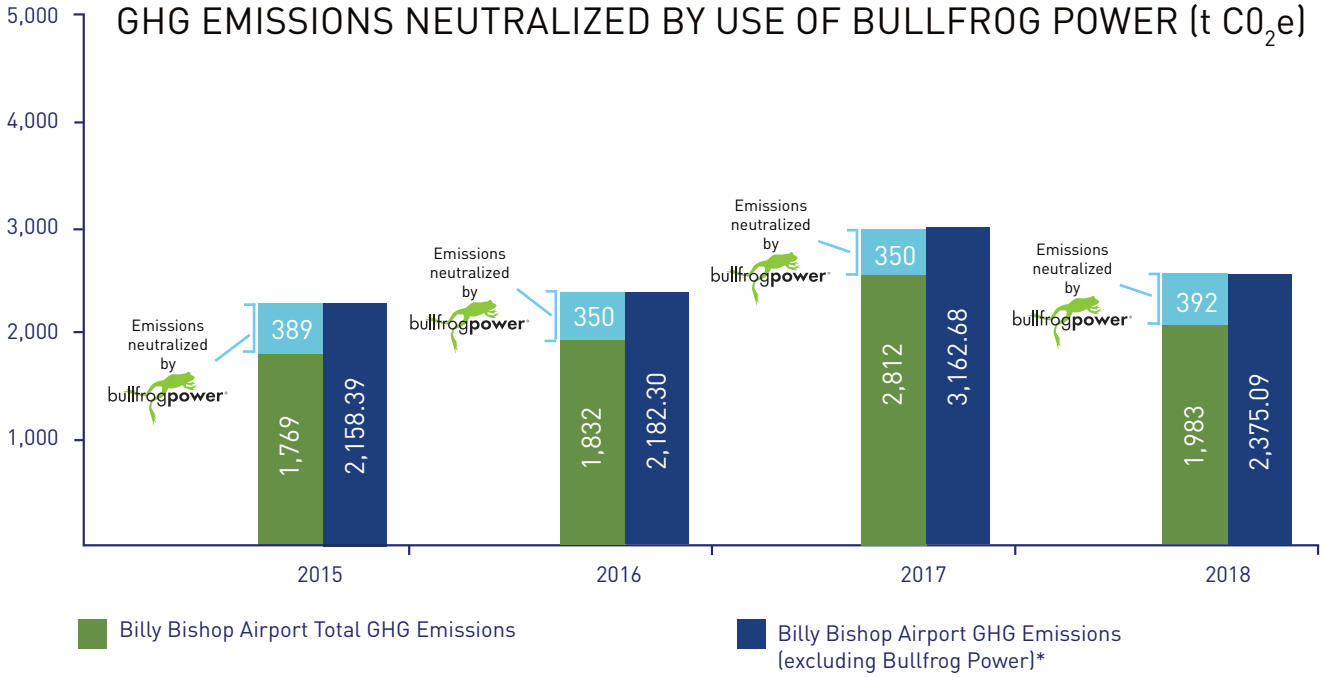
Since 2010, Billy Bishop Airport has reduced its environmental footprint by choosing 100 per cent green energy from Bullfrog Power to power all of its operations with clean, renewable electricity. Through our agreement, Bullfrog Power's generators inject renewable electricity back into the grid on our behalf to match the amount of electricity used by Billy Bishop Airport's operations.

In 2018, Billy Bishop Airport reduced emissions by approximately 8 per cent using Bullfrog Power's clean energy, which comes exclusively from a blend of EcoLogoM-certified wind and low-impact hydro power. These percentages are even greater when tenant emissions are included (15 per cent in 2018) as Billy Bishop Airport also purchases Bullfrog Power on their tenants' behalf.

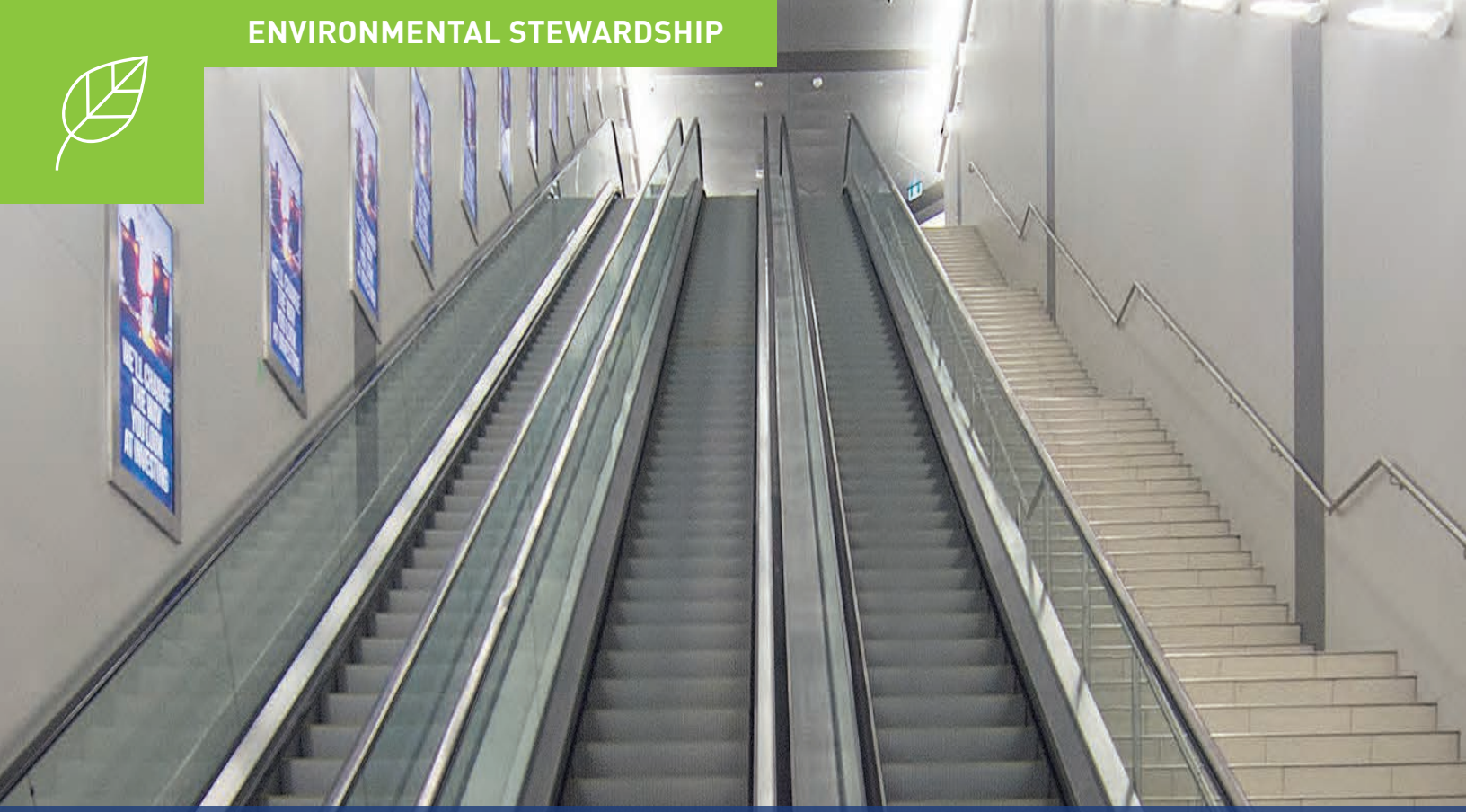
We are proud to be the only airport in Canada to use 100% renewable electricity through Bullfrog Power across all our facilities, including the airport's 853-foot pedestrian tunnel and connecting buildings.

Since joining the bullfrogpowered community, PortsToronto has displaced more than 12,361 tonnes of CO_2—the same amount of CO_2 emissions produced by the consumption of 5,265,157 litres of gasoline.

Since joining the bullfrogpowered community, PortsToronto has displaced more than 12,361 tonnes of CO_2—It is equal to diverting more than 3,918 tonnes of waste from the landfill.



**Total Billy Bishop Airport GHG emissions (excluding Bullfrog Power) is equivalent to Billy Bishop Airport's location-based emissions, as per the GHG Protocol Scope 2 Guidance. Electricity grid emission factors, which are used to calculate GHG emissions, are published annually by Environment Canada. Emission factors are always published with a two-year time lag. For example, emission factors accurate for 2016 are published in 2018. Each year, Billy Bishop Airport's historical GHG emissions are updated using the most accurate information available.*



ENERGY AUDIT

In 2017, PortsToronto, owner and operator of Billy Bishop Airport, engaged Mooney Solutions —a Toronto-based energy consulting firm—to undertake the organization's first Level II energy audit. Billy Bishop Airport selected managed facilities to complete the energy assessment over the course of several months. Mooney Solutions collected data at each facility and provided metering support in order to determine peak demand and identify where energy savings could be made. Energy output was measured in areas including lighting, controls systems and Heating, Ventilation and Air Conditioning (HVAC) systems. Over the next year, we will begin to strategically implement solutions and recommendations in order to continue progressing toward our carbon reduction goals.

The resulting report from the energy audit identified both behavioural and equipment replacement measures that could be strategically implemented to reduce organizational greenhouse gas emissions. Measures to reduce energy use as well as costs include modernizing electrical systems to reduce consumption, upgrading lighting to LED bulbs and installing motion-sensing lights.

Escalators at Billy Bishop Airport are programmed to slow down and stop when not in use, reducing energy waste.

PUMP HOUSE ENGINE REPLACEMENT

At Billy Bishop Airport's fire station, the pump house engine serves as a crucial backup to the primary electric fire pump. This project replaced a 30-year old diesel motor—which pre-dated emission regulations—with a new Tier 3 motor, representing an approximately 75 per cent reduction in carbon monoxide emissions.

DID YOU KNOW?

Porter Airlines uses a procedure that requires planes taxiing to the gates to operate on one engine to reduce both carbon emissions and noise.

DID YOU KNOW?

Porter Airlines uses electric-powered ground equipment for baggage loading and aircraft push back.

IMPROVING FLEET EFFICIENCY

Managing carbon mitigation must, as much as possible, target the source of carbon emissions. To this end, Billy Bishop Airport has implemented several initiatives aimed at reducing the emissions from the vehicle fleet used to support our business operations, including:

- Converting the Marilyn Bell I airport ferry to biodiesel fuel in 2018. Work is now underway to convert the airport ferry to electric power;
- An anti-idling policy and awareness campaign for vehicles on all Billy Bishop Airport properties; and,
- Ongoing replacement of operational vehicles with hybrid models, where commercially available.

During Billy Bishop Airport's consultations with Delphi Group, the Marilyn Bell I airport ferry was identified as a main source of Billy Bishop Airport's emissions. This year, we will begin work to convert the airport ferry to electric-power, which will significantly reduce greenhouse gas emissions and noise in the neighbourhood. This retrofit represents a unique technological advancement in the airport's fleet and will be the first 100 percent electric lithium-ion powered ferry in service in Canada.

CLIMATE ACTION AND MANAGEMENT

Climate Change Vulnerability Assessment

In 2018, Billy Bishop Airport engaged global consulting firm AECOM to conduct a Climate Change and Extreme Weather Vulnerability Assessment of all business units that will aid with future planning within the framework of a changing climate.

AECOM collected data from each facility and conducted interviews with each business unit to better understand operations, and how each business would be affected by climate change and extreme weather under varying scenarios (best, worst, or mid-case) including extreme weather events.

Measures that were identified in the Climate Change and Extreme Weather Vulnerability Assessment will be carefully considered by Billy Bishop Airport to increase the life cycle of infrastructure and further reduce greenhouse gas emissions relating to operations.

II
Environmental Performance

ENVIRONMENTAL LAWS

Billy Bishop Airport strives to manage all of our operations in a sustainable manner with minimal environmental impact and, like all airports, is subject to Environment Canada's environmental regulations and laws. Billy Bishop Airport conducts internal reviews of environmental compliance, as well as associated record-keeping and data-management practices. Additionally, the organization's Sustainability Committee meets on a regular basis to discuss areas where progress can be made to increase environmental efforts.

In 2018, there were no incidents of significant environmental non-compliance and no fines levied against Billy Bishop Airport by Environment Canada. Furthermore, there have been no incidents of significant environmental non-compliance and no fines levied against Billy Bishop Airport by Environment Canada over the past eight years. This is a result of Billy Bishop Airport's efforts to follow best practices from around the world to achieve our sustainability goals and prevent pollution at Billy Bishop Airport.

Billy Bishop Airport also undertakes regular detailed environmental compliance audits.

ENVIRONMENTAL MANAGEMENT SYSTEMS

The products necessary for the safe operation and maintenance of airport equipment and facilities are managed and contained in a rigorous manner to ensure safety and the protection of the environment. Strict protocols are in place for daily operations, such as aircraft fueling, to reduce the risk of spills. In the unlikely event of a spill, Billy Bishop Airport's maintenance and fire departments are thoroughly trained in mitigation and cleanup methods to prevent contaminants from entering the natural environment.

"In keeping with Billy Bishop Airport's commitment to ecosystem protection, the maintenance of airport equipment and facilities is strictly managed to reduce the risk of spills. In fact, over the last eight years, Billy Bishop Airport has achieved a rate of zero incidents of environmental non-compliance—a direct result of our efforts to achieve our sustainability goals and prevent pollution at Billy Bishop Airport."

—Mike Karsseboom, General Manager Airport Security, Compliance & Planning

CASE STUDY: GLYCOL CONTAINMENT

Billy Bishop Airport carefully manages the use, collection and disposal of de-icing and anti-icing chemicals as governed by a Sanitary Discharge Agreement with the City of Toronto, dated December 20, 2013. Application of de-icing and anti-icing chemicals to aircraft is performed only in approved areas of the airport, designed so that overland drainage flows into designated catch basins and underground sewers. Snow clearing from the designated aircraft de-icing area, which may contain de-icing fluid, is directed to an adjacent airfield location that is drained and directed to the sanitary sewer utilizing metered pumps in accordance with the Sanitary Discharge Agreement. This process is further monitored and audited by the City of Toronto. The glycol recovery system is reviewed on a regular basis in order to ensure that all fluids continue to be properly managed and contained, preventing environmental contamination.

Regulations require PortsToronto to follow the Standard System for the Identification of the Hazards of Materials for Emergency Response, which sets out the process used by emergency personnel to quickly and easily identify the risks posed by hazardous materials. This helps determine what, if any, special equipment should be used, procedures followed or precautions taken during the initial stages of an emergency response. It also helps to ensure hazardous materials are disposed of in accordance with environmental law and regulations.

DE-ICING AT BILLY BISHOP AIRPORT

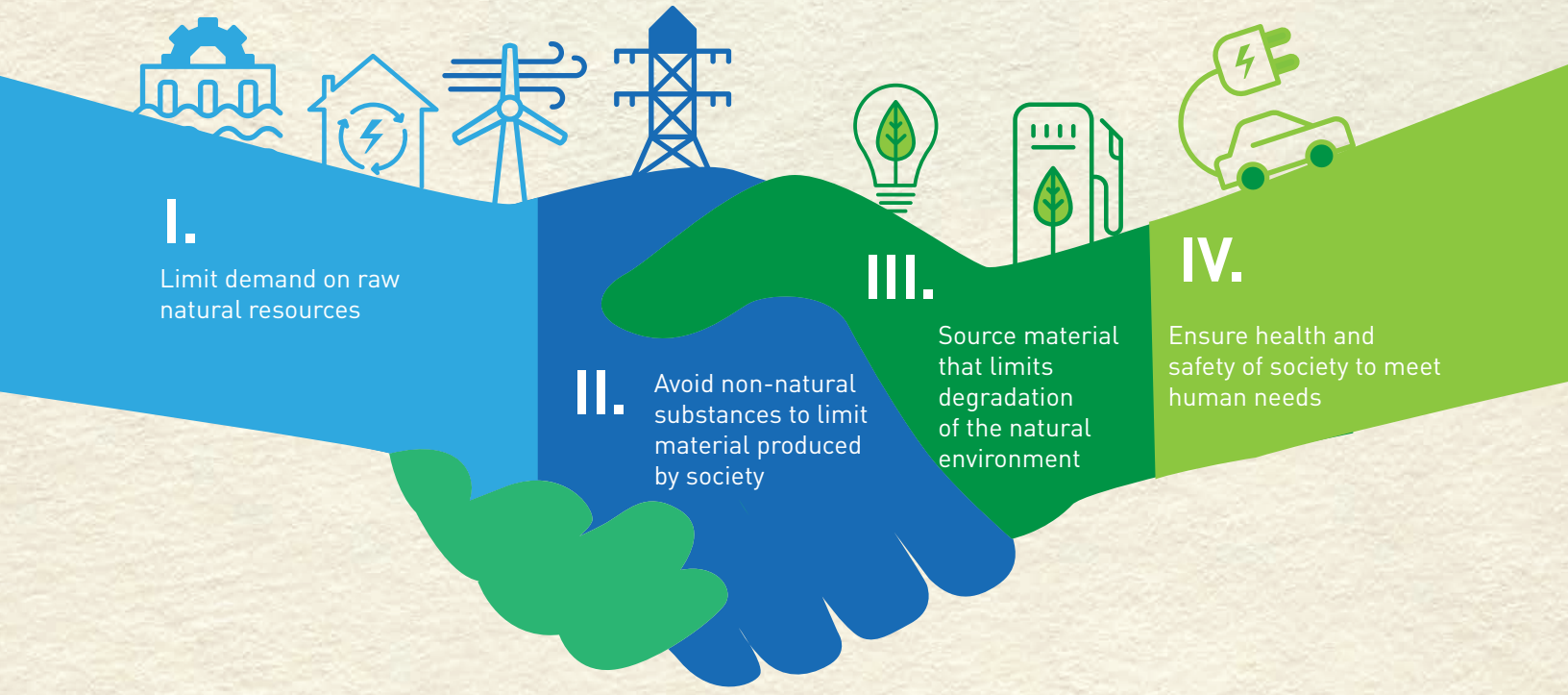
Billy Bishop Airport has commissioned a study to update its current Storm Water Management and Glycol Containment Plan, a plan developed in 2003 and reviewed annually to ensure operational practices are well-managed. As part of the 2018 Airport Master Plan, storm water management and glycol capacity requirements for future land use will need to be identified for planning purposes. In 2019, a consulting team will report on glycol management practices and provide a long-term de-icing strategy, including a report on responsible management of spent aircraft de-icing fluids for Billy Bishop Airport.

In 2018, a duplex pump was added to the airport's glycol pumping system to offer further protection against glycol runoff.

SUSTAINABLE PROCUREMENT POLICY

In early 2019, Billy Bishop Airport implemented a sustainable procurement policy applicable to new and existing suppliers. Billy Bishop Airport recognizes that its impact is not limited to its facilities and operations — the purchasing choices it makes also have impacts as part of its value chain. In an effort to ensure that impacts are positive, Billy Bishop Airport's sustainable procurement policy seeks out businesses that share our commitment to sustainability. To influence our impacts both upstream (e.g. purchasing) and downstream (e.g. product waste), the policy adopts the following guiding principles to consider when procuring goods and services:

The construction of Billy Bishop Airport's Ground Run-Up Enclosure (GRE) facility, included a full team of local companies including general contractors Pave-Al Ltd. of Mississauga; Tri-Star Inc. also of Mississauga, that installed electrical and communications infrastructure; Specialized Metal Fabricators of North York, responsible for assembling the acoustic panels; Scott Steel of Burlington that erected the steel for the facility; and, Belmont Concrete of Toronto that constructed the concrete apron for the facility.



WASTE MANAGEMENT

Responsible and efficient management of waste by minimizing its production and maximizing its reuse is important to Billy Bishop Airport's sustainability efforts.

While the waste management contract is handled centrally at PortsToronto's head office, each business unit maintains its own receptacle and strives to:

- Ensure proper disposal of all hazardous waste;
- Capture all valuable waste streams (such as scrap metal and tires); and,
- Promote general recycling.

Some of the ways in which Billy Bishop Airport manages waste include:

- The collection and recycling of all used electronics (computer monitors, printers, smartphones, etc.), batteries, toners and cartridges;
- The placement of blue bins at all worksites and work stations to encourage recycling;
- The digitization of our communications, making all reports/publications available online to reduce the need for print copies;
- Replacing all pod-based coffee makers with machines that use loose beans to eliminate coffee pod waste; and,
- Providing all employees with a reusable water bottle and banning single-use plastic water bottles from all offices

HAZARDOUS WASTE RECYCLING

Billy Bishop Airport is committed to ensuring that hazardous waste is properly contained and recycled. This includes hazardous oil-based paint such as primers, stains, thinners, aerosols and electronic waste such as monitors, printers, charging cords, speakers, radios, headsets and outdated fluorescent bulbs.

DID YOU KNOW?

One recycled battery can produce reusable quantities of up to eleven different products, including:

BATTERY AND ELECTRONICS RECYCLING PROGRAM

In September 2018, Billy Bishop Airport launched a Battery and Electronics Recycling Program for employees, tenants and customers. The program takes action to keep harmful and toxic batteries out of landfills, where improper disposal can have serious consequences on the environment and human health, by sending these items to recycling facilities for safe processing. Weekly pickup service is in effect for all battery recycling bins.

PortsToronto contracts Safety-Kleen, the largest re-refiner of used oil and provider of parts-cleaning services in North America, to collect, recycle, reuse and/or properly dispose of the antifreeze, oil, oil filters and other equipment used to service the Port of Toronto and Billy Bishop Airport.

GREEN BINS GROWING COMPOSTING PROGRAM

PortsToronto, owner and operator of Billy Bishop Airport, is partnering with Waste-not Farms Organics Recycling to launch the Green Bins Growing composting program in its facilities, including Billy Bishop Airport. Wastenot Farms is an earthworm hatchery that sells red wigglers worms and collects food waste to make worm castings biofertilizer — an all-natural substitute to synthetic fertilizers.

Participation in the program includes the collection and transport of organic waste via green-energy vehicle from Billy Bishop Airport to Wastenot Farms north of Toronto to be recycled as nutrients for the worms. In return, the airport will receive a yearly delivery of biofertilizer, which will then be donated to local community gardens and schools.

DID YOU KNOW?

Through the Green Bins Growing program, organizations have the capacity to redirect organics from landfill, produce all-natural biofertilizer, reduce carbon emissions, engage employees in sustainable behaviours and improve their overall environmental impact.

CO_2

Through the Green Bins Growing program, organizations have the capacity to reduce carbon emissions by over two tonnes.

Produce all-natural biofertilizer

ENCOURAGING REUSABLE WATER BOTTLES ACROSS ALL OPERATIONS

In 2018, Billy Bishop Airport continued to work with airport terminal owner Nieuport Aviation Infrastructure Partners to encourage passengers to travel with reusable water containers, reducing the need for plastic water bottles in the Billy Bishop Airport lounge. When going through security at all Canadian airports, including Billy Bishop Airport, passengers are required to empty their water bottles as liquids over 100 milliliters are not permitted by the Canadian Air Transport Security Authority (CATSA).

The installation of water stations on the other side of security enables passengers to refill their water bottles, eliminating the need to purchase or use plastic bottles. Further, Billy Bishop Airport has provided all employees with a reusable water bottle and has banned single-use plastic water bottles from all offices. Water refill stations are located in the offices and facilities, in addition to the passenger lounges at Billy Bishop Airport.

FOREIGN OBJECT DEBRIS (FOD) WALK

Billy Bishop Airport held a Foreign Object Debris (FOD) Walk during Canadian Airport Safety Week in October 2018. FOD — which can include plastics, metals and any refuse found on the airfield — is not only of concern from an environmental perspective, but is also a safety risk that can cause damage to aircraft and needs to be cleared.

Plastic bottles don't decompose they photodegrade and break down into smaller toxic pieces that move up the food chain if they are eaten by fish and wildlife.

DID YOU KNOW?

In 2018, the water refilling stations in Billy Bishop Airport's passenger lounges have eliminated the need for 70,000 plastic water bottles.

Bottled water takes 2,000 times more energy to produce than tap water.

SUSTAINABLE SITE DESIGN AND CONSTRUCTION

Best practices related to sustainability and environmental protection are followed by Billy Bishop Airport and its contractors during all planning, development and operational phases of any construction activity. The following initiatives have been implemented by Billy Bishop Airport to raise the bar on sustainable-construction.

Airfield Rehabilitation Project

In September 2018, PortsToronto announced the completion of the Billy Bishop Airfield Rehabilitation Program — a significant three-year rehabilitation initiative that included the reconstruction of runways and taxiways, the installation of new energy-efficient LED lighting and signage, and the construction of a Ground Run-up Enclosure (GRE) designed to dampen the noise associated with high-power aircraft engine ground run-up operations. The newly resurfaced runways are grooved which also increase friction levels that allow aircraft to slow down more rapidly, aiding in the reduction of carbon emissions.

Barging

During the three-year airfield rehabilitation, construction activities predominantly occurred at night when the airport was closed to air traffic. Given the time of day, measures were implemented to minimize the impact on area residents which included an award-winning barging operation that not only eliminated noise and traffic in the surrounding airport community but removed the equivalent of approximately 6,000 trucks off the neighbouring roads, reducing emissions and air pollution in the neighbourhood.

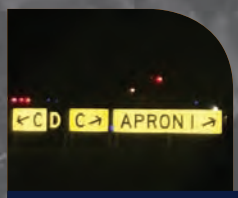
NOW THAT'S GROOVY!

Grooved runways mean more friction and reduced emissions. But there's another benefit. The pavement grooving directs water on the runways more quickly reducing the potential for flooding and aircraft hydroplaning. The efficacy of this design element was put to the test during the spring of 2017 when the City of Toronto experienced record-breaking rainfall, specifically on Toronto Island where Billy Bishop Airport is located. While the Island saw some of the worst flooding in decades, operations at the airport were largely unaffected as runways remained dry.

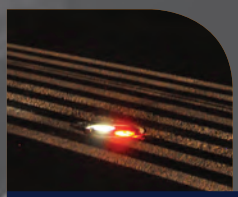
Airfield Rehabilitation By the Numbers

Removed approximately 6,000 trucks carrying asphalt or granular materials from the airport's neighbourhood streets through barging operation

450 actual working days on site



Replaced 70 old incandescent airfield signs with new LED signage



Installed 80 new LED runway inset lighting

2,000 tri-axle trucks of asphalt

Over 3000 night-time hours worked (11pm-6am)

1 Barge

800 barge trips (one-way)

Replaced approximately 345 old incandescent with new energy efficient LED elevated airfield lights.

Ground Run-up Enclosure

45,000 tonnes of asphalt

20,000 tonnes of recycled asphalt millings were reused

Airfield Rehabilitation Project

During the three years the project was underway, the floating barge, which could accommodate 16 trucks, made 800 one-way trips across the lake accounting for 6,000 fewer truck movements via the airport neighbourhood's roadways.

The following initiatives were implemented throughout the project:

- The overall project plan incorporated multiple individual project elements that would otherwise be completed over a longer construction duration and by multiple contractors, thus reducing the overall impacts of construction on the local community.
- The construction schedule was compressed to improve efficiency and reduce construction noise and emissions.
- Construction lighting was cast downward and away from the city to avoid disturbing those in residential buildings.
- A policy to reduce the use of vehicle backup alarms was implemented to further reduce noise disturbances in the neighbourhood.
- The overall quantity of earthworks required was reduced through pavement design strategies.
- Materials were reused in the construction of new facilities such as airside perimeter roads.
- Asphalt millings were reused to offset the volume of new granular material required.

"The airfield rehabilitation project was seamless to the airlines and our passengers. Work began every evening after the last flight was in, and the runway was clear and operational for start-up the next day. We appreciate the considerate planning by Billy Bishop Airport, resulting in a modernized airfield and improved operating conditions."

—Robert Deluce, President and CEO of Porter Airlines

IMPLEMENTING SUSTAINABLE PRACTICES WITH OUR PARTNERS

Terminal Upgrades

In October 2018, Nieuport Aviation Infrastructure Partners—owner and operator of the airport's passenger terminal—completed a significant upgrade to Billy Bishop Airport's passenger lounges to improve the experience for travellers

The upgrade enlarged the passenger lounges and features additional amenities, including food and retail services as well as an 11th gate to further enhance the airport's world-class, award-winning passenger experience. The upgrade also incorporated environmentally responsible and sustainable infrastructure into the terminal's design such as LED lighting.

GREENGUARD

DID YOU KNOW?

The S-Shape chairs in the airport lounges are not only made from recycled fibre but are GREENGUARD Certified, which means that they have been tested and scientifically proven to have low chemical emissions.

OUR FEATHERED AND FOUR-LEGGED FRIENDS

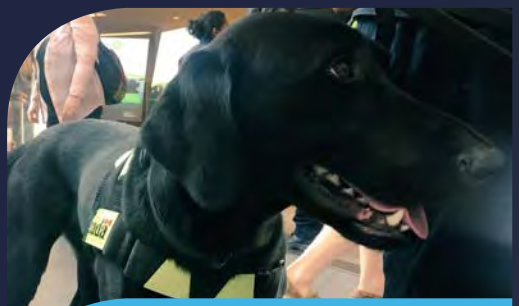
Committed to managing operations sustainably and with minimal environmental impacts, Billy Bishop Airport conducts all its operations in a manner consistent with environmental and wildlife protection, and giving back to the communities we serve through initiatives such as the St. John Ambulance Therapy Dog Program.

St. John Ambulance Therapy Dog Program at Billy Bishop Airport

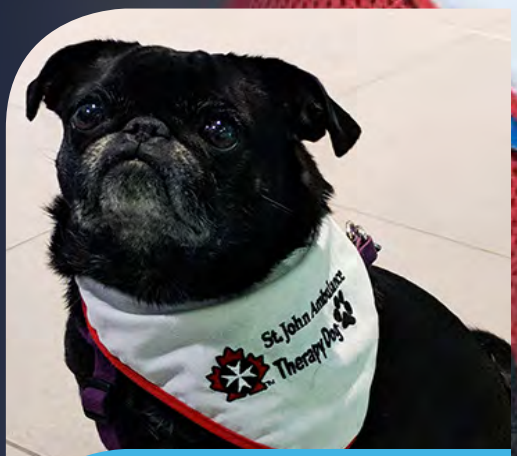
As part of the St. John Ambulance (SJA) Therapy Dog Program, therapy dogs like Pablo, a three-legged Australian Cattle Dog bring comfort and stress relief to travellers of all ages.

The SJA Therapy Dog program has been bringing joy and comfort to Canadian communities for more than 25 years, offering canine companionship at hospitals, senior residences, care facilities, schools and community centres. Today, more than 3,300 therapy dog teams reach thousands of people each year across the country.

The SJA therapy dogs visit the airport regularly during peak travel times, so be sure to look for them near the passenger check-in area and at arrivals in the island terminal on your next trip.



Strategically located at ports of entry across Canada, Detector Dogs, also known as "Sniffer Dogs" help the Canada Border Services Agency (CBSA) by detecting prohibited and regulated drugs, guns, money, food, plant and animal products.



Therapy dogs come in all shapes and sizes. Pumpkin the Pug is small but mighty in bringing smiles to YTZ travellers of all ages.

Pablo, an Australian Red Heeler Cattle Dog, lost his leg in a cattle-herding accident when he was just four months old. The spirited, three-legged dog now offers comfort to others as a SJA therapy dog, eliciting smiles and calming anxious travellers.

WILDLIFE MANAGEMENT

To ensure the safety of our passengers—and in accordance with Transport Canada requirements and Canadian Aviation Regulations—Billy Bishop Airport, like all major airports across North America, runs a comprehensive Wildlife Management Program dedicated to keeping birds out of the aircraft flight paths and ensuring runways are free of birds and other wildlife.

As part of the program at Billy Bishop Airport, our dedicated wildlife officers deter wildlife by using methods that are both natural and sustainable, such as monitoring wildlife movements and behaviour, maintaining proper grass levels and landscaping, the use of falcon kites and by providing physical barriers between airport land and surrounding land. The airport also works with Falcon Environmental Services, a recognized leader in the field of wildlife management, who review our plans and provide additional expertise.

Juliette and Lucy are members of Falcon Environmental's wildlife management team, who work hard to keep Billy Bishop Airport's runways safe.

"Our location on the Toronto Islands puts Billy Bishop Airport in a unique position between Toronto's thriving downtown core and waterfront, and Lake Ontario. Given our proximity to natural habitat, it's crucial that we carry out a sustainable Wildlife Management Program using natural methods to maintain the safety of our runways for passengers and animals alike."

—Mike Leonard, Wildlife Officer, Billy Bishop Airport

III
Environment and Community Health

Operating an airport in a thriving mixed-use urban neighbourhood requires commitment to ensure that operations stay in balance, that an effective equilibrium is struck between commercial and community interests, and that measures are in place to mitigate the airport's operational impacts such as noise.

NOISE MANAGEMENT

Billy Bishop Airport is one of the most noise-restricted airports in North America and must adhere to a strict curfew that closes the airport to commercial flight activity at 11:00 p.m. and ensures that noise from airport operations remains within a limited and monitored Noise Exposure Forecast. In addition, Billy Bishop Airport is continuously looking at processes and investments that will mitigate the impact of operations and ensure the airport is remaining in balance with the surrounding community. Many of these advancements are pursued within the context of our Noise Management Program that encompasses all areas of operations and any special projects being undertaken.

Over the years, Billy Bishop Airport has continued to improve its Noise Mitigation Program. In 2017, Billy Bishop Airport won the Airports Council International (ACI-NA) Environmental Achievement Award for its Noise Mitigation Program. This award recognizes airports that strive to protect and preserve the environment through their programs, initiatives and projects. The winning airports must demonstrate the environmental benefit of their project and its innovative approach, effective implementation, applicability and cost-effectiveness.

Billy Bishop Airport won the ACI-NA Environmental Achievement Award for Best Innovative Project for the airport's successful implementation of the Airfield Rehabilitation Program.

In April 2019, Billy Bishop Airport won the ACI-NA Environmental Achievement Award for Best Innovative Project for the airport's successful implementation of the three-year Airfield Rehabilitation Program. The Airfield Rehabilitation Program at Billy Bishop Airport included the construction of the Ground Run-up Enclosure facility that has all but eliminated noise impacts in the community associated with high-power aircraft engine run-up operations. In addition to the positive environmental results achieved by the program, the project incorporated innovative measures to reduce the impact of construction on the community, such as noise.

These awards recognize years of hard work and dedication to our community relations and environmental strategy, from working together with the community to identify solutions that assist with our noise reduction efforts to implementing new noise mitigation infrastructure to successfully implementing the Airfield Rehabilitation Program that was virtually invisible to the community and airport passengers.

REPORTING BACK TO THE COMMUNITY

Annual Noise Management Report

In February 2019, PortsToronto released its Annual Noise Management Report, which is a compilation of all noise data and complaints submitted to the airport's Noise Management Office in 2018.

Overall noise complaints decreased by 19 per cent in 2018, with 228 complaints submitted in 2018, versus 271 in 2017. Further, as a direct result of the Ground Run-Up Enclosure (GRE) facility that went into service in April 2017, there were no complaints related to scheduled engine-runs.

While construction work continued on improvements to airfield infrastructure from winter to early fall 2018, there were no noise complaints related to the Billy Bishop Airport Airfield Rehabilitation program last year. In addition, noise complaints related to the terminal upgrade completed by our partners at Nieuport Aviation in September 2018 decreased. This decrease can be attributed to measures that were implemented at the airport to minimize noise associated with idling aircraft, including modifying flight schedules and adding greater buffer times. We continued to work in concert with the public and the airport's air carriers to develop enhanced programs, procedures and infrastructure aimed at mitigating the airport's noise impact on the surrounding community. For example, after the Toronto Islands community cited an increased in noise disturbances related to new regional routes at the airport in 2017, Billy Bishop Airport worked with regional carriers to alter flight paths and minimize flights over the Toronto Islands. As a result, in 2018, community noise complaints related to flights over Algonquin and Ward's Islands decreased by 36 and 53 per cent respectively.

While we saw a decrease in noise complaints in many of the surrounding airport neighbourhoods in 2018, we have seen an increase in noise complaints in the Bathurst Quay neighbourhood. The communities in closest proximity to the airport have cited ground noise disturbances generated by aircraft maneuvering on taxiways and apron areas. With this in mind, we will begin work on a Ground Noise Assessment study in 2019 and continue to work in collaboration with the Noise Sub-Committee of the Community Liaison Committee (CLC) to identify solutions to mitigate noise in this area.

"Recognizing that we are one of the most noise-restricted airports in North America, Billy Bishop Airport constantly monitors the impact of operational noise in the surrounding community. In addition to monitoring daily operations and analyzing noise reports, my role involves listening to individual community members, responding directly to concerns and working to mitigate the impact of operational noise on our neighbours."

— Gary Colwell, Noise Management Office, Billy Bishop Airport

Noise Management Office

Billy Bishop Airport's Noise Management Office, which boasts a state-of-the-art Aircraft Flight Tracking and Noise Monitoring System, has dedicated staff in place to collect, analyze and respond to noise complaints and monitor daily operations. More than 99.9 per cent of complaints were responded to within five days in 2018. In addition to reporting on an annual basis, the Noise Management Office also produces a monthly noise report that is posted to the PortsToronto website.

Vortex

Billy Bishop Airport's Noise Management Office uses Vortex — a customizable tracking and logging software platform designed specifically for the needs of an airport environment — to track, document and respond to noise complaints.

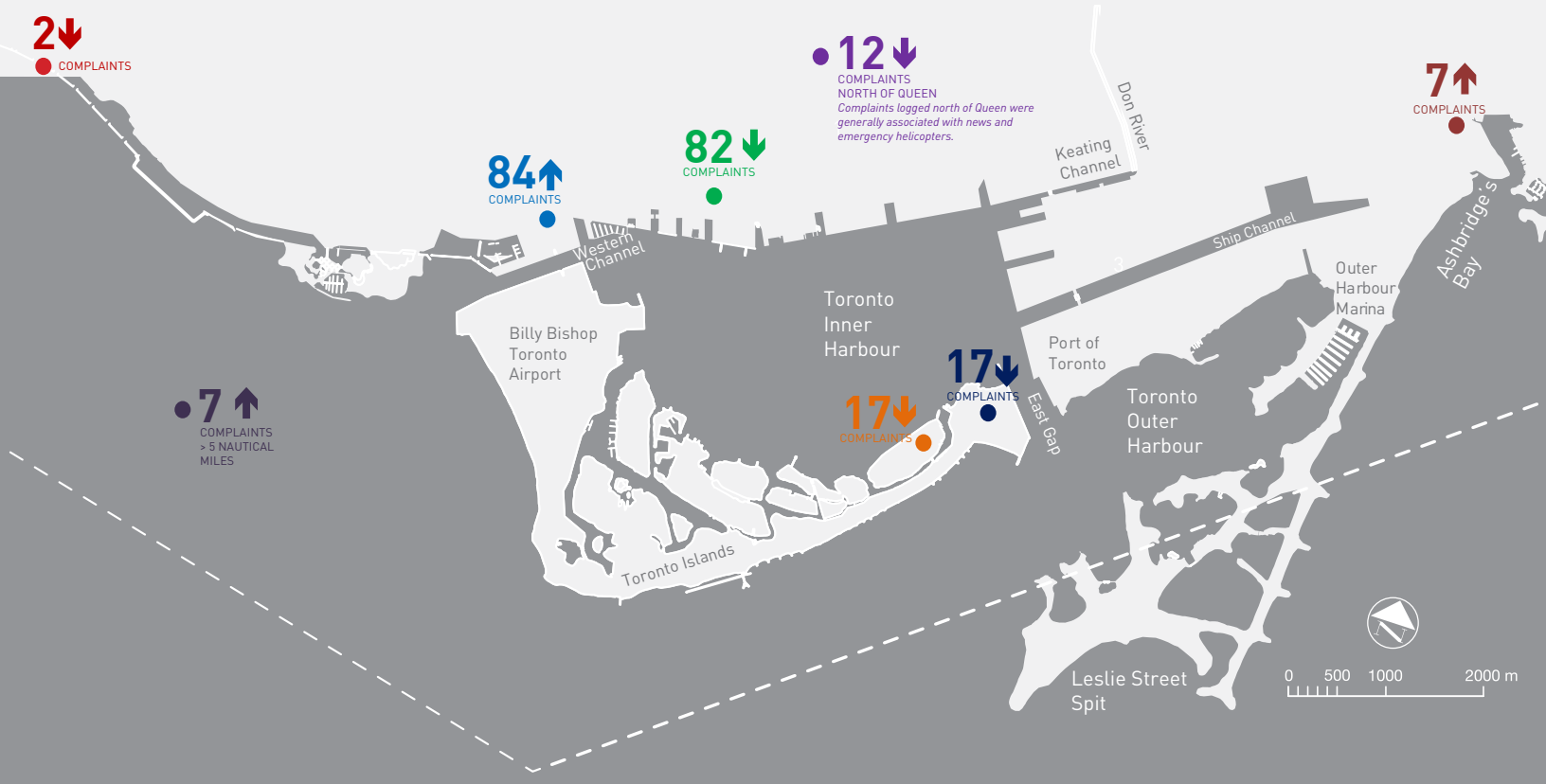
WebTrak

Billy Bishop Airport offers free community access to WebTrak — an internet-based software service that enables anyone with a computer, smartphone or tablet to gather information on an aircraft they hear flying overhead.

53%

WARD'S ISLAND EXPERIENCED DECREASE FROM 32 COMPLAINTS IN 2017 TO 17 IN 2018.

NEIGHBOURHOODS FILING NOISE COMPLAINTS 2018



Ground Run-up Enclosure

To further enhance the airport's Noise Management Program, the airfield rehabilitation project included the addition of a Ground Run-Up Enclosure (GRE), designed to dampen the noise associated with high-power aircraft engine ground run-up operations.

While required and regulated by Transport Canada as part of standard aircraft maintenance, engine run-ups have been cited by the community as a primary source of noise as testing is often done at high power. For example, in 2013, 161 noise complaints related to engine run-ups were received, which made up 32% of all noise complaints that year.

Standing 14-16 metres in height, the three-sided, open-top facility is located on the south-west side of the airfield and is only the second of its kind in Canada. The enclosure effectively absorbs noise with specialized acoustic panels that line the interior of the three walls, which feature vents for optimal aerodynamic performance. Since the facility was opened in April 2017, the GRE has immediately and significantly reduced the acoustic impact of engine runs-ups on the surrounding community.

The GRE design requirement aimed to reduce the noise impacts of engine run-ups by 15db. However, the actual acceptance tests have shown a reduction in reduced noise impacts from engine run-ups of 18db, exceeding the requirements by 20 per cent.

Further, in 2016, the airport received 36 complaints related to engine run-ups, while in 2017, the airport received only one complaint related to engine run ups—a 97.7 per cent reduction. In 2018, there were zero complaints related to engine run-ups —a 100 per cent reduction from 2016, prior to the facility being put into operation. In addition to this positive data, we have received encouraging feedback from the community who have indicated their satisfaction with the facility's performance.

19%

Overall Noise Complaints decreased by 19% in 2018, with 228 complaints in 2018, versus 271 in 2017.

100%

Reduction in complaints related to engine run-ups in 2018.

Calm Wind Trial

Billy Bishop Airport requested that Nav Canada undertake a Calm Wind Runway trial that began in August 2018 and runs until June 2019. To determine if the procedure should be implemented to further complement the airport's comprehensive Noise Management Program, aircraft take off and land at the airport from west to east.

The trial occurs during the morning start-up routine and when traffic levels permit during periods of calm wind (wind speed of less than five knots). As part of the trial, the public is encouraged to submit feedback pertaining to aircraft noise to the Noise Management Office or through WebTrak. Once feedback has been compiled and studied, the results of the trial will be presented to the community.

Noise Monitor Terminals

Noise Monitoring Terminals (NMTs) are the foundation of the airport's noise monitoring system and provide ongoing noise-level data to the airport's Noise Management Office. This data is then used in long-term noise mitigation planning and in responding to noise complaints from the surrounding community.

Two NMTs — located on the Toronto Police Marine Unit building and the airport's island-side fire hall — were upgraded, with a third NMT installed on the mainland ferry terminal in 2016.

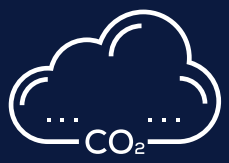
This latest NMT enables enhanced tracking of noise generated by aircraft run-ups and the airport's ferry operation — two key areas of focus under Billy Bishop Airport's overall noise management program. The noise data transmitted by the NMTs is also available through the WebTrak website.

Air Quality

At the May 2017 Community Liaison Committee (CLC) meeting, Toronto Public Health presented findings related to air quality in the vicinity of Billy Bishop Airport based on the November 2013 Golder Report. With regard to the airport's environmental impact to the local air shed, Toronto Public Health found that there are no health concerns as a result of the airport's operations and that air pollution levels in the surrounding area are below provincial standards.

Further, the report noted that the largest contributor of pollutants in the vicinity of Billy Bishop Airport is not the airport but rather vehicle emissions from the surrounding road network including the Gardiner Expressway.

Billy Bishop Airport continuously seeks out new and innovative measures to complement sustainable practices and infrastructure already in place with the aim of mitigating emissions from all of its operations. In 2019, Billy Bishop Airport will improve its vehicle fleet by converting the Marilyn Bell I biodiesel airport ferry to electric-power, which will significantly reduce greenhouse gas emissions and noise in the neighbourhood.



The provincial Ministry of the Environment categorizes air quality to include noise, odour and light emissions.

The Pedestrian Tunnel

The pedestrian tunnel continues to have a positive effect on Billy Bishop Airport since it opened in 2015. Prior to the tunnel's opening, passengers would arrive and depart in large groups according to the ferry schedule, which caused vehicle congestion at the mainland terminal and along Eireann Quay.

With more than 90 per cent of passengers now using the tunnel, passengers come and go on their own schedule, which smooths out the flow and eliminates surges corresponding to the ferry arriving and departing to/from the mainland.

Shuttle Buses

Billy Bishop Airport's commitment to reducing single-use vehicle traffic in the area is furthered through regular shuttle service between the airport and Union Station in downtown Toronto. Available on weekdays, weekends and holidays, with enhanced non-stop shuttle service during peak hours, the trip to and from Billy Bishop Airport takes approximately 15 minutes depending on traffic.

The pedestrian tunnel has also provided for a more even distribution of shuttle ridership, virtually eliminating overcrowded or empty departing shuttle-runs and making the complimentary shuttle a popular option among travellers and employees alike in addition to helping to reduce single-use vehicle traffic in the airport's vicinity. In fact, the Dillon Report found that 30 per cent of passengers depart the airport via the shuttle. Shuttles are equipped with free on-board Wi-Fi and GPS tracking so riders can track the shuttle.

**The study conducted by Dillon Consulting was undertaken during airport peak hours and focused on conditions related to traffic volumes, modal splits and taxi occupancy levels for travel to and from the airport. The data gathered will continue to provide background information to measure future conditions related to traffic volumes.*

On average, 42 per cent of travellers observed during a 2018 *Dillon Consulting study walked, biked or took the airport shuttle or public transit from the airport, representing one of the highest percentages of any airport in North America.

Approximately 8,800 passengers walk, bike, shuttle or use transit from the airport each week.

Billy Bishop City Side Modernization Project

In 2018, PortsToronto implemented the first phase of the Billy Bishop City Side Modernization Project, as part of the City-led Bathurst Quay Neighbourhood Plan to improve access to Eireann Quay. The project includes the reconfiguration of the airport taxi corral and increased curb space for pick up and drop off.

Reconfigured Passenger and Vehicle Traffic Operations

In alignment with new traffic patterns at the airport, in December 2018, PortsToronto implemented a reconfigured approach to airport traffic operations to better streamline passenger flow and improve pick up and drop off at the airport. In line with the City of Toronto's anti-idling bylaw, this new design has the potential to decrease the amount of time each vehicle spends on site, also minimizing vehicles entering into the community streets and reducing vehicle idling times.

This project included a trial period to assess improvements to passenger and vehicle traffic flow in the vicinity of Eireann Quay. Feedback from the public will be collected in 2019 and will be an important factor in the decision to permanently adopt the new routing.

Bike Racks

As part of continued efforts to reduce vehicle traffic associated with the airport, PortsToronto has incorporated bike racks that are conveniently located on both the island and mainland.

The four covered racks on the island enable cyclists to leave their bikes for the duration of their trip, knowing their bikes are secure and safe from the elements. PortsToronto also worked with the City of Toronto to install new bike racks near the mainland ferry terminal. Primarily used by employees at the airport, these bike racks encourage staff to choose more sustainable forms of transportation for their commute.

PortsToronto is in the process of implementing a Bicycle Maintenance Station for cyclist convenience that will be installed in 2019. The Bicycle Maintenance Station will include tools for manual tire replacement and an air pump for on-the-go and preventive maintenance.

BikeShareTO

The popularity of biking to the airport has made the Bike Share station located at the Bathurst Street and Eireann Quay intersection one of the 10 busiest in the city's network.

During peak cycling season in 2018, approximately 182 rides per day were generated from this location, with an even split between rides starting at the station and ending at the station.

Ridership continued in the winter months with 42 rides generated per day from this location. The station expanded earlier in the year due to its popularity, and another station to accommodate the demand for increased bike sharing in this area is being considered.

The popularity of biking to the airport has made the Bike Share station located at the Bathurst Street and Eireann Quay intersection one of the 10 busiest in the city's network.

TORONTO'S CITY AIRPORT

YTZ | Billy Bishop Airport is an award-winning gateway offering a world-class experience, less than 3 kilometers from downtown Toronto.

11 min.
2.5 km
Martin Goodman Trail to Union Station.*

12 min.
509 TTC departing every 7 minutes to Union Station.*

Less than 3 km.
Less than 3 kilometers from downtown Toronto.

15 min.
Complimentary Shuttle—departing every 15 minutes to Union Station.

> You can WALK off the plane to downtown Toronto. Yes!

> There are many things I like about Toronto, but I think the 5 minute commute from Billy Bishop Airport to the Toronto Office beats them all!

> Billy Bishop Airport, love it! The airport is literally almost walking distance to my hotel at King/Yonge. Wow.

> I will never not be blown away by how nice it is to walk out of the Toronto City Airport and deciding whether to walk home or take a street car.

*Source: Google Maps

Community

In 2018, Doors Open welcomed more than 24,000 people through its doors for a behind-the-scenes look at airport operations.

COMMUNITY

With the opportunity that comes with operating an urban airport minutes from the heart of downtown Toronto comes an important responsibility to conduct our operations in a manner that reflects balance with the surrounding community. It is through this commitment to balance that guides our work in sustainability and includes ensuring that proper measures are in place to mitigate the airport's impacts. Some of these measures include:

- Operating within a strictly enforced curfew that prohibits any aircraft, other than emergency Medevac aircraft, from taking off and landing between the hours of 11:00 p.m. and 6:45 a.m.;
- Investing in noise mitigation infrastructure such as the Ground Run-up Enclosure (GRE) and noise barrier;
- Holding Community Liaison Committee (CLC) and Noise Sub-Committee meetings to ensure regular dialogue with the community;
- Supporting charities and community organizations.

Billy Bishop Airport's targeted priority areas related to community engagement are:

I **Stakeholder and Community Engagement**

II **Community Investment**

III **Community Initiatives**

Stakeholder and Community Engagement

PUBLIC CONSULTATION FOR MASTER PLAN 2018

In 2019, Billy Bishop Airport will release its updated Master Plan. The plan provides a long-range vision for the airport, which in turn assists airport management and other stakeholders in making informed decisions regarding future development. Master Plans are customary for most airports and are usually updated every five years. The new Master Plan for Billy Bishop Airport is an update of the 2012 Master Plan, which is available on the PortsToronto website.

The primary purpose of an airport Master Plan is to establish an orderly development concept for the airport that establishes priorities and options for the airport's operation and development over an extended period, while at the same time allowing the airport to avail itself of new opportunities to serve the needs of the community and operators. An airport Master Plan is not a regulatory document but rather a planning tool intended to deliver a long-term strategy for the airport that provides a framework for planning and development. The typical planning horizon for an airport Master Plan is 20 years.

The planning process for the Billy Bishop Airport Master Plan kicked off in January 2018 with a comprehensive public consultation process that has included meetings with more than 600 people and 70 groups including neighbourhood and community associations, elected officials, government agencies and First Nation communities, as well as both waterfront stakeholders and airport stakeholders' tenants and the general public. Billy Bishop Airport provides regular project updates throughout the planning process on social media and on a dedicated project website that can be accessed at www.BillyBishopAirportMasterPlan2018.com.

PUBLIC OUTREACH AND MEETINGS

PortsToronto established a Community Liaison Committee (CLC) in 2010 to further expand engagement with the residents and businesses surrounding Billy Bishop Airport. The CLC gives airport neighbours a forum to discuss issues and concerns related to airport development, activities and operations. The committee also enables airport management to communicate operational activities and information with stakeholders and the broader community.

Key representatives from neighbourhood community groups, local businesses and stakeholders, as well as local city councillors and members of provincial and federal parliaments, make up the membership of the CLC. The committee follows best practices of community engagement, meeting four times a year and addressing matters such as airport noise management, air quality and transportation access. The CLC's quarterly meetings are open to the public and minutes taken by third-party consultant Lura Consulting are posted to the PortsToronto website. As of the end of 2018, 31 meetings of the CLC had been held.

CLC NOISE SUB-COMMITTEE

In late 2017, a Noise Sub-Committee of the CLC was formed to further research, understand and address noise impacts from airport operations. The Noise Sub-Committee consists of four community members, two staff members from PortsToronto, one staff member from the City of Toronto and a facilitator from LURA Consulting. The committee has two co-chairs, one from the community and one from PortsToronto.

31 meetings of the CLC have been held since 2010.

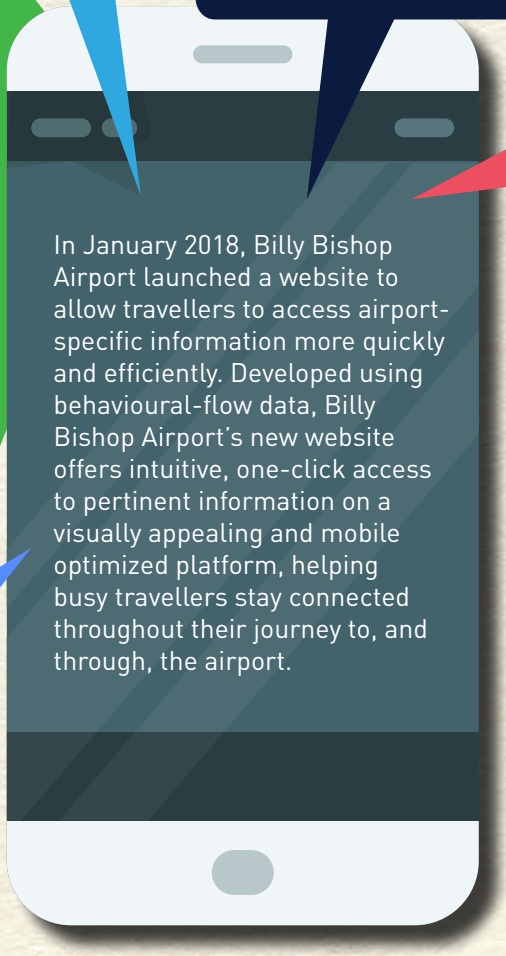
CONNECTING ONLINE

Billy Bishop Airport prides itself on connecting with the community. Our website includes a feedback portal that allows passengers, residents and stakeholders to quickly and easily contact us with their feedback, concerns and questions. This system also provides an opportunity to track common concerns and trending topics that help us best address the needs of our local community.
Billy Bishop Airport prioritizes fostering and maintaining positive relationships and strong connections with our neighbours and stakeholders. This critical part of our commitment to sustainability is maintained through open dialogue, transparency and public participation. Updates are also provided on the Billy Bishop Airport website regarding news and information that is relevant to our stakeholders and the community.

60.3% audience growth on Instagram since 2017
(@BBishopAirport)

10.7% audience growth since 2017
Audience Growth on all four platforms (Twitter, Facebook, Instagram and LinkedIn) has increased by 10.7 per cent since 2017 for @BBishopAirport.

With an estimated 67 per cent of Ontario residents using social media, Billy Bishop Airport continues to engage with the public via a variety of social media platforms. Social media is used to promote various community and Billy Bishop Airport-related events, as well as to respond to concerns and questions from airport passengers and the local community.



In January 2018, Billy Bishop Airport launched a website to allow travellers to access airport-specific information more quickly and efficiently. Developed using behavioural-flow data, Billy Bishop Airport's new website offers intuitive, one-click access to pertinent information on a visually appealing and mobile optimized platform, helping busy travellers stay connected throughout their journey to, and through, the airport.

Group Engagement Rate across all four platforms has increased 188.5% since 2017.

Inbound message volume across all four platforms has increased by 63.2 per cent since 2017.

II
Community Investment

SPONSORSHIP

With a long tradition of working with community members and organizations to foster strong and sustainable communities along Toronto's waterfront, Billy Bishop Airport provides donations, sponsorships and in-kind contributions to local initiatives and events each year. These initiatives and events share a common goal of promoting healthier, greener and empowered communities.

In 2018, Billy Bishop Airport funded community initiatives and organizations including:

- Evergreen Brickworks School Greening Program
- Redpath Waterfront Festival
- The Bentway Conservancy—Bentway Park
- Aloha Toronto (Benefiting children with autism)
- Set Sail for Hope (Benefiting Camp Trillium children living with cancer)
- Beaches International Jazz Festival
- Billy Bishop Home and Museum
- Emily's House and Philip Aziz Centre for Hospice Care (Supporting adults and children living with life-limiting illnesses)
- Waterfront Neighbourhood Centre (Room 13 and Community Garden)
- Toronto Taste
- Hope Air (Medical travel assistance)
- Sugar Shack
- Windward Co-operative Homes
- ALS Canada

"To create a legacy of giving based on our commitment to fostering strong, healthy and sustainable communities along Toronto's waterfront. Our giving is focused on the waterfront, education and youth in ways that support strong communities and a healthier environment."

— PortsToronto's Community Investment Mission

On October 20, 2018, Billy Bishop Airport hosted the eighth annual Plane Pull to End ALS in which fourteen teams raced against the clock to pull a 37,000-pound Porter Airlines plane by hand for 100 metres. Billy Bishop Airport hosted the event on the apron outside the Ground Run-up Enclosure on the south end of the airfield. The event raised more than $90,000 and was a wonderful opportunity to gather the Billy Bishop Airport community to support a worthwhile cause.

DOORS OPEN 2018

THE WATERFRONT NEIGHBOURHOOD COMMUNITY CENTRE

PortsToronto invites students from the Waterfront Neighbourhood Centre to the MLSE Launch Pad for a hockey clinic.

ROOM 13

THE BENTWAY

THE WATERFRONT NEIGHBOURHOOD CENTRE COMMUNITY GARDEN

The Bentway had another successful season, welcoming over 30,000 skaters to the trail over the course of the winter months. The Billy Bishop Airport Free Skate nights were popular with approximately 2,200 people skating the trail over the course of three nights!

III
Community Initiatives

DOORS OPEN 2018

In May 2018, Billy Bishop Airport opened its doors to a record 24,000 people as part of Toronto's annual Doors Open event. Doors Open included activities for the entire family as part of a self-guided tour behind the scenes at the airport. Activities included the opportunity for kids of all ages to explore the airport's state-of-the-art safety vehicles; a staging area from which to view the airport's runway operations and aircraft up close; the Ornge hangar, which featured life-saving helicopters, EMS vehicles and life-saving demonstrations; and the opportunity to meet the dog and falcons who play a role in the airport's wildlife management program.

SAIL-IN CINEMA™

In 2018, more than 8,000 people and 50 boats attended Sail-In Cinema as PortsToronto continued to give back to the local community through this free event, sponsored by Billy Bishop Airport.

The eighth annual Sail-In-Cinema featured a state-of-the-art, three-storey double-sided HD LED floating screen anchored to a barge in Lake Ontario. Pre-show activities included henna tattoos, face-painting, trivia, and free snacks for moviegoers.

In an effort to reduce waste at the event, the City of Toronto's water refill truck was available to provide free drinking water for guests to fill up their reusable water bottles — eliminating single-use plastic water bottles from the event.

DOORS OPEN 2018

SAIL-IN CINEMA

People and Culture

"It's incredibly rewarding to support wellness initiatives both in the office and at home as a member of PortsToronto's Wellness Committee. The committee recognizes the importance of empowering employees through education and resources to maintain healthy and active lifestyles."

—Jenna Wilcox
Billy Bishop Airport,
Duty Manager

Health and Safety

Billy Bishop Airport prioritizes employee health and safety, with several systems in place to minimize workplace hazards, prevent injuries and educate employees on health and wellness, as well as their rights and responsibilities. The well-being of our employees is directly related to the success of our businesses, and maintaining a strong track record of health and safety performance is critical. Safe practices for Billy Bishop Airport's employees and contractors are embedded into the day-to-day operations of our business units, and health and safety policies are implemented at all levels of our organization.

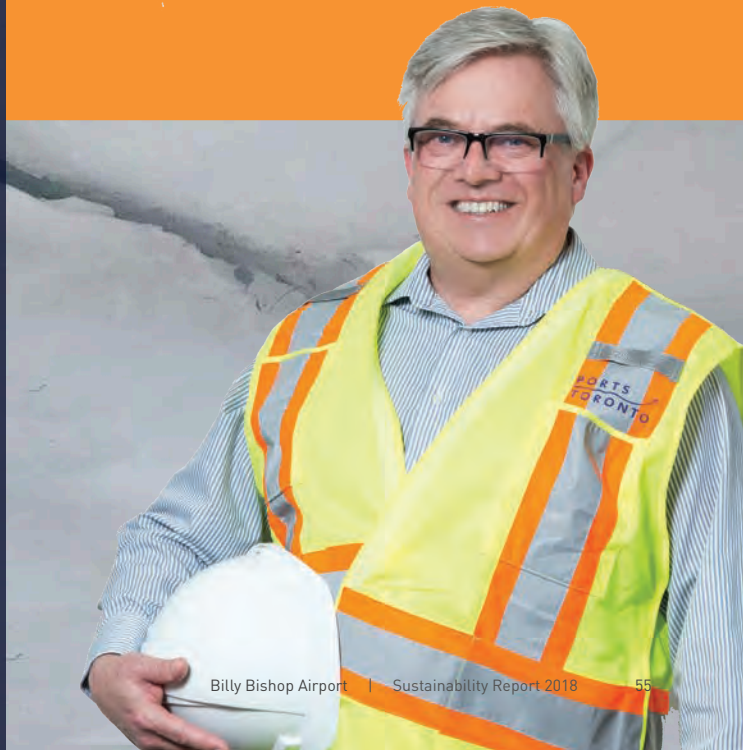
PortsToronto holds monthly Joint Occupational Health and Safety Committee meetings, with representatives from each business unit in attendance, including Billy Bishop Airport. These meetings provide a consistent and constructive forum for communicating with employees across our organization on priority health and safety issues and programs. Each day, all of our crews conduct a tailgate safety talk before heading out on the job to ensure the day's tasks will be completed in a safe, effective and efficient manner. Further, a quarterly internal Occupational Health and Safety newsletter is shared with all employees at Billy Bishop Airport, providing tips and advice on staying safe in the workplace.

HEALTH AND SAFETY MANAGEMENT SYSTEM

Billy Bishop Airport has developed a comprehensive series of corporate health and safety policies, along with Safe Operating Procedures (SOPs) that provide a thorough guide to compliance with all required regulations and that are made available to every employee through unit management. All policies and procedures are reviewed on a regular basis to ensure ongoing improvement.

"In my role as PortsToronto's Health and Safety Manager, I work to ensure that the latest health and safety best practices are implemented throughout the organization. In 2018, I was proud to be a part of the newly formed Wellness Committee. I work closely with other committee members to provide a monthly educational newsletter for all employees and identify activities to promote health and wellness in the workplace."

— John Huggett,
Health and Safety Manager



HAZARD PREVENTION PROGRAM

As part of our Hazard Prevention Program, Billy Bishop Airport maintains a Hazard & Risk Registry by conducting Hazard Identification & Risk Assessments (HIRA). Our goal is to identify all hazards in our workplace and to drive down risk As Low As Reasonably Achievable (ALARA). To do so, we work collaboratively with our employees though the hierarchy of controls to:

a) Eliminate the hazard or risk;

b) Substitute the hazard/risk with a less hazardous process, operation, materials or equipment;

c) Control the hazard/risk at the source, through the use of engineering controls or organizational measures; and,

d) Where residual hazard/risks cannot be controlled by collective measures, PortsToronto provides for appropriate personal protective equipment.

INCIDENTS

A Hazard Prevention Program is a key component in maintaining a safe workplace for our employees. As such, Billy Bishop Airport continually tracks all known or foreseeable hazards, associated risks and Corrective Action Plans (CAPs). Also tracked are employee concerns and near-miss incidents, as well as the number and nature of workplace injuries and total lost days. In 2018, there were four lost-time injuries resulting in a total of twenty lost days of work.

METRIC	2018 RESULTS
Fines for instances of health and safety non-compliance (value)	$0
Injuries resulting in lost time	4
Total Lost Days	20

CERTIFICATION

Billy Bishop Airport staff complete special Safety Management Systems (SMS), Human Factors and Airside Operators Vehicle Permit training as per Transport Canada requirements. Human error contributes to over 80 per cent of aviation incidents and these training programs prepare our airside staff to mitigate, identify and resolve potential safety issues.

WELLNESS COMMITTEE

Wellness Program Mission: Empowering employees through education and resources, to live their best lives.

The Wellness Committee was formed in 2017 and meets monthly to share ideas and identify strategies to promote health and wellness in the workplace. The committee also issues monthly staff newsletters and hosts activities such as Lunch and Learns and wellness challenges.

Wellness Committee Step Program

PortsToronto's Wellness Committee is helping people live well. In August 2018, the committee focused on physical activity, distributing pedometers to all employees and announcing a company-wide Personal Step Challenge. Firefighters at the Billy Bishop Airport Fire Hall rose to the challenge by tracking their steps and staying active by setting a 10,000 steps per day goal.

DID YOU KNOW?

There are 153 steps between Billy Bishop Airport's pedestrian tunnel and its atrium. Need to get your steps in before your next flight? Take the stairs!

TRAINING AND DEVELOPMENT

With prevention as a key component of reducing workplace injuries and creating healthy work environments, Billy Bishop Airport has implemented several health and wellness programs as part of the overall company strategy to achieve a healthy workplace. These initiatives range from identifying dangers and eliminating risks to ongoing training and education initiatives.

Health and safety education is part of every new-hire employee orientation. Each position within Billy Bishop Airport has been evaluated for training needs based on regulatory requirements and through hazard and risk analysis. All staff have access to Billy Bishop Airport's health and safety policies and procedures, which cover a wide variety of topics from workplace harassment to electrical safety.

At Billy Bishop Airport, all employees are trained in accordance with Transport Canada regulations. Employees are required to attend courses on Safety Management Systems (SMS) and Human and Organizational Factors, which provide instruction on proactive safety management. Billy Bishop Airport management also holds monthly SMS Committee meetings to discuss issues related to safety and develop corrective/preventive action plans to remedy any issues. Over and above this training, employees who work airside, servicing Billy Bishop Airport's runways and airfield, are provided with specialized equipment and vehicle operation training, which they are required to update each year. Each member of the airport's ferry crew also holds Transport Canada licences for the functions they perform. These licences are renewed on a regular basis to ensure the crew's training and knowledge remains effective and current.

In addition, the airport's fire department does regular internal and external emergency services training throughout the year, including a full-scale safety simulation every two years with a full-scale security exercise in intervening years. Table-top safety and security exercises are also held on an annual basis. These exercises test the airport's protocols, procedures, communications and planning for emergency and security-related incidents, and ensure that the airport is ready to respond to any situation. They are critical to ensuring that the airport maintains a high level of emergency response preparedness and involve multiple agencies including Toronto Fire, Toronto Police Service (and related Marine Units), Toronto Paramedic Services, Nav Canada, as well as staff and officials from the various agencies, airport stakeholders and airlines that operate out of Billy Bishop Airport.

Economic Performance

INVESTING IN THE WATERFRONT

Dock wall repair

Dock wall enhancement

$6 million toward environmental initiatives since 2009.

Support of the Bathurst Quay Neighbourhood Plan.

Billy Bishop Airport generated revenue of $48.4 million, which included $21.0 million in revenue from Airport Improvement Fees.

ECONOMIC PERFORMANCE

For Billy Bishop Airport, sustainability not only encompasses environmental and social accountability but also financial self-sufficiency. This ensures that our business remains viable, enabling us to invest back into the communities in which we operate by building infrastructure, conducting public works services, and delivering value locally and nationally.

Billy Bishop Airport's targeted priority areas related to our economic sustainability include:

I **Financial self-sufficiency**

II **City building and investing in public infrastructure**

III **Supporting local job creation**

IV **Contributing to Toronto's economic growth**

I
Financial Self-Sufficiency

Billy Bishop Airport continued to see ongoing success in 2018, serving 2.8 million passengers, which is consistent with the airport's managed growth strategy to ensure balance on the waterfront. Billy Bishop Airport generated revenue of $48.4* million, which included $21.0 million in revenue from Airport Improvement Fees.

"As the region's most accessible employment and institutional centre, Downtown businesses and institutions benefit from unparalleled access to skilled labour. These employers are also highly connected to one another as a result of their geographic proximity, providing important economies of agglomeration. Union Station will continue to be the transit hub for the city and region, while Billy Bishop Toronto City Airport and the UPX-linked Toronto Pearson Airport provide national and international connectivity."

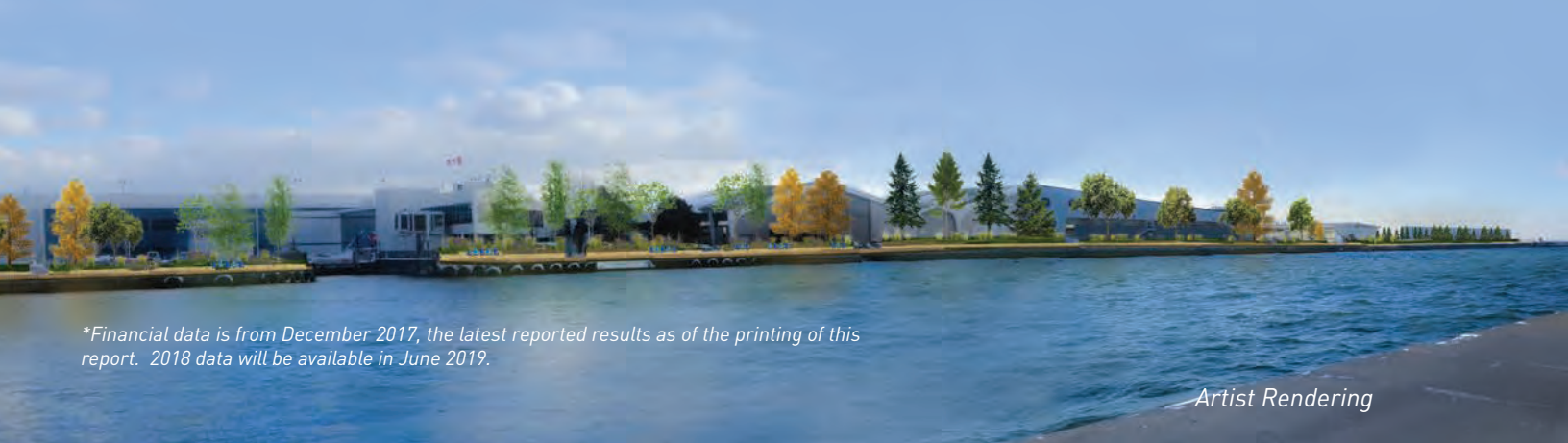
— TOcore Planning Downtown, City of Toronto

II
City Building and Investing in Public Infrastructure

DOCK WALL ENHANCEMENT

In June 2018, PortsToronto, which owns and operates Billy Bishop Airport, confirmed that it will contribute $500,000 toward the rehabilitation of the western channel dock wall (south of Ireland Park) which is owned by the City of Toronto and is located in close proximity to Billy Bishop Airport's ferry and slip. This contribution will be in addition to funds committed by the City of Toronto toward restoring the aging walls. PortsToronto is also a financial contributor to the City of Toronto's rehabilitation of the adjacent Canada Malting property, which will include environmental remediation and the construction of public realm spaces on the waterfront.

PortsToronto also announced plans to repair the south dock wall in the Western Gap which borders Billy Bishop Airport. PortsToronto owns this dock wall, which for years has been maintained as an industrial piece of infrastructure. The Billy Bishop Airport team is working on a plan to repair the dock wall and make it into a public space that can be enjoyed by passengers, staff and the community. The work is being completed in phases with the first phase dedicated to restoring the structural integrity of the wall. Design work began in summer 2018. Boardwalk decking, plants and seating will also be layered in to make this a place people can visit and enjoy.



**Financial data is from December 2017, the latest reported results as of the printing of this report. 2018 data will be available in June 2019.*

Artist Rendering

THE BILLY BISHOP AIRPORT AIRFIELD REHABILITATION AND GROUND RUN-UP ENCLOSURE

In 2018, Billy Bishop Airport invested heavily in new infrastructure, the most significant investment being that of the Billy Bishop Airfield Rehabilitation Project — which was completed on budget and 60 days ahead of schedule. The significant three-year rehabilitation initiative cost $35 million (paid for entirely by funds raised through the Airport Improvement Fee) and included the reconstruction of runways and taxiways, the installation of new energy-efficient LED lighting, and the construction of a Ground Run-up Enclosure (GRE) designed to dampen the noise associated with high-power aircraft engine ground run-up operations.

These improvements have modernized the airport and will ensure it continues to serve as an economic engine for the city and provide efficient service to the millions of passengers who travel through the airport each year.

"Aircraft noise is a complicated issue faced by airports and communities, one that must be managed while ensuring that aviation safety remains paramount. As our cities grow and airports become a part of our neighbourhoods, it's important that we work together to ensure a balance between the important economic role that airports play, with the well-being of our communities. This project at Billy Bishop Airport is a great example of the federal government working closely with the municipal government and the airport authority to achieve this balance while making a positive difference to the neighborhood."

— The Honourable Marc Garneau,
Minister of Transport.

III
Supporting Local Job Creation

As a key international transportation hub, Billy Bishop Airport serves as economic engines that contributes to local market profitability and supports job creation in the community it serves. Efficiently moving people, Billy Bishop Airport's transportation network creates links between communities and regions that foster economic growth across multiple industries.

BILLY BISHOP TORONTO CITY AIRPORT

Billy Bishop Airport is a key driver of Toronto's economy, generating more than $470 million in Gross Domestic Product (GDP) and supporting 4,740 jobs, including 2,080 directly associated with airport operations.

In 2018 he Billy Bishop Airport Airfield Rehabilitation Program and Nieuport Aviation's passenger terminal upgrade were completed. Both projects engaged local teams of professionals, which further drove employment related to the airport. The airfield project generated more than 100 local jobs per year for the duration of the project. The terminal project employed more than 1500 people locally during the construction phase and 100 full-time staff are now employed in the concessions.

As a key international transportation hub, Billy Bishop Airport continues to serve as an economic engine, contributing to local market profitability and supporting job creation in the community we serve.

IV
Contributing to Toronto's Economic Growth

The unique downtown location of Billy Bishop Toronto City Airport makes it a key urban transportation hub for Canadian and international businesses to gain convenient, cost-effective and environmentally sustainable access to the heart of Canada's business capital.

BILLY BISHOP AIRPORT AS A FACILITATOR OF TOURISM AND TRADE

Since its opening in 1939, Billy Bishop Airport has become an important international gateway and significant economic engine for the GTA.

Through direct and indirect economic benefits, the airport continues to support Toronto's key sectors including the technology industry, financial services, life sciences, the food and beverage sector, travel and tourism, and the film and television industry.

The technology industry in Toronto has grown by more than 50 per cent in the past five years, employing roughly 241,000 and outpacing other North American technology hubs such as San Francisco, Seattle and Washington DC. Already North America's fourth largest technology talent market, Toronto's tech sector will continue to grow, attracting the increased presence of global brands and technology giants such as Amazon and Google. *

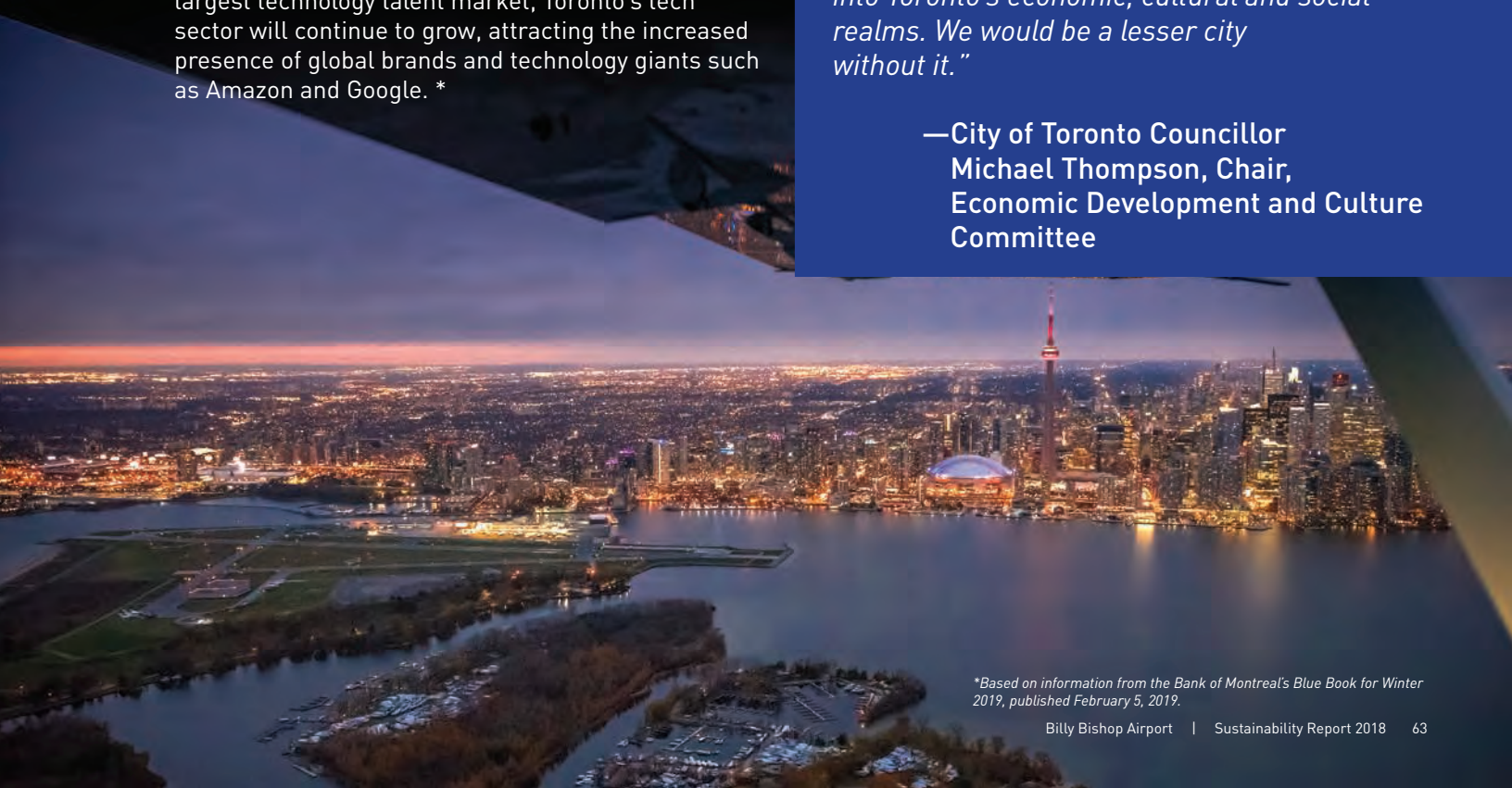
With these companies choosing Toronto to base operations, Billy Bishop Airport will play a more vital role than ever before connecting business in Toronto to key technology markets in the U.S. such as New York and Boston.

Further, with regional carriers such as FlyGTA now serving markets such as Kitchener-Waterloo, the technology corridor is growing ever stronger as fast, efficient and daily connections can be made between the two technology hubs.

The airport also boosts Toronto's tourism economy, with visitors coming through Billy Bishop Airport spending approximately $150 million a year on accommodation, transportation, retail and food and beverage.

"By providing a direct connection between Toronto's business and economic centre and other key North American cities, Billy Bishop Airport's impact extends beyond our transportation infrastructure into Toronto's economic, cultural and social realms. We would be a lesser city without it."

—City of Toronto Councillor Michael Thompson, Chair, Economic Development and Culture Committee



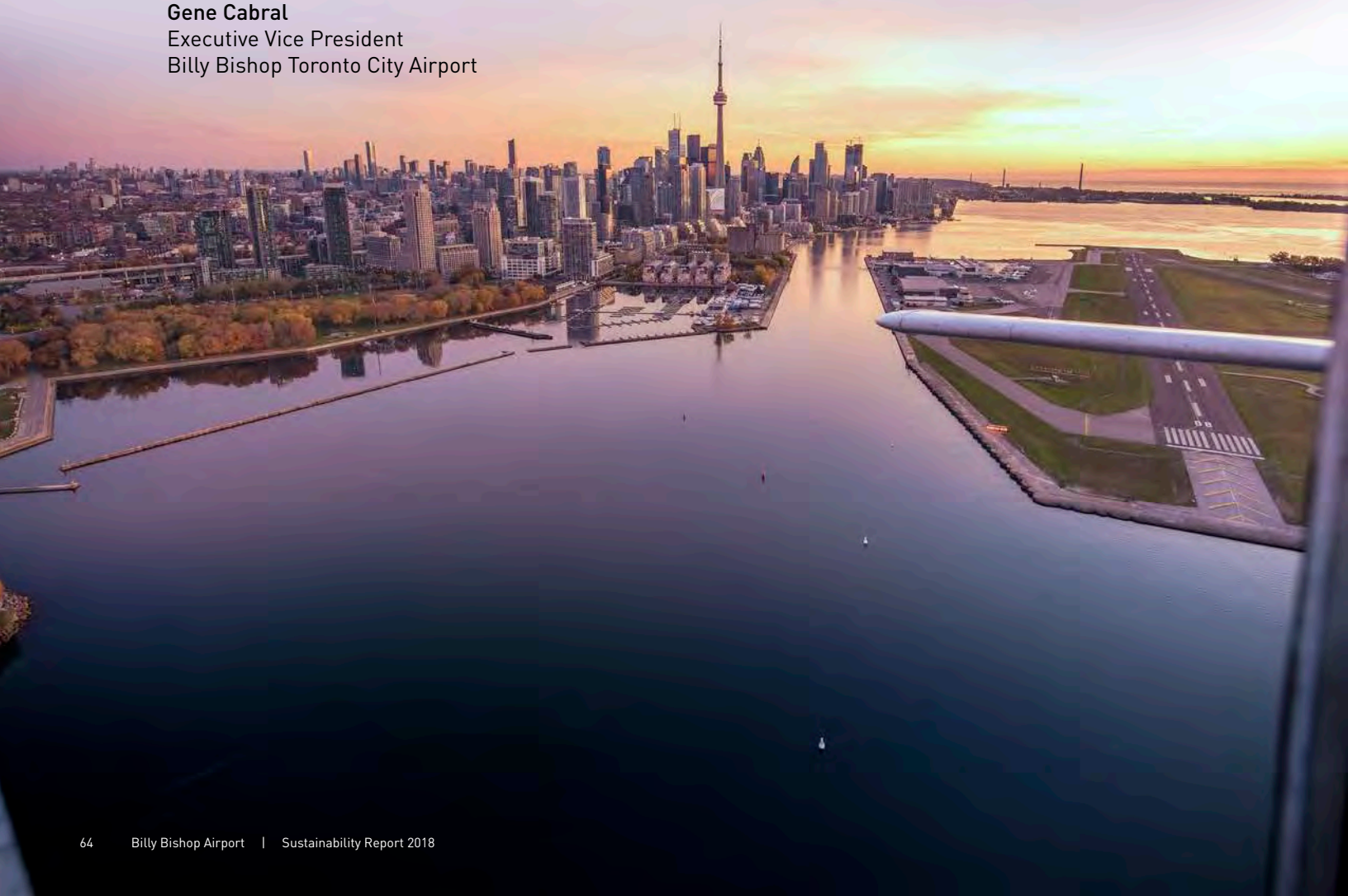
*Based on information from the Bank of Montreal's Blue Book for Winter 2019, published February 5, 2019.

Going Forward

Next Steps

In this report, we highlighted areas where we are succeeding while also reflecting upon how we can continue to improve in order to maximize the impact of our sustainability efforts. In 2019 and beyond, Billy Bishop Airport will continue to enhance its sustainability program and strive to achieve a rigorous carbon reduction by 2030. We encourage you to follow our progress throughout the year on our website, at public meetings and in reports such as this, and provide feedback along the way.

Gene Cabral
Executive Vice President
Billy Bishop Toronto City Airport



Appendix 3: Billy Bishop Toronto City Airport Results of Spring 2018 Traffic and Passenger Surveys

DILLON CONSULTING

PORTSTORONTO

Billy Bishop Toronto City Airport

Results of Spring 2018 Traffic and Passenger Surveys

February 2019 — 18-7863

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Executive Summary

This report documents the results of the mainland traffic and pedestrian surveys undertaken in June 2018 in the vicinity of Billy Bishop Toronto City Airport (BBTCA). These surveys follow up from similar survey programs undertaken in April and October 2015, and allow for a comparison of how conditions may have changed now that the pedestrian tunnel has been open to airport users for approximately three years.

The survey program yielded the following data:

- Intersection traffic volumes during the AM and PM peak hours;
- Two-way traffic flows along Eireann Quay;
- The level of compliance with signed turn prohibitions in the vicinity of the airport;
- Variation in the length of northbound queues along Eireann Quay at the Queens Quay intersection;
- Variation in the length of the queue of traffic waiting to board the ferry;
- Ridership on the shuttle traveling between Union Station and the airport;
- Variation in the number of taxis queued in the taxi corral;
- The number of deadheading taxis, including "double deadheading" taxis;
- Vehicle occupancy levels in taxis and private vehicles picking up and dropping off passengers; and
- Calculated modal splits indicating the proportion of passengers using different transportation modes to travel to and from the airport.

Below is a summary of the main findings of the June 2018 survey.

Modal split

(see Section 2.0)

The modal split for trips to and from the airport — the proportion of trips made using the various travel modes — was determined based on observed shuttle usage, auto and taxi pick-ups and drop-offs, pedestrian activity, and parking statistics. In addition, trips made by Uber and Lyft were recorded for the first time.

Overall, approximately 32% of trips to the airport and 41% of trips from the airport were made by non-auto modes (the airport shuttle; TTC streetcar service; and pedestrian access):

- The Union Station shuttle bus carries one out of every four to five airport trips (21% of trips to the airport; 29% of trips from the airport);
- Approximately 11% to 12% of trips are other non-vehicular trips (likely most traveling by TTC streetcar and walking between Queens Quay and the airport, but some potentially making the trip entirely by foot or by bicycle).

Overall, approximately 68% of trips to the airport and 59% of trips from the airport were made by auto modes (taxis; private vehicles):

- Taxis continue to carry a substantial proportion of travelers (27% of trips to the airport; 36% of trips from the airport);
- Pick-up and drop-off trips by private auto also comprise a substantial proportion (31% of trips to the airport and 18% of trips from the airport);
- Uber and Lyft make up a moderate proportion of trips to the airport (8%) but few trips from the airport (3%); and
- Approximately 2% of trips drive to the airport and park in one of the three lots.

The primary change that has occurred since the fall 2015 surveys is a noticeable decrease in the proportion of passengers being picked up and dropped off by taxi, and a corresponding increase in the proportion of passengers being picked up and dropped off by private vehicle. This continues a trend observed in 2015 after the opening of the pedestrian tunnel. When dividing trips into auto-based trips (taxi; Uber/Lyft; private auto) and non-auto-based trips (airport shuttle; TTC; walking/cycling), the proportion of auto-based trips has increased slightly for drop-offs, and decreased slightly for pick-ups. Auto-based trips comprise 68% of all travel to the airport, but only 59% of travel from the airport.

Peaking of traffic and queues

(see Sections 6.4; 7.1; 3.0)

Before the opening of the tunnel, traffic flows were characterized by periods of lower volume related primarily to drop-offs, with regular surges in traffic flow every 15 to 20 minutes following the arrival of a ferry. The surges in activity would be especially pronounced following ferry trips that accommodated passengers from two or more arriving flights. The Queens Quay and Eireann Quay intersection experienced periods of queuing and congestion following the arrival of a ferry, followed by a "recovery" period to allow queues to dissipate before the arrival of the next ferry. Queues on northbound Eireann Quay regularly reached 10 vehicles in length during the morning peak, and 15 to 18 vehicles during the afternoon peak.

With the opening of the tunnel, the flow of passengers arriving on the mainland is better dispersed rather than concentrated into surges. The flow of taxis and other vehicles associated with passenger pick-up has similarly been better dispersed. Although the traffic flows and queues along Eireann Quay still experience some variation associated with the flight schedule, the variation is much more moderate and the northbound queues were observed to be substantially reduced compared to pre-tunnel conditions. This was first observed in the fall 2015 post-tunnel surveys and continues to be the case in the 2018 surveys. Most queues on northbound Eireann Quay were approximately five vehicles or less, with occasional queues of 10 to 12 vehicles in the afternoon.

The northbound queue was also monitored via video footage for a full day on Thursday and Sunday to identify periods when the queue reached the taxi corral entrance. This was observed for a 25-minute period at 7:00 PM on Thursday, but otherwise queues of this length were only observed for limited, occasional instances and dissipated after one to two traffic signal cycles.

Similar observations were made when reviewing ridership on shuttle trips leaving the airport. Both the proportion of overcrowded trips and the proportion of empty trips were observed to be reduced now that passengers are arriving at the shuttle pick-up location in a more dispersed pattern.

Traffic volumes on Eireann Quay

(see Section 6.4)

Two-way traffic volumes on Eireann Quay were recorded immediately south of Queens Quay.

- During the morning peak period, Eireann Quay carries approximately 700 vehicles per hour between 7:00 and 8:00 AM.
- During the afternoon peak period, Eireann Quay carries approximately 850 vehicles per hour between 4:00 and 5:00 PM. Traffic volumes on Eireann Quay subsequently decrease to approximately 600 vehicles per hour between 5:00 and 6:00 PM, before increasing to approximately 800 vph by the 6:00–7:00 PM interval (corresponding to the time period with the highest total traffic volumes at Lake Shore Boulevard and Bathurst Street).
- The 2018 data were compared against the volumes observed during the Thursday and Friday surveys in fall 2015. The peak 2018 volumes have increased by approximately 50 to 100 vehicles per hour compared to the fall 2015 data.

Airport traffic as a proportion of total traffic

(see Section 6.2)

The proportion of traffic comprised of vehicles traveling to and from the airport varies by roadway.

- On Lake Shore Boulevard, which serves a commuter function through downtown, airport traffic makes up 3–6% of all traffic.
- On Bathurst Street north of Queens Quay, which is a key airport approach route, 60–65% of traffic in the block between Queens Quay and Lake Shore Boulevard is airport related.
- Within the neighbourhood to the west (Queens Quay to the west; Stadium Road), airport traffic comprises 5% of all traffic in the morning peak and 8% of all traffic in the afternoon peak.
- On other routes in the area (Queens Quay to the east; Dan Leckie Way; Bathurst Street to the north) airport traffic comprises approximately 25–45% of all traffic.

Turning prohibitions

(see Section 6.3)

Three turn prohibitions were enacted near the airport in 2012. Northbound left turns from Eireann Quay to Queens Quay are prohibited at all times, and time-of-day prohibitions are in effect at Lake Shore Boulevard and Stadium Road during peak periods (no eastbound right turns from 7-9 AM; no northbound left turns from 4-6 PM).

- A high rate of compliance was observed at Queens Quay and Eireann Quay, with an average of two northbound left turns (nearly all by private vehicles) observed during the peak periods.
- On average, 20 vehicles per hour (nearly all private vehicles) were observed making prohibited right turns at Lake Shore Boulevard and Stadium Road during the AM peak period.
- On average, 59 vehicles per hour (nearly all private vehicles) were observed making prohibited left turns at Lake Shore Boulevard and Stadium Road during the PM peak period. Given the minimal number of northbound left turns from Eireann Quay to Queens Quay over the same two-hour period (only one vehicle in total), the left turn activity at Lake Shore Boulevard and Stadium Road is unrelated to the airport.
- Notwithstanding the number of vehicles violating the turn prohibitions at Lake Shore Boulevard and Stadium Road, the volume of traffic on those movements was observed to decrease compared to the volume during the "shoulder" intervals before and following the two-hour peak period.

Taxi queues and corral usage

(see Section 4.1)

The taxi corral on the Canada Malting lands can accommodate approximately 32 to 38 taxis (depending on the spacing between taxis), in addition to approximately 16 to 18 taxis standing at the loading platform. Ideally, the supply of waiting taxis is balanced such that the corral is never full (there is room to allow additional arriving taxis to enter the corral without being turned away) and is never empty (there are always taxis waiting to serve arriving passengers).

- During the morning surveys, the corral was observed to be near or at practical capacity between approximately 9:15 and 10:00.
- During the afternoon surveys, the corral was observed to be near or at practical capacity for a substantial part of the afternoon, particularly on Friday.
- From a supplementary review of video footage on Thursday and Sunday, other extended periods were observed when the corral was near or at capacity:
  - On Thursday, for much of the period between 12:00–2:00 PM, and between 7:35–8:50 PM;
  - On Sunday, for approximately one hour in the afternoon (2:50–3:50 PM), as well as for an extended period in the evening (6:15–8:00 PM, and 8:20–8:50 PM).

Taxi deadheading

(see Section 4.2)

Taxi movements on Thursday were observed to determine the number of deadhead trips to and from the airport (i.e., a taxi being driven to or from the airport without any passengers).

- The majority of taxis accessing the airport generated one deadhead trip (either arriving empty before picking up a fare, or dropping off a fare and then leaving empty).
- At most times, there are also some taxis that enter the corral to pick up a fare immediately after dropping off passengers, generating no deadhead trips.
- At some times, however, this is offset by taxis that arrive empty when the taxi corral is full and are turned away, generating two deadhead trips and serving no passengers. On Thursday, this was primarily observed later in the morning, although it would also have been the case at other times when the corral was full (e.g., throughout much of Friday afternoon).

The rate of deadheading varies by time of day.

- For most of the morning, the rate of deadhead trips tends to range from 0.75 to 1.00 deadhead trips per fare (higher than the range of 0.5 to 0.75 deadhead trips per fare observed in the fall 2015 surveys).
- In the latter part of the morning, the corral was full with a lower level of turnover, and a sizeable increase was observed in the number of taxis arriving empty and being turned away. During a 30-minute interval observed in the morning, more than two-thirds of the taxis on Eireann Quay were empty.
- In the afternoon, the deadheading rate was found to be in the order of 0.6 to 0.9 deadhead trips per fare for most of the afternoon. This is generally comparable to the fall 2015 surveys (which observed a rate of approximately 0.7 deadhead trips per fare for most of the afternoon), but with somewhat more variability throughout the afternoon.

Vehicle occupancy

(see Section 5.0)

During the morning period, overall vehicle occupancy levels are 1.27 drop-offs per vehicle and 1.35 pick-ups per vehicle (not including the driver, and not including “deadhead” trips).

During the afternoon period, overall vehicle occupancy levels are 1.37 drop-offs per vehicle and 1.18 pick-ups per vehicle.

In the fall 2015 surveys, taxi and private vehicle occupancy levels were approximately 1.20 to 1.25 passengers per vehicle. The taxi occupancy levels are generally comparable, while private vehicle occupancy levels were higher in 2018 for morning pick-ups and afternoon drop-offs.

1.0 Introduction

1.1 Purpose

This memo documents the results of the mainland traffic and pedestrian surveys undertaken in June 2018 in the vicinity of Billy Bishop Toronto City Airport (BBTCA). Similar survey programs were undertaken in April and October 2015. The 2015 surveys were undertaken before and after the opening of the pedestrian tunnel connecting the airport with the mainland. The scope of the updated surveys was the same as the 2015 surveys, allowing for a comparison of how conditions may have changed now that the tunnel has been open to airport users for approximately three years.

The survey included three separate components:

- Passenger counts leading to modal split and auto occupancy calculations;
- Queue length measurements; and
- Traffic counts at key intersections near BBTCA.

Intersection surveys (six locations) were undertaken on Thursday, June 7, 2018. Surveys on Eireann Quay, south of Queens Quay, and at the mainland airport terminal were undertaken on Thursday and Friday, June 7 and 8, 2018. In both cases, the surveys were undertaken for four hours in the morning (6:30 to 10:30 AM) and for four hours in the afternoon (3:00 to 7:00 PM).

The survey data was augmented by parking and shuttle data obtained from Stolport (local parking operators) and from Can-Ar Coach (shuttle bus operators), respectively.

2.0 Modal Split

Figure 1 shows the number of passengers traveling to and from the airport by each mode. *Figure 2* shows the same data, but by the percentage of passengers using each mode (modal split). *Figure 2* also shows the average mode split for the four-hour morning period, the four-hour afternoon period, and the total survey period.

The average modal split for travel to and from the airport is presented in *Table 1*. This table also shows the modal splits that were obtained from the fall 2015 traffic and pedestrian surveys. The same methodology was applied during both surveys, except that the 2015 surveys did not differentiate between Uber/Lyft trips and trips made by private vehicle.

The primary change that has occurred since the fall 2015 surveys is a noticeable decrease in the proportion of passengers being picked up and dropped off by taxi, and a corresponding increase in the proportion of passengers being picked up and dropped off by private vehicle. This continues a trend observed in 2015 after the opening of the pedestrian tunnel. When dividing trips into auto-based trips (taxi; Uber/Lyft; private auto) and non-auto-based trips (airport shuttle; TTC; walking/cycling), the proportion of auto-based trips has increased slightly for drop-offs, and decreased slightly for pick-ups. Auto-based trips comprise 68% of all travel to the airport, but only 59% of travel from the airport.

Trips made by app-based services (Uber, Lyft) were recorded separately for the first time in 2018 (they were previously recorded as private vehicles). Those trips made up 8% of trips to the airport, but only 3% of trips from the airport.

Figure 1: Passenger Movements by Travel Mode

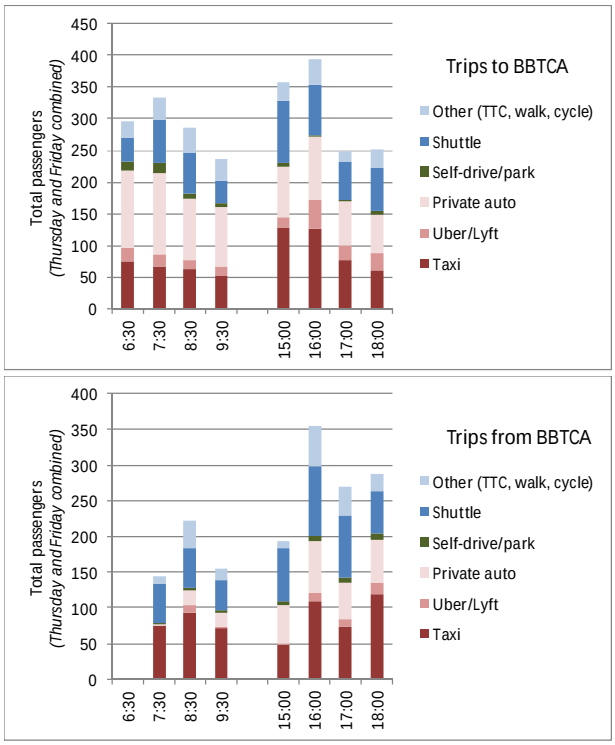


Figure 2: Hourly Variation in Modal Split

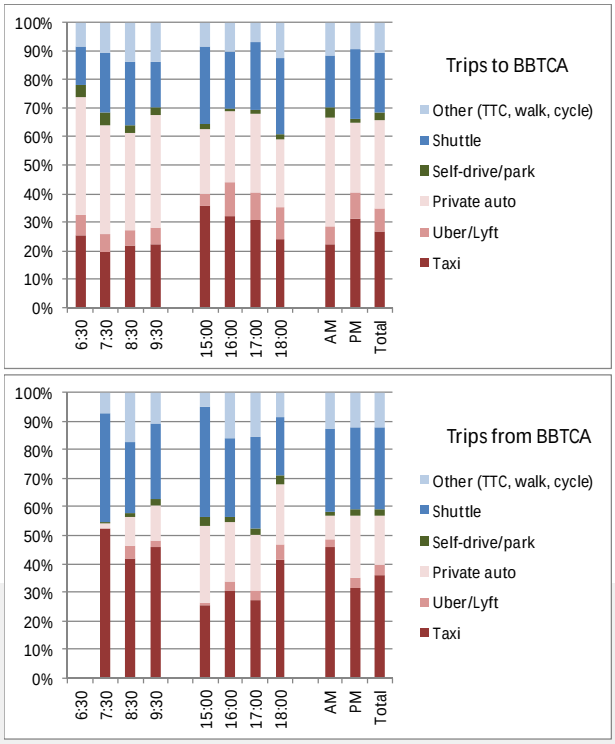


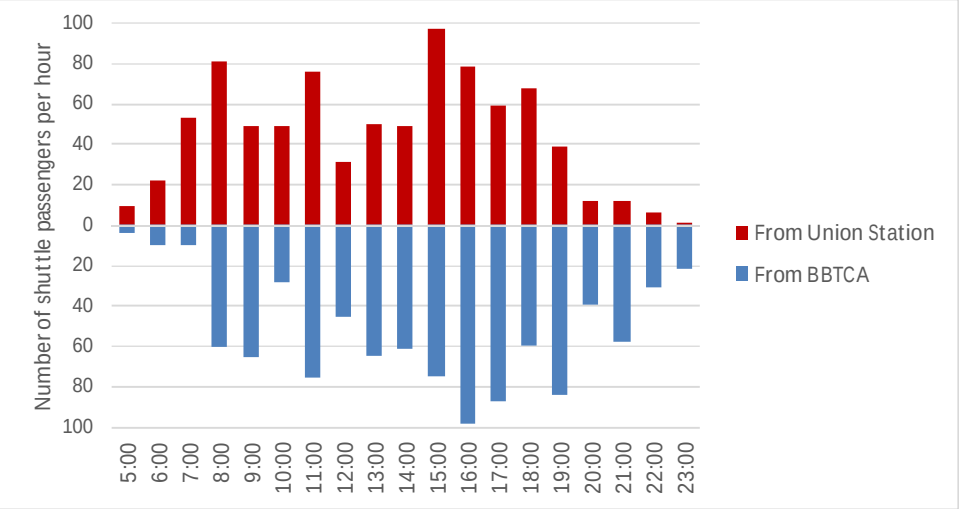
Table 1: Modal Split for Travel to/from BBTCA

Travel mode to/from BBTCA	2018			Fall 2015		
	AM	PM	Avg.	AM	PM	Avg.
Trips to BBTCA (drop-**off**s):						
Taxi drop-off	22%	31%	27%	33%	39%	36%
Uber/Lyft drop-off	6%	9%	8%	—	—	—
Private auto drop-off	38%	25%	31%	21%	23%	22%
Self-drive / park	4%	1%	2%	8%	4%	6%
Airport shuttle bus	18%	24%	21%	19%	21%	20%
Other (TTC, walking, bicycle)	12%	9%	11%	18%	13%	15%
Total taxi / auto	70%	66%	68%	62%	66%	64%
Total shuttle / transit / active	30%	34%	32%	37%	34%	35%
Trips from BBTCA (pick-ups):						
Taxi pick-up	46%	32%	36%	55%	47%	49%
Uber/Lyft pick-up	3%	3%	3%	—	—	—
Private auto pick-up	9%	22%	18%	2%	7%	5%
Self-drive / park	1%	2%	2%	6%	5%	6%
Airport shuttle bus	29%	29%	29%	25%	28%	27%
Other (TTC, walking, bicycle)	13%	12%	12%	11%	14%	13%
Total taxi / auto	58%	59%	59%	63%	59%	60%
Total shuttle / transit / active	42%	41%	41%	36%	42%	40%

3.0 Shuttle Usage

Shuttle passenger data was provided by the operator, Can-Ar Coach, who was under contract to Nieuport Aviation, the terminal operator. *Figure 3* illustrates the number of passengers per hour (and shows the average of the Thursday and Friday data).

Figure 3: Hourly Airport Shuttle Ridership



The passenger levels shown in *Figure 3* represent the average of the Thursday and Friday data. Variation in the number of shuttle passengers from one trip to the next is shown in *Figure 4*.

The average daily shuttle ridership was 7% higher in 2018 than in the fall 2015 surveys (approximately 1,695 passengers per day in 2015; 1,815 passengers per day in 2018)

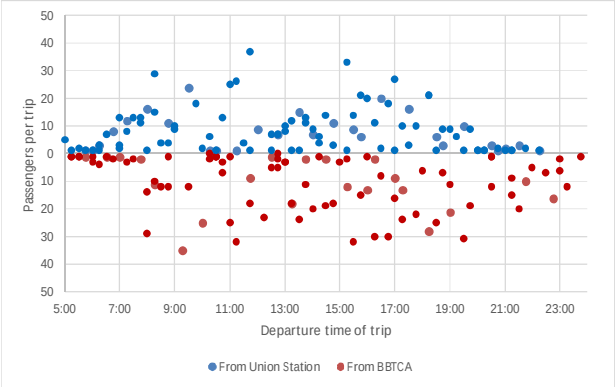
The busiest trips generally carry approximately 30 passengers, with occasional trips carrying nearly 40 passengers.

Shuttle trips were divided into low ridership (<10 passengers), high ridership (>20 passengers), and a middle range (10 to 20 passengers). Of trips to and from the airport, approximately 55% carried fewer than 10 passengers. Trips from the airport were more likely to experience heavier loads (18% of shuttle trips) than trips from downtown (only 10%). Trips leaving the airport are more likely to serve groups of passengers that have just arrived from a recent flight, whereas trips to the airport are more dispersed since passengers have different thresholds of comfort in terms of how early they wish to check in for their flight.

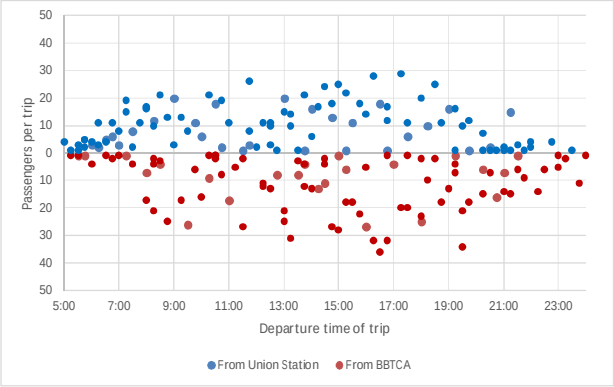
The shuttle buses have seating capacity for 27 passengers. There were 14 trips (out of 187 total recorded trips) with passenger levels exceeding seating capacity, divided nearly evenly between airport-bound and downtown-bound trips. Most of these trips occurred between 3:00 and 5:00 PM.

Figure 4: Shuttle Passengers per Trip

Thursday, July 7, 2018



Friday, July 8, 2018



4.0 Taxi Usage

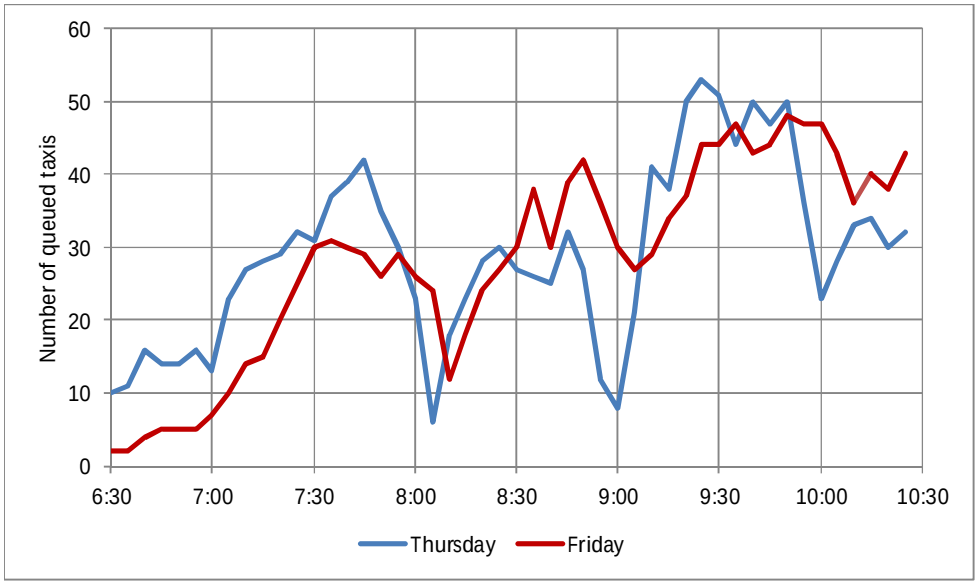
4.1 Taxi Corral Queues

Surveyors recorded the number of taxis queued in the corral at five-minute intervals. The survey includes taxis queued in the corral and at the loading area.

The capacity of the corral itself is in the order of 32 to 38 taxis, depending on how tightly spaced the queued taxis are in each lane. In addition, approximately 16 to 18 taxis may be stored in the loading area beyond the corral stop bar.

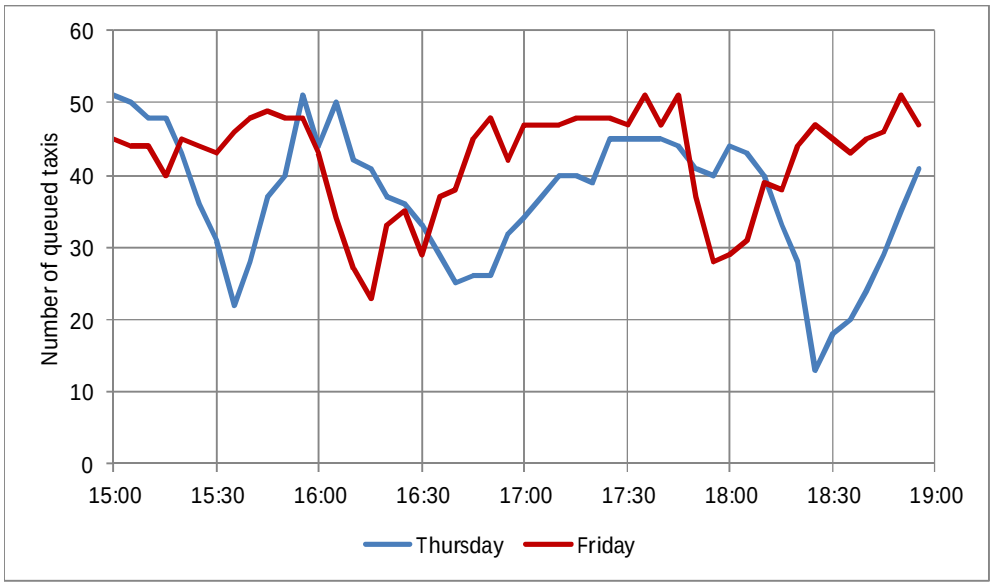
Figure 5 and *Figure 6* show the length of the taxi queue through the morning period and afternoon period, respectively. The figures show the surveyed Thursday and Friday data, as well as the Friday pre-tunnel data for comparison purposes.

Figure 5: Number of Taxis Queued in Corral (Morning)



For most of the morning, the queue varies between 30 to 40 taxis. On both days, the taxi corral was filled or nearly filled for a period of approximately half an hour starting at approximately 9:20 to 9:30. These conditions are broadly similar to the fall 2015 surveys, when the corral was also observed to fill at approximately 9:15 AM.

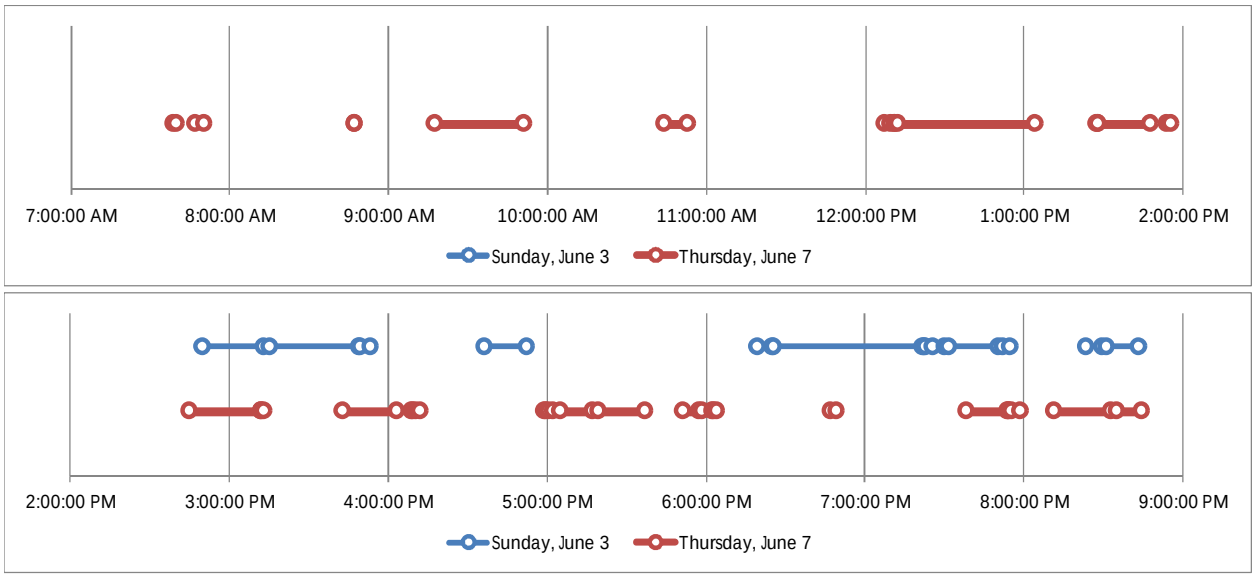
Figure 6: Number of Taxis Queued in Corral (Afternoon)



During the afternoon surveys, the corral was observed to be near or at practical capacity on several occasions. In particular, the corral had more than 40 taxis queued for most of Friday afternoon, save for two 45-minute periods starting at 4:00 PM and 5:45 PM. There was more variability in queue length observed on Thursday, but there were still periods when the corral was full or nearly full at 3:00, 4:00, and between 5:30 and 6:00. Again, the 2015 surveys similarly observed extended periods when the corral was filled to capacity in the afternoon.

The queue length surveys were supplemented by a review of video footage taken on Sunday, June 3 and Thursday, June 7 between 5:00 AM and 11:00 PM. The video footage was used for a high-level review of times when the taxi corral was observed to be full or nearly full, and allowed a review of other times and days not covered by the manual surveyors. These times are illustrated in *Figure 7*.

Figure 7: Taxi Corral Queues Reaching End of Corral



On Thursday, in addition to the queuing observed in the field, the corral was full for most of the early afternoon period (12:00–2:00 PM), as well as for approximately an hour in the evening (7:35–8:50 PM).

On Sunday, the corral was observed to be filled for approximately one hour in the afternoon (2:50–3:50 PM), as well as for an extended period in the evening (6:15–8:00 PM, and 8:20–8:50 PM).

4.2 Taxi Deadheading

One way to mitigate traffic levels is to decrease the number of "deadhead" taxi trips (i.e., taxis leaving empty after dropping off a passenger, or taxis arriving empty to enter the corral).

Surveyors tracked every taxi movement and categorized each taxi according to whether they picked up or dropped off passengers and if they:

- Arrived with passenger and entered corral (no deadhead trips);
- Arrived empty and entered corral (one deadhead trip);
- Arrived with passenger and left empty (one deadhead trip); and
- Arrived empty and left without entering corral (e.g., because the corral was full — two deadhead trips).

These surveys were undertaken for the Thursday morning and afternoon four-hour periods only and were undertaken using footage from video cameras at the pick-up / drop-off loop and on Eireann Quay.

Figure 8 and *Figure 9* show the number of taxi trips made during the morning and afternoon survey periods, respectively, according to the above four categories.

For the taxis that dropped off passengers and left empty, it was not recorded whether the driver preferred to seek the next fare off-site or if the driver had intended to rejoin the corral but was turned away. This should be considered when reviewing the results for times when the corral was frequently at capacity (late morning; much of the afternoon).

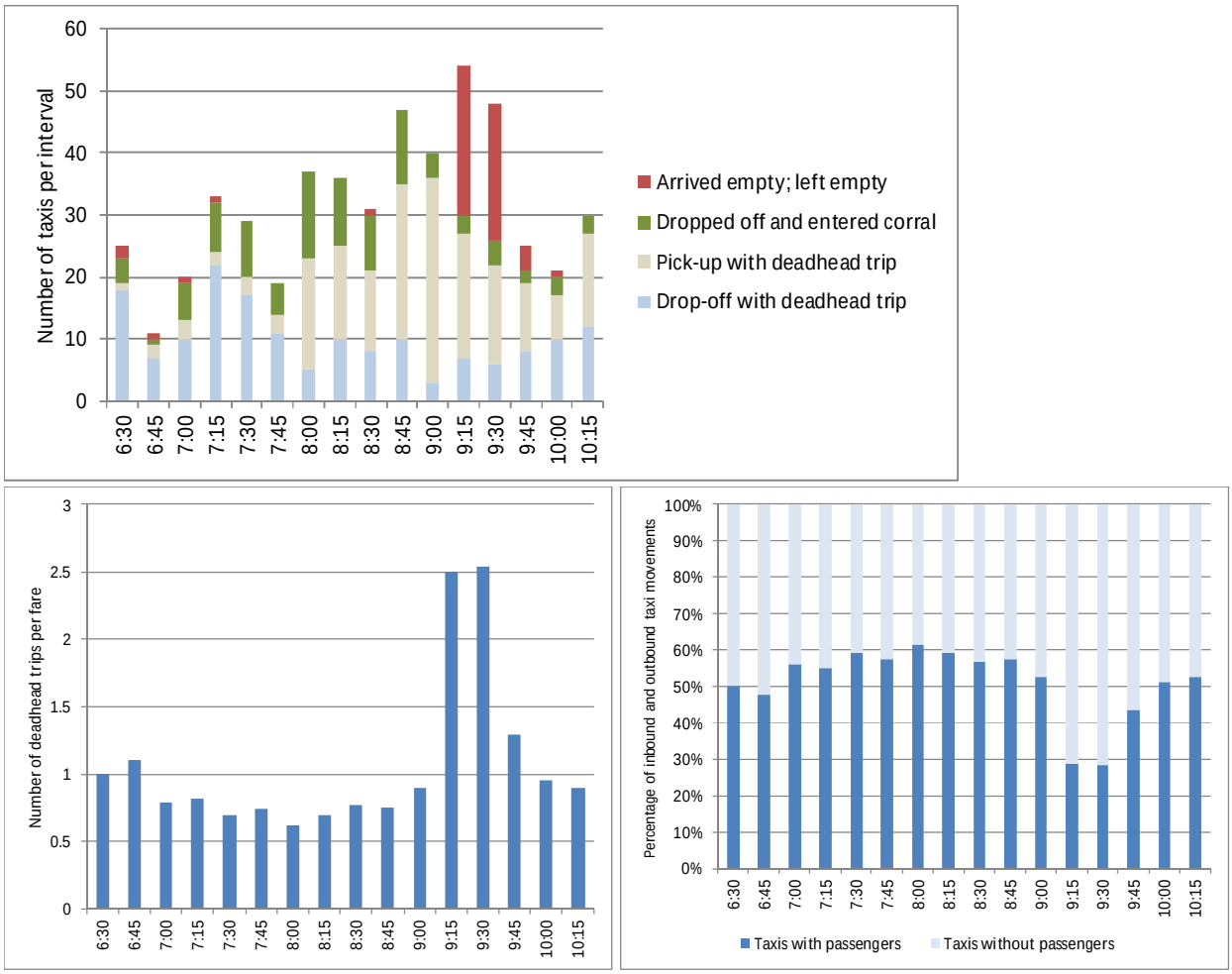
Figure 8 and *Figure 9* also show the average number of deadhead trips per fare during the morning and afternoon survey periods, respectively. Previous traffic analyses for BBTCA have been based on a value of one deadhead trip per fare (i.e., every taxi arrives empty before picking up a passenger; every taxi dropping off a passenger leaves empty). A lower value is positive (i.e., preferred) and indicates that taxi drivers are entering the corral after dropping off a fare. A higher value is negative and indicates that taxi drivers are being turned away from entering the corral, whether they arrived with a fare or not.

The proportion of deadhead trips fluctuates throughout the day depending on two factors:

- The balance between arriving and departing flights (generally more departing flights earlier in the morning and afternoon, and more arriving flights later in the morning and afternoon); and
- The occupancy level of the corral (both because taxis cannot enter the corral when it is full, but also potentially because there is a shorter wait time to get a second outbound fare if the corral queues are short).

Finally, *Figure 8* and *Figure 9* also show the percentage of taxis traveling along Eireann Quay (both directions combined) that are carrying one or more passengers, compared to those that are carrying the driver only.

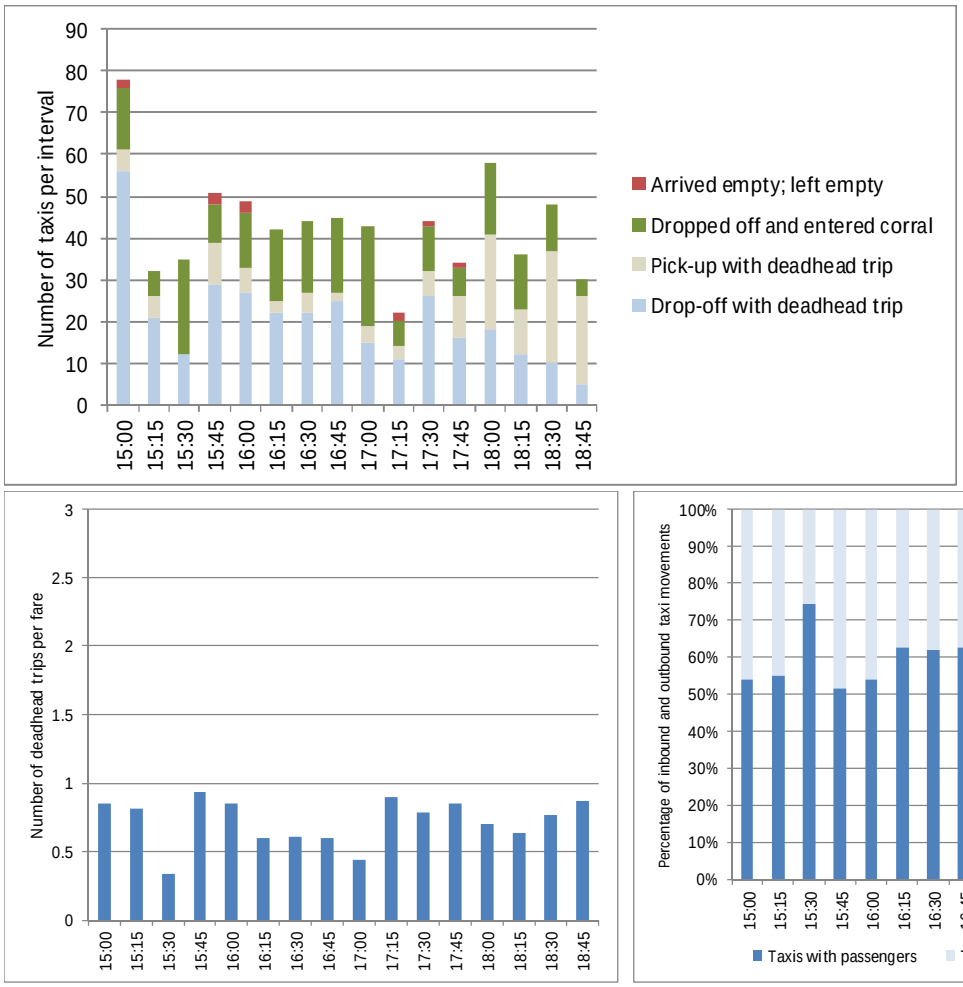
Figure 8: Taxi Deadheading Statistics (Morning)



In the morning, some taxis were observed dropping off a passenger and entering the corral. This reflects a heavier proportion of drop-off demand earlier in the morning and plenty of space available in the corral, and also shows that taxi drivers tend to anticipate the late-morning peak for visitors arriving from out of town. For most of the morning, the rate of deadhead trips tends to range from 0.75 to 1.0 deadhead trips per fare (higher than the range of 0.5 to 0.75 deadhead trips per fare observed in the fall 2015 surveys).

By approximately 9:15 AM, a sizeable increase was observed in the number of taxis arriving empty and being turned away. The rate of deadhead trips increased substantially over a half-hour period, to the point where more than two-thirds of the taxis on Eireann Quay were empty between 9:15 and 9:45 AM. This corresponds to the portion of the morning period where the corral was full with a lower level of turnover. A similar pattern was observed in the fall 2015 surveys, although occurring later in the morning.

Figure 9: Taxi Deadheading Statistics (Afternoon)



For most of the afternoon, the rate of deadhead trips tends to range from 0.6 to 0.9 deadhead trips per fare. This is generally comparable to the fall 2015 surveys (which observed a rate of approximately 0.7 deadhead trips per fare for most of the afternoon), but with somewhat more variability throughout the afternoon. There was relatively little "double deadheading" observed during the PM surveys. The lower rate of double deadheading compared to the morning is related to shorter queues in the taxi corral during the afternoon on Thursday. It is possible that a higher rate of double deadheading would have been observed on Friday afternoon when the corral was at or near capacity for longer periods of time.

5.0 Taxi and Auto Occupancy Levels

One way to mitigate traffic levels is to increase the number of passengers sharing a ride to or from the airport, either in a taxi or in a private vehicle.

Surveyors recorded the number of passengers picked up or dropped off by each taxi, each Uber/Lyft vehicle and each private vehicle at the pick-up / drop-off loop and at the taxi corral loading area.

Table 2 shows the average number of passengers per vehicle during the peak periods. *Figure 10* shows the hourly fluctuation of occupancy by mode (private auto vs. taxi) and passenger type (arriving vs. departing).

Table 2: Average Number of Passengers per Taxi and per Auto

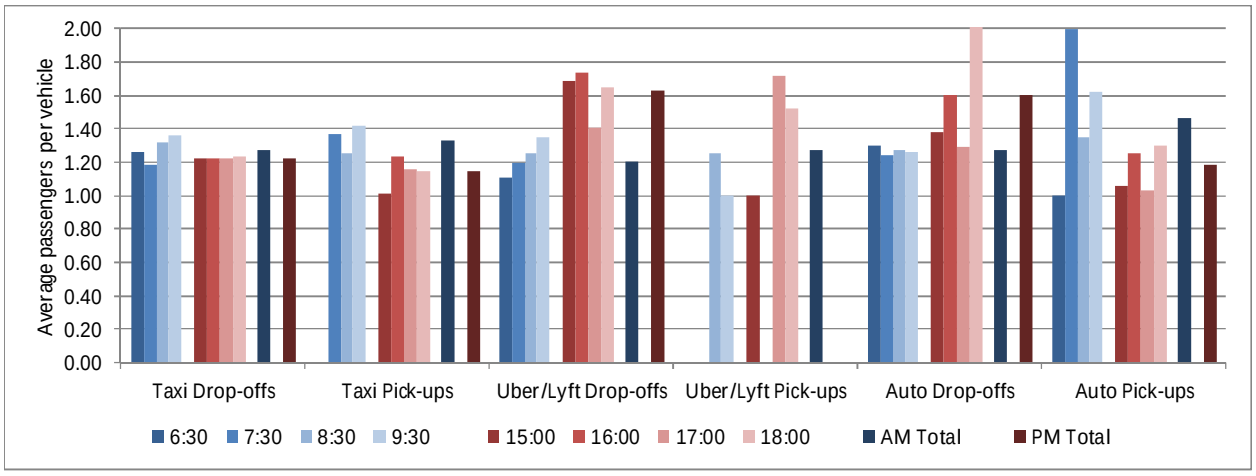
	Drop-offs		Pick-ups	
	Morning *(6:30–10:30)*	Afternoon *(3:00–7:00)*	Morning *(6:30–10:30)*	Afternoon *(3:00–7:00)*
Taxi	1.27	1.23	1.34	1.15
Uber/Lyft	1.21	1.63	1.27	1.54
Private auto	1.27	1.60	1.47	1.19
Overall	1.27	1.37	1.35	1.18

During the morning period, overall vehicle occupancy levels are 1.27 drop-offs per vehicle and 1.35 pick-ups per vehicle. There is some variation between mode (e.g., lower occupancy for Uber/Lyft), in particular for pick-ups, although this may be a reflection of lower sample sizes.

During the afternoon period, overall vehicle occupancy levels are 1.37 drop-offs per vehicle and 1.18 pick-ups per vehicle. Uber/Lyft occupancy is substantially higher, although that category makes up a smaller proportion compared to taxi usage, particularly for pick-ups.

In the fall 2015 surveys, taxi and private vehicle occupancy levels were approximately 1.20 to 1.25 passengers per vehicle. The taxi occupancy levels are generally comparable, while private vehicle occupancy levels were higher in 2018 for morning pick-ups and afternoon drop-offs.

Figure 10: Hourly Variation in Auto / Taxi Occupancy Levels



6.0 Intersection Traffic Volumes

6.1 Scope of Intersection Surveys

Intersection traffic counts were undertaken at six locations:

- Lake Shore Boulevard at Stadium Road
- Lake Shore Boulevard / Fleet Street at Bathurst Street
- Lake Shore Boulevard at Dan Leckie Way
- Queens Quay at Stadium Road
- Queens Quay at Bathurst Street / Eireann Quay
- Queens Quay at Dan Leckie Way

6.2 Intersection Traffic Volumes

Figure 11 and *Figure 12* illustrate the AM and PM peak hour intersection traffic volumes (all vehicles; taxis only).

From the existing volumes, the amount of airport traffic at each intersection was estimated (all vehicles; taxis only). These estimated volumes are illustrated in *Figure 13* and *Figure 14*.

The volume of non-airport related traffic was estimated by subtracting airport-related traffic from the total traffic volumes. The estimated non-airport traffic (or background traffic) volumes are illustrated in *Figure 15*.

Figure 11: Peak Hour Intersection Traffic Volumes

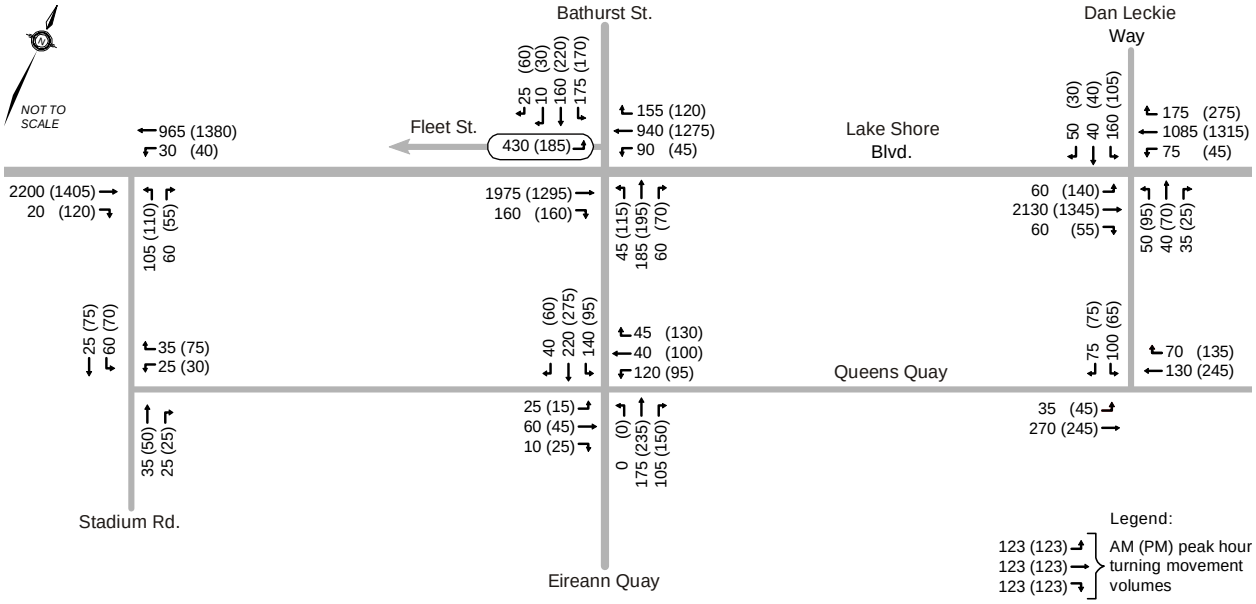


Figure 12: Peak Hour Intersection Traffic Volumes (Taxis Only)

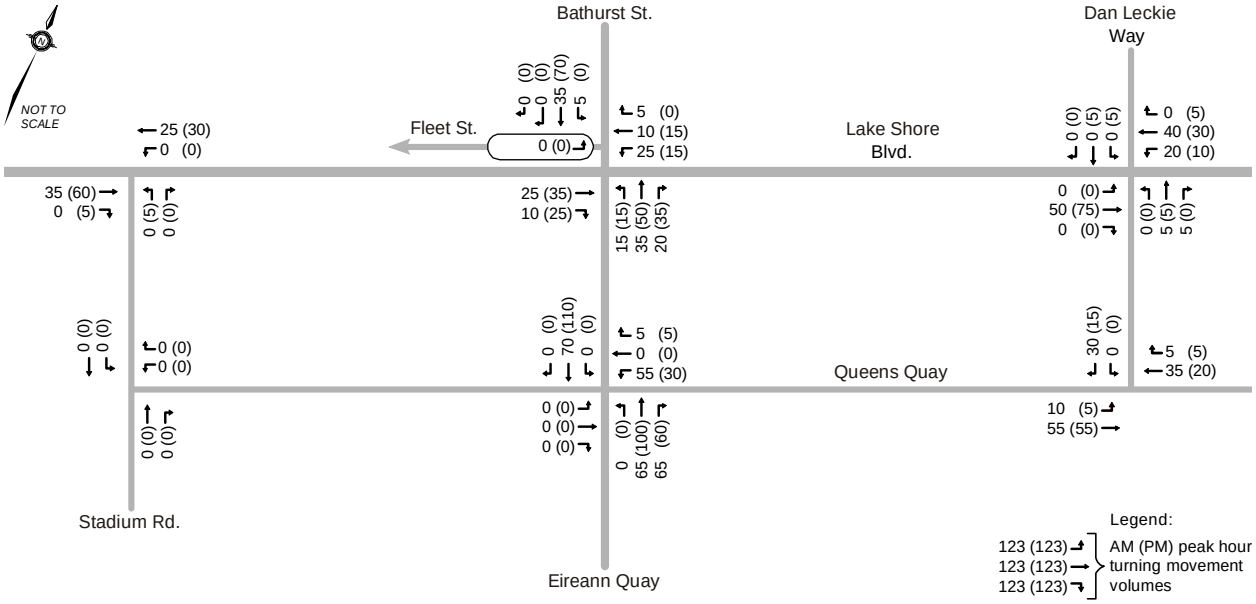


Figure 13: Estimated Peak Hour Airport Traffic Volumes

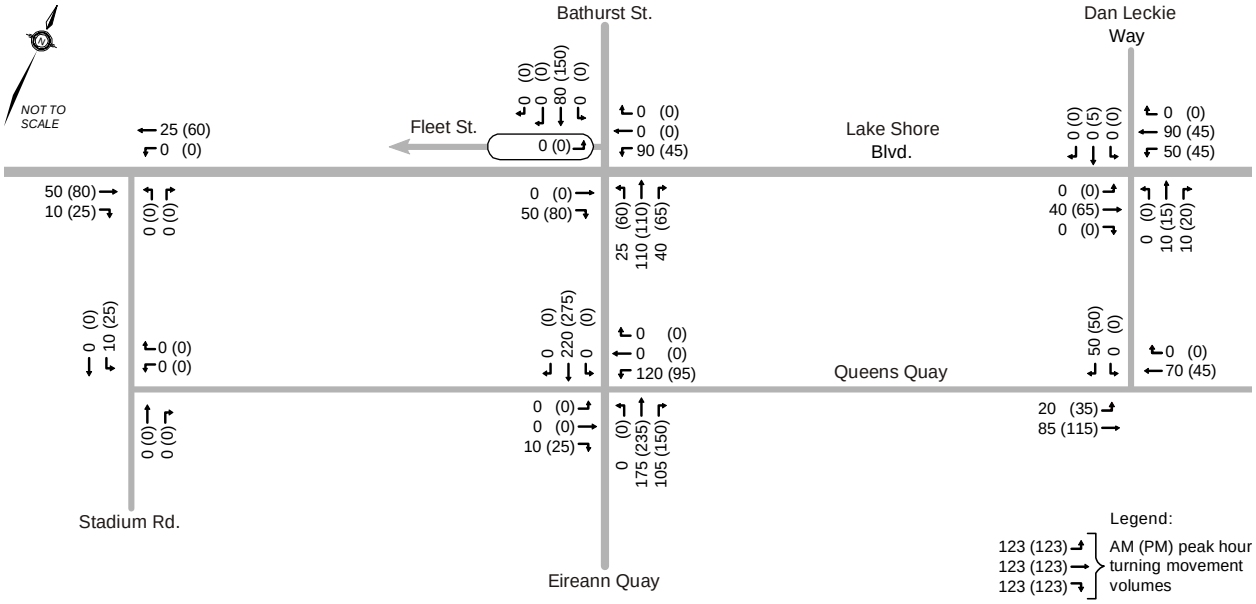


Figure 14: Estimated Peak Hour Airport Traffic Volumes (Taxis Only)

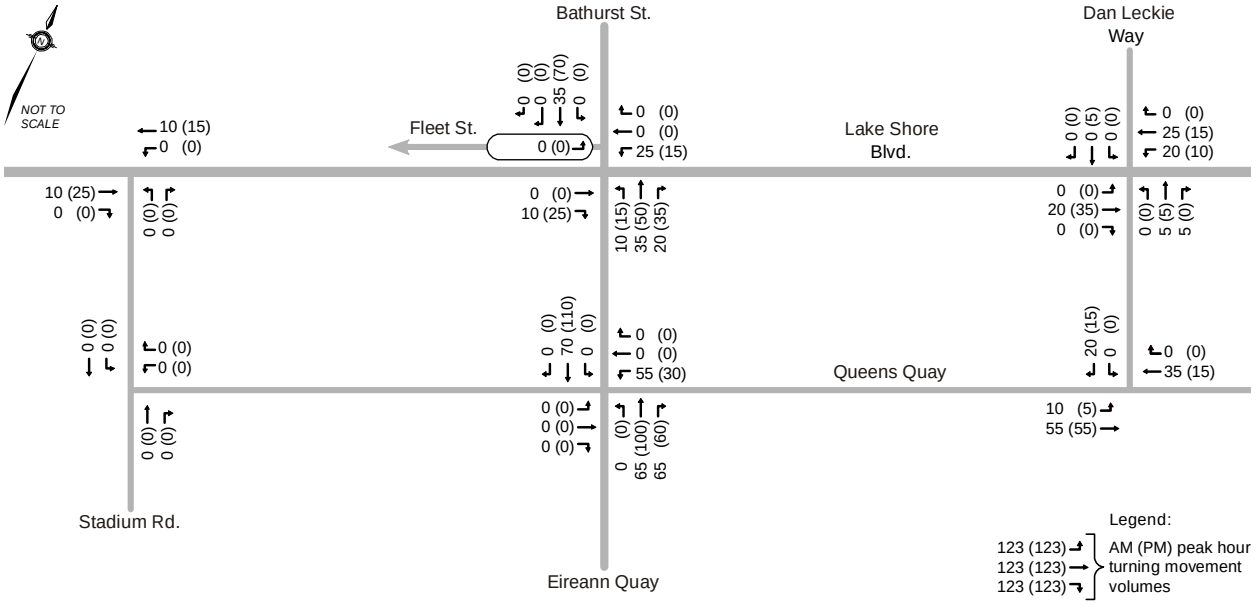
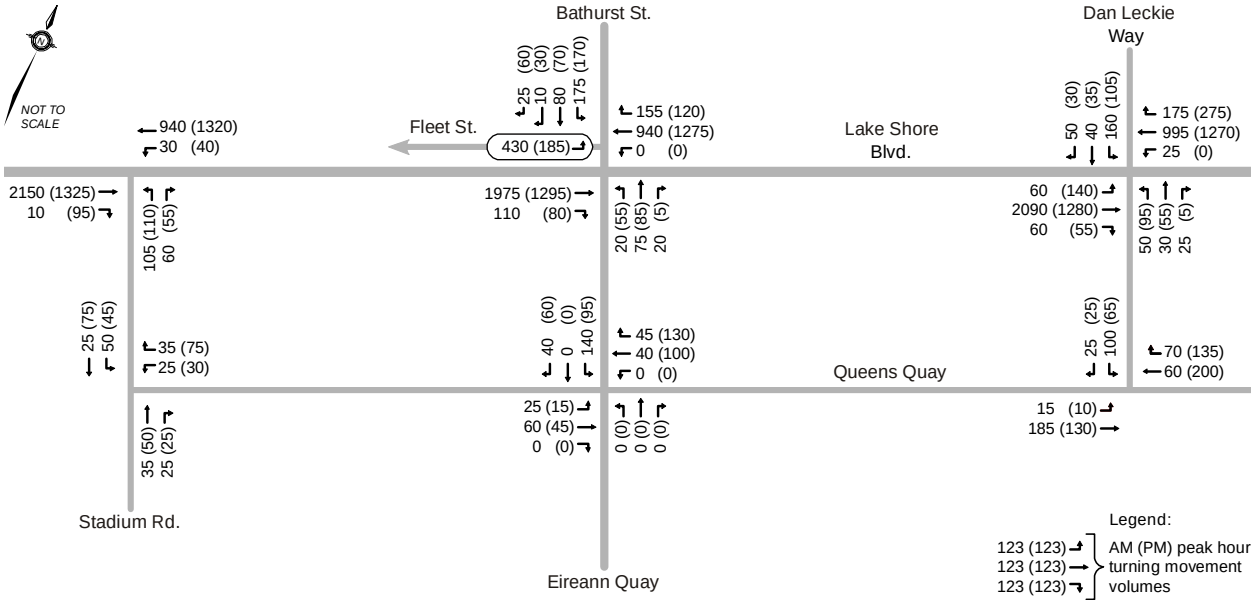


Figure 15: Estimated Peak Hour Non-Airport Traffic Volumes



6.3 Observance of Signed Turn Prohibitions

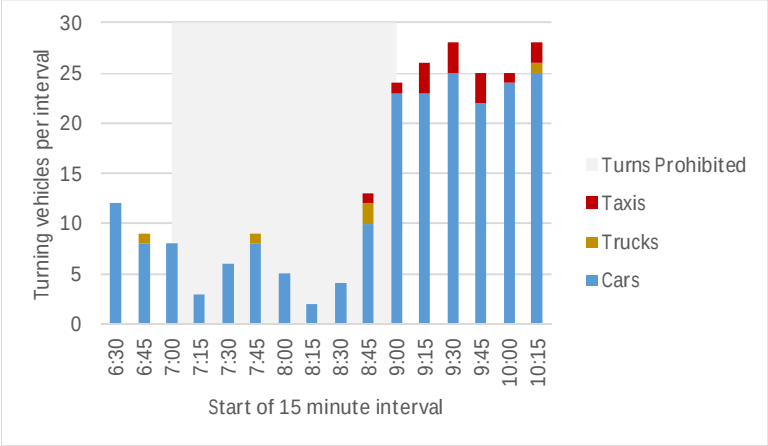
Turn prohibitions were implemented near the airport in 2012; specifically:

- No left turn northbound from Eireann Quay to Queens Quay at any time;
- No right turn eastbound from Lake Shore Boulevard to Stadium Road during the morning peak period; and
- No left turn northbound from Stadium Road to Lake Shore Boulevard during the afternoon peak period.

A small number of vehicles were observed making illegal left turns from Eireann Quay to Queens Quay — an average of approximately two per hour. This is marginally lower than the fall 2015 observations. Nearly all illegal left turns were made by private vehicles.

A larger number of vehicles were observed violating the turn prohibitions at Stadium Road and Lake Shore Boulevard, as shown in *Figure 16* and *Figure 17*.

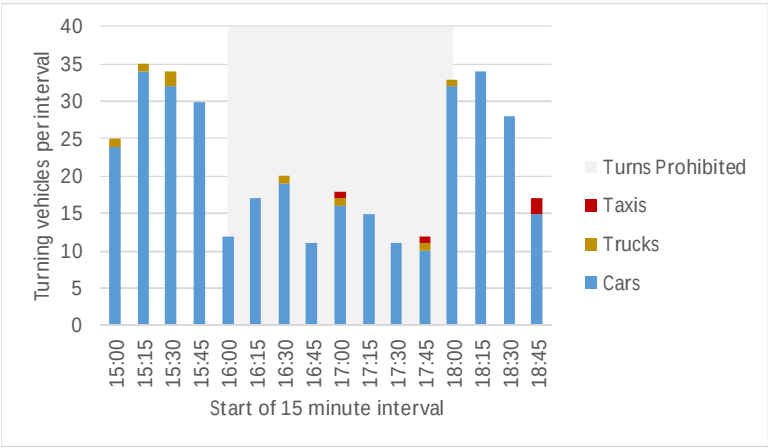
Figure 16: Eastbound Right Turns at Lake Shore Boulevard and Stadium Road



During the morning, a minor number of vehicles were observed violating the eastbound right turn prohibition — an average of 20 per hour between 7:00 and 9:00, or approximately one vehicle every one to two cycles. Only one taxi was observed making this movement.

Given that 24 right turns were observed from Queens Quay to Eireann Quay over the same two-hour period (all private vehicles), it is likely that some of this traffic is airport-related.

Figure 17: Northbound Left Turns at Lake Shore Boulevard and Stadium Road



During the afternoon, a greater number of vehicles were observed violating the northbound left turn prohibition — an average of 59 vehicles per hour between 4:00 and 6:00, or approximately two vehicles per green signal. This is a 42% reduction compared to fall 2015 observations. Nearly all illegal left turns were made by private vehicles.

Given the minimal number of northbound left turns from Eireann Quay to Queens Quay over the same two-hour period (only one vehicle in total), the left turn activity at Lake Shore Boulevard and Stadium Road is not related to traffic leaving the airport (i.e., the mainland terminal facilities on Eireann Quay).

It is likely that the majority of northbound left-turning traffic at Lake Shore Boulevard and Stadium Road is comprised of motorists leaving downtown via Queens Quay and seeking an alternate westbound route to Lake Shore Boulevard that avoids the northbound left turn from Bathurst Street. It is possible that a small amount of left-turning traffic originates from the Stadium Road parking lot that caters largely to airport users and stakeholders. However, this is likely a small number, given the following:

- Over the two-hour period when left turns are prohibited at Lake Shore Boulevard, the origin of northbound traffic was traced back through the Queens Quay intersection:
  - 117 vehicles originated from westbound Queens Quay;
  - 66 northbound vehicles originated from Stadium Road south of Queens Quay;
  - 38 vehicles (approximately) originated north of Queens Quay; and
  - Traffic from south of Queens Quay comprises 30% of northbound traffic at Lake Shore Boulevard. Of this traffic, some would have originated at the Stadium Road parking lot, and some would have originated elsewhere in the community (e.g., yacht clubs; local residents).
- At Lake Shore Boulevard, 116 vehicles turned left and 98 vehicles turned right.
- It is likely that the majority of the 117 vehicles from Queens Quay would have turned left at Lake Shore Boulevard (a right turn would represent an indirect trip for all but locally generated traffic). This would comprise the majority of left turns (if not all) at Lake Shore Boulevard.
- Traffic volumes were surveyed at both intersections at 5-minute intervals. When comparing the same intervals at both intersections, intervals experiencing surges in northbound demand from south of Queens Quay generally correlate to intervals experiencing higher volumes turning right at Lake Shore Boulevard.

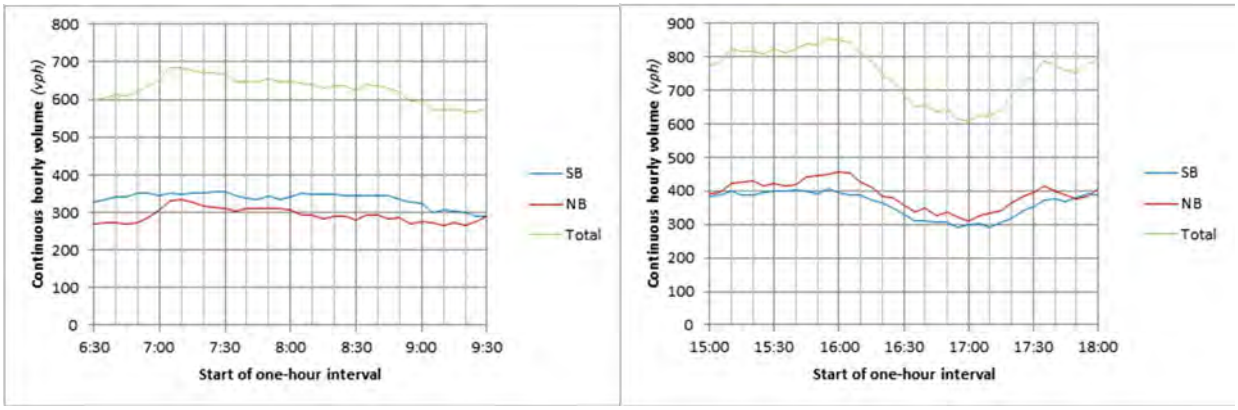
Given the foregoing, it is likely that the majority (if not all) of northbound left turns at Lake Shore Boulevard and Stadium Road during the PM peak period are made by the general public rather than by airport users.

6.4 Eireann Quay Traffic Volumes

The traffic volumes along Eireann Quay were determined from the turning movement counts at the intersection of Queens Quay and Bathurst Street / Eireann Quay.

Figure 18 illustrates the hourly traffic volumes observed along Eireann Quay. The volumes reflect continuous ("rolling") hourly traffic volumes (e.g., the data point at 8:25 AM reflects the number of vehicles observed during the one hour between 8:25 and 9:25).

Figure 18: Hourly Traffic Volumes on Eireann Quay

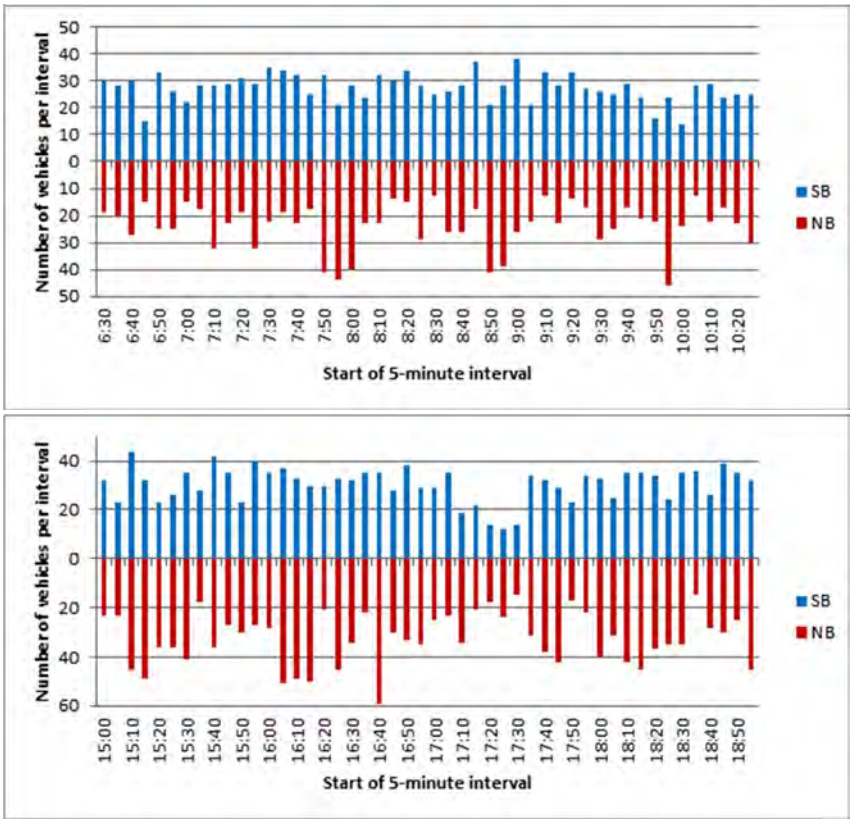


During the morning, the heaviest demand was observed shortly after 7:00 AM, peaking at nearly 700 vph. The volume of traffic on Eireann Quay during the AM peak period is higher than in fall 2015, when the highest demand was approximately 600 vph shortly after 9:00 AM.

During the afternoon, the heaviest demand was observed between approximately 4:00 and 5:00 PM, prior to the start of the downtown / city commuting peak hour, with two-way flows peaking at approximately 850 vph. By the 5:00–6:00 interval, volumes on Eireann Quay fell to approximately 600 vph, before increasing to approximately 800 vph by the 6:00–7:00 PM interval (corresponding to the period with the highest total traffic volumes at Lake Shore Boulevard and Bathurst Street). These values are higher than observed in the fall 2015 surveys (approximately 800 vph after 3:00 PM; approximately 500 vph after 5:00 PM).

Figure 19 illustrates the variation in traffic demand from one five-minute interval to the next. The five-minute volumes illustrate the difference between traffic flow patterns toward and away from the airport, with greater variability for northbound (away) traffic associated with the flight schedule.

Figure 19: 5-Minute Interval Traffic Volumes on Eireann Quay



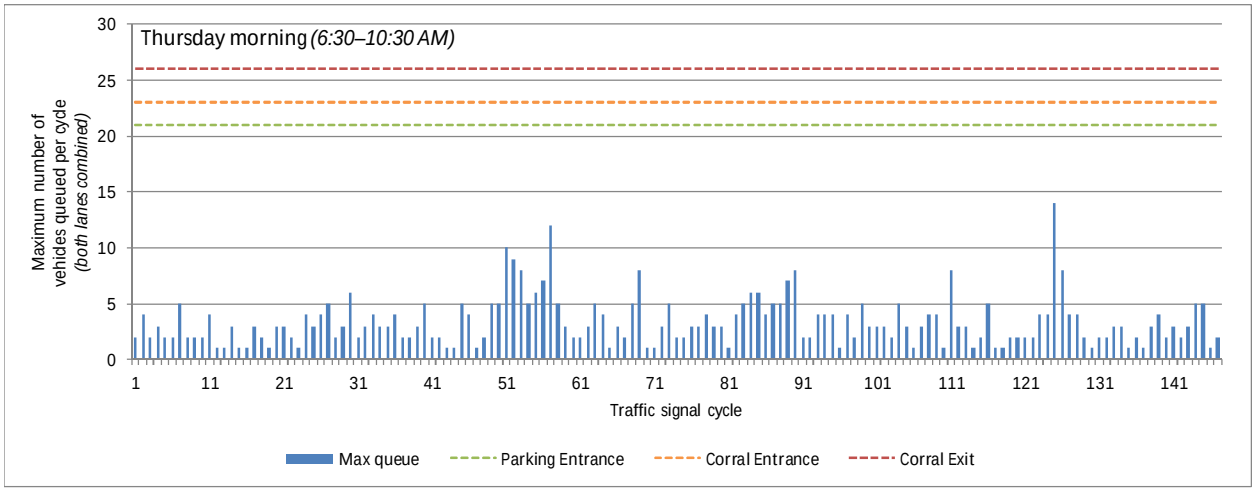
7.0 Queue Surveys

7.1 Northbound Queues on Eireann Quay

Surveyors recorded the number of vehicles queued on northbound Eireann Quay at the Queens Quay traffic signals. The number of queued vehicles was recorded at the start of every northbound green signal. Including the northbound right turn lane at Queens Quay, there is room to accommodate a queue of approximately 26 vehicles before blocking the exit to the taxi corral (depending on the number of trucks and buses in the queue, and the spacing between queued vehicles).

Figure 20 illustrates the maximum length of the northbound queue per cycle during the morning surveys; *Figure 21* illustrates the results from the afternoon surveys.

Figure 20: Queue Length on Northbound Eireann Quay (Morning Surveys)



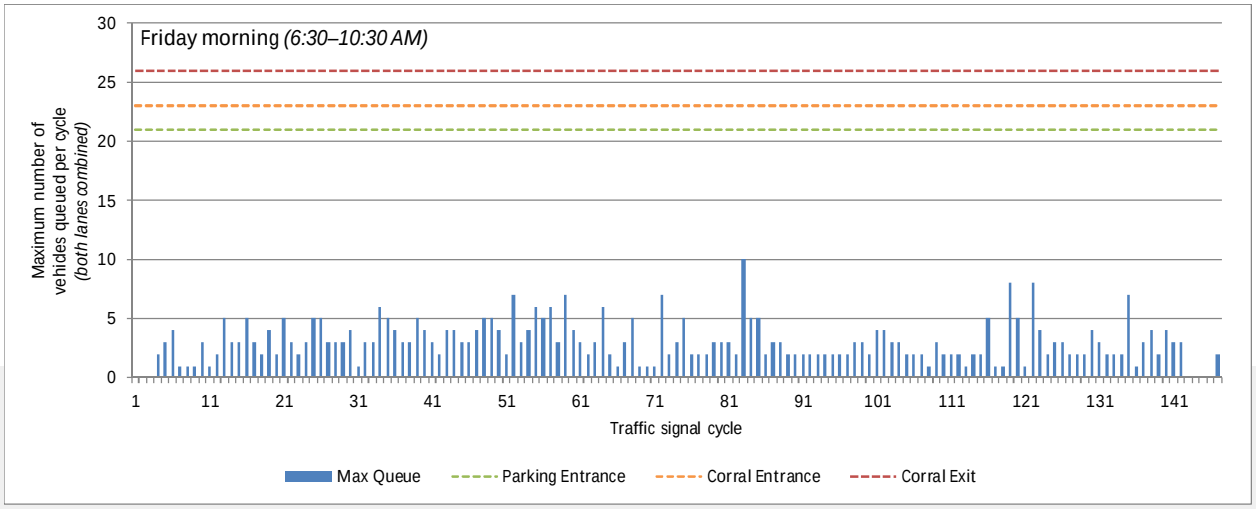
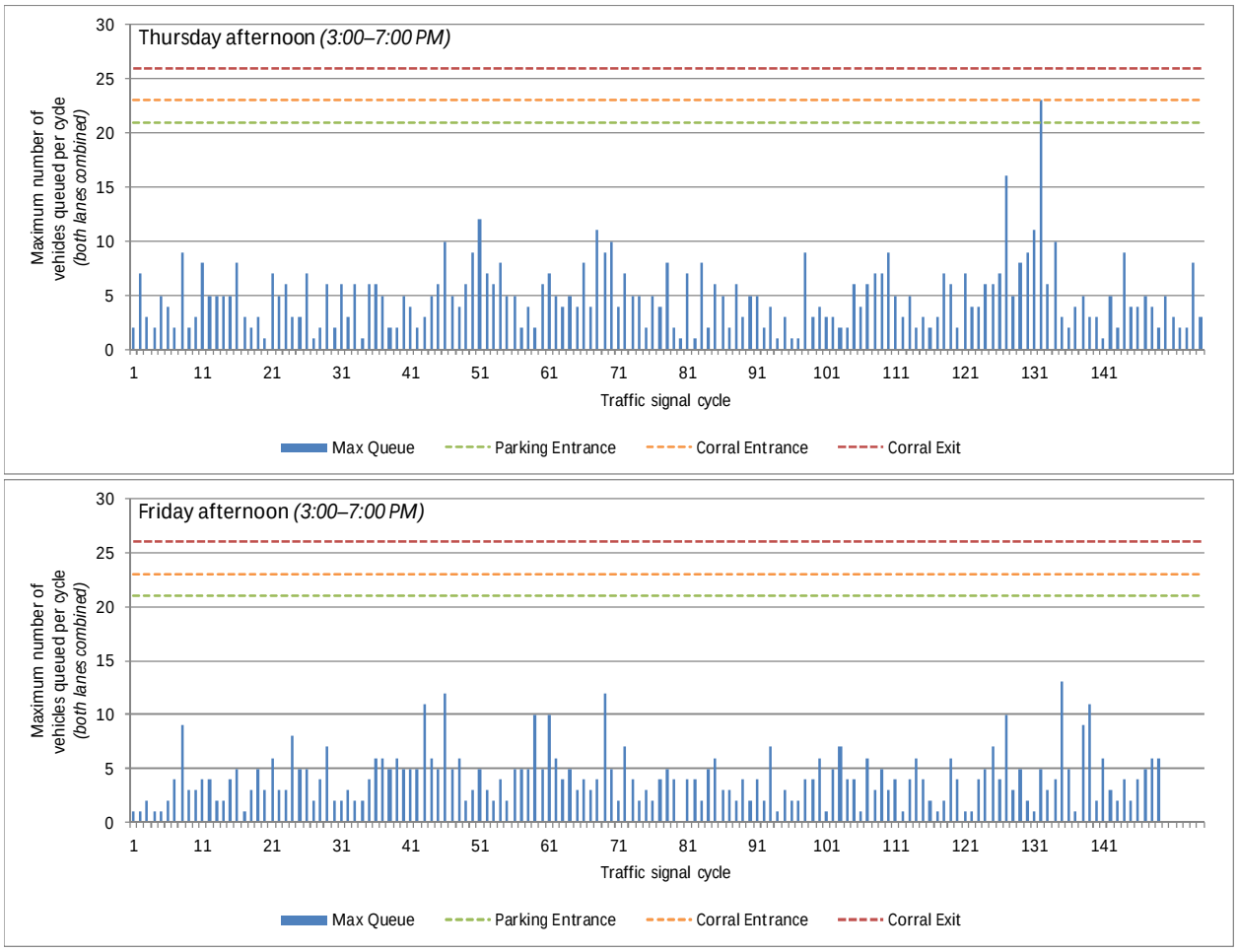


Figure 21: Queue Length on Northbound Eireann Quay (Afternoon Surveys)



During the morning surveys, the queues were typically in the order of five vehicles or less. There were three periods on Thursday morning (at approximately 8:00, 9:00 and 10:00) when longer queues were observed, generally from 8 to 14 vehicles, although queues were not found to reach the entrances to the taxi corral or Canada Malting site parking facilities.

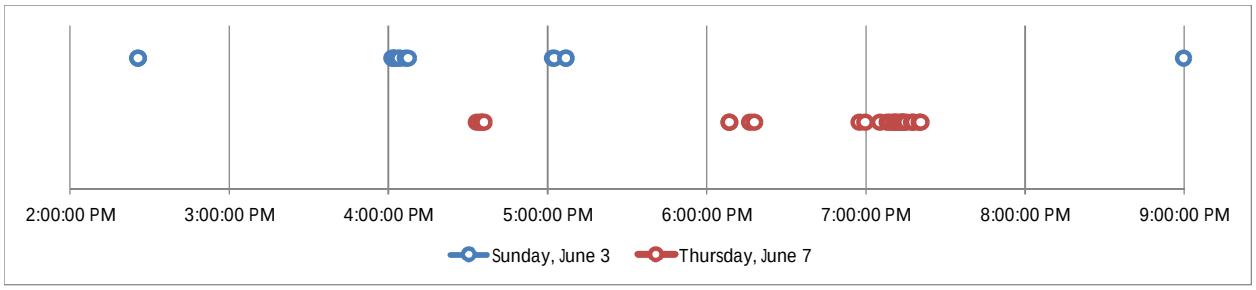
During the afternoon surveys, queues were typically in the order of five vehicles, with occasional queues of 10 to 12 vehicles. On Thursday at approximately 6:20 PM, one queue was observed to reach 23 vehicles, extending approximately to the entrance to the taxi corral.

For the most part, the northbound queues can be reasonably managed and can typically be served on one green signal.

These queues are slightly longer but generally comparable to those observed in the fall 2015 surveys, although short-lived queue surges were more commonly observed in 2018. It is noted that the average cycle length was slightly longer in 2018, which would contribute to slightly longer queues.

The queue length surveys were supplemented by a review of video footage taken on Sunday, June 3 and Thursday, June 7 between 5:00 AM and 11:00 PM. The video footage was used for a high-level review of times when the northbound queue on Eireann Quay reaches the entrance to the taxi corral. As illustrated in *Figure 7*., there were isolated occurrences on both days when this occurred, although the queue typically cleared after a short period of time. One exception was observed on Thursday evening, when a longer period of queuing was observed between 7:00 and 7:25 PM.

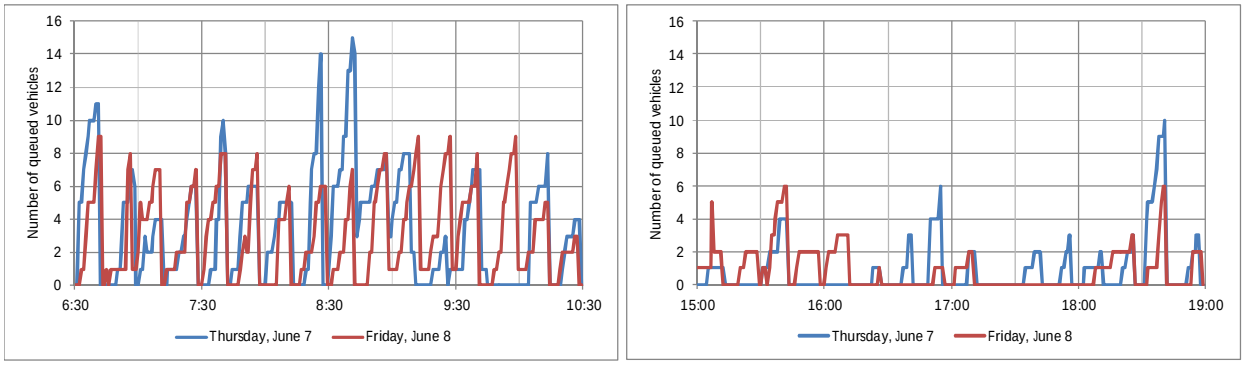
Figure 22: Queue Lengths on Northbound Eireann Quay Extending Beyond Taxi Corral Entrance



7.2 Ferry Queue

Surveyors recorded the number of vehicles in the Finger Lot waiting to board the ferry; measurements were taken at one-minute intervals. The results are shown in *Figure 23*.

Figure 23: Surveyed Ferry Queues (Finger Lot)



Typically the ferry queue is longest in the early morning. The longest queue at that time was an 11-vehicle queue at 6:40 AM on Thursday. There were two ferry trips on Thursday at approximately 8:25 and 8:40 AM where the queue reached 14 to 15 vehicles. Otherwise, for the rest of the morning, ferry queues were generally in the order of eight vehicles or less. These peak values were generally comparable to the 2015 observations.

During the afternoon, the ferry queues largely remained at five vehicles or less, save for one trip at 6:40 PM on Thursday where 10 vehicles were queued. Other than the 10-vehicle queue, these values are generally comparable to the 2015 observations.

The queue lane is approximately 90 metres long and can accommodate 12 to 15 vehicles depending on how closely spaced the vehicles are queued to each other. Other than the two ferry trips on Thursday morning at 8:25 and 8:40, the observed ferry queue lengths were all 11 vehicles or less.

8.0 Utilization of Pick-Up / Drop-Off Spaces

There are seven parking spaces in the centre of the pick-up / drop-off loop that are made available free of charge for short stay (up to five minutes) parking while picking up or dropping off passengers. The usage of these spaces was recorded on the Thursday of the other surveys, as well as on the subsequent Saturday and Sunday. Rather than surveying the parking spaces manually, the parking utilization was recorded through a review of video footage of the parking spaces. A timestamp was recorded each time a vehicle entered or left one of these parking spaces, allowing for the parking occupancy to be noted at any given time over the day. The parking occupancy profiles were reviewed to determine the times of day when most or all parking spaces are in use.

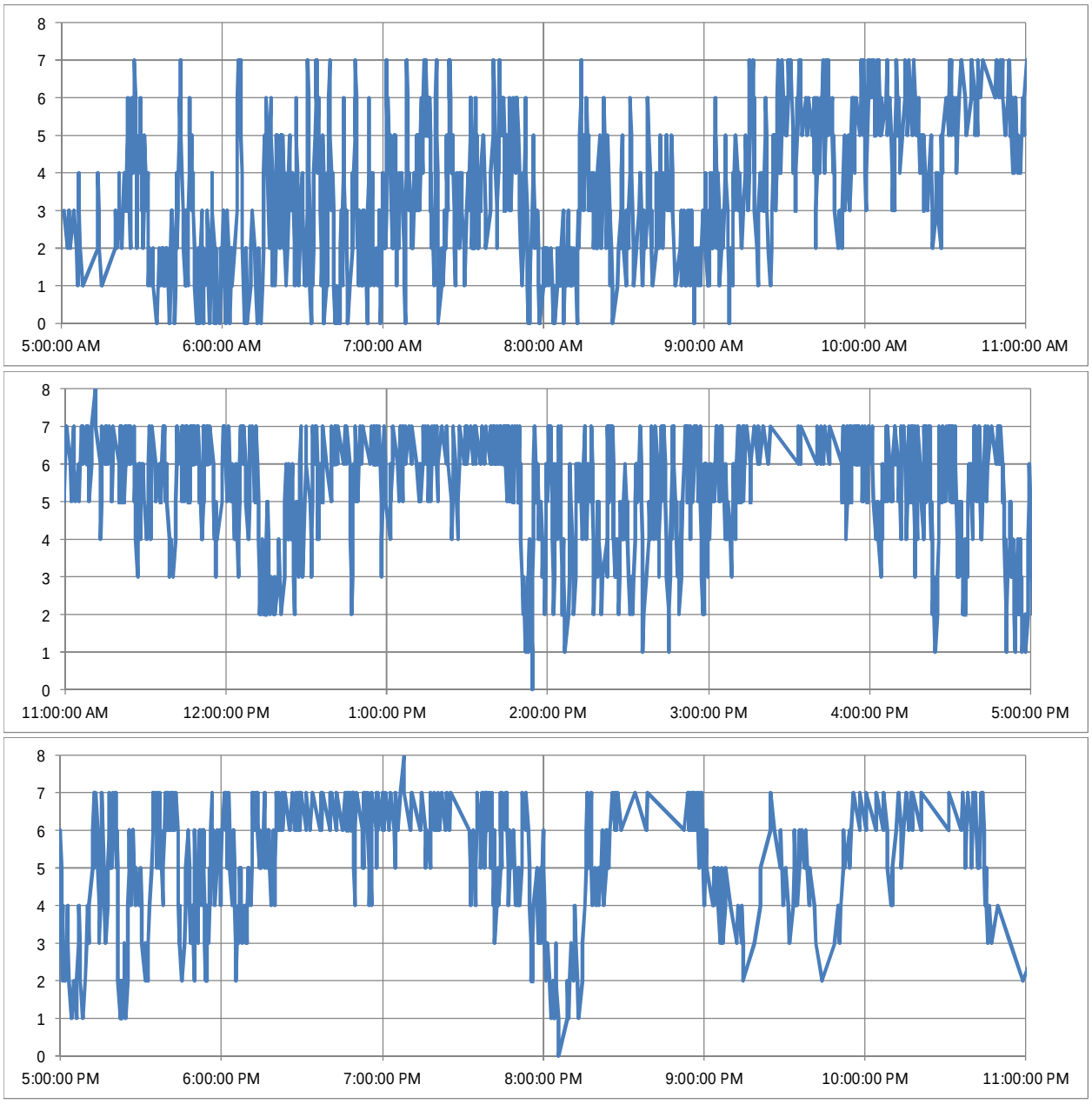
The parking occupancy is illustrated in the following figures:

- *Figure 24* illustrates the parking occupancy on Thursday, June 7;
- *Figure 25* illustrates the parking occupancy on Saturday, June 9; and
- *Figure 26* illustrates the parking occupancy on Sunday, June 10.

The average length of vehicle stay was as follows:

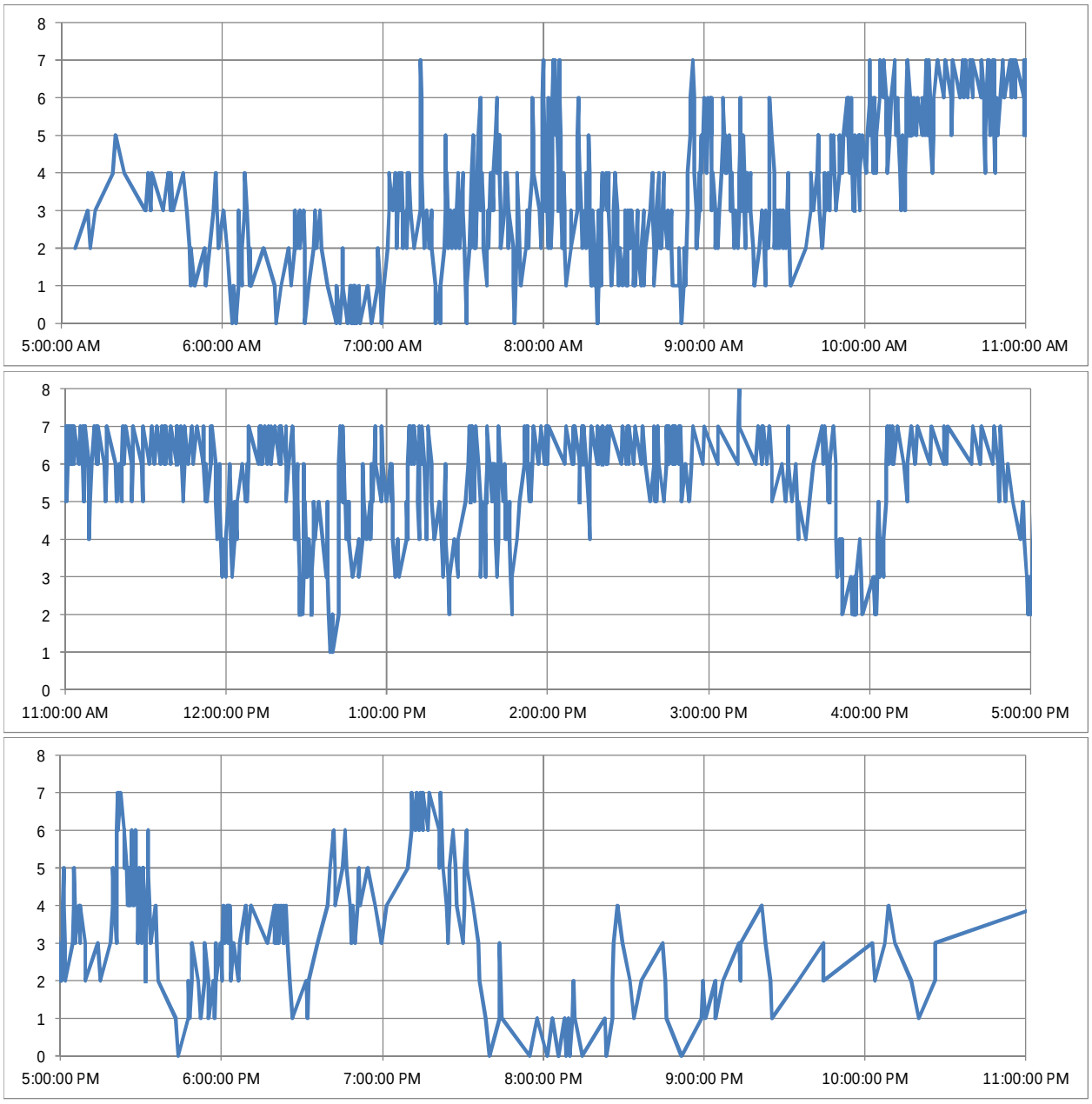
- Thursday: 3.1 minutes/vehicle (1,636 vehicles);
- Saturday: 5.8 minutes/vehicle (725 vehicles); and
- Sunday: 4.2 minutes/vehicle (1,200 vehicles).

Figure 24: Parking Occupancy on Thursday, June 7



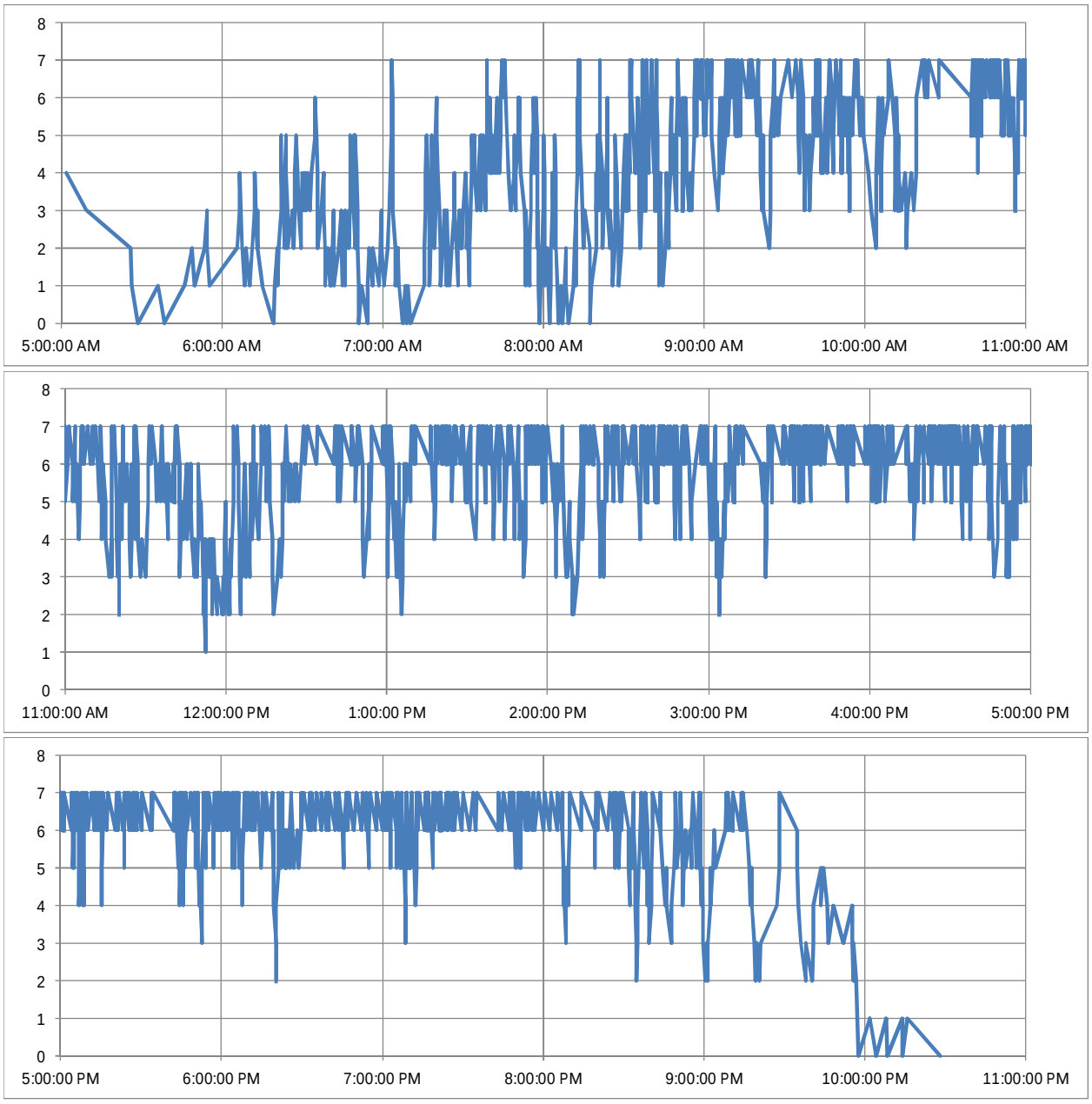
On Thursday, there were usually 5 or more vehicles present between 9:30 AM and 1:50 PM (with brief lulls at 9:45 AM, 10:15 AM, and 12:10 PM). There were also several 40- to 75-minute periods in the afternoon and evening with continuous high demand (3:00–4:00 PM; 6:15–7:30 PM; 8:20–9:00 PM; and 10:00–10:45 PM).

Figure 25: Parking Occupancy on Saturday, June 9



On Saturday, there were usually 5 or more vehicles present between 10:00 AM and 12:30 PM, then again between 2:00 and 3:30 PM and between 4:00 and 5:00 PM. (with brief lulls at 9:45 AM, 10:15 AM, and 12:10 PM).

Figure 26: Parking Occupancy on Sunday, June 10



On Saturday, there were usually 5 or more vehicles present for the majority of the afternoon and early evening (between 12:15 and 8:30 PM).