

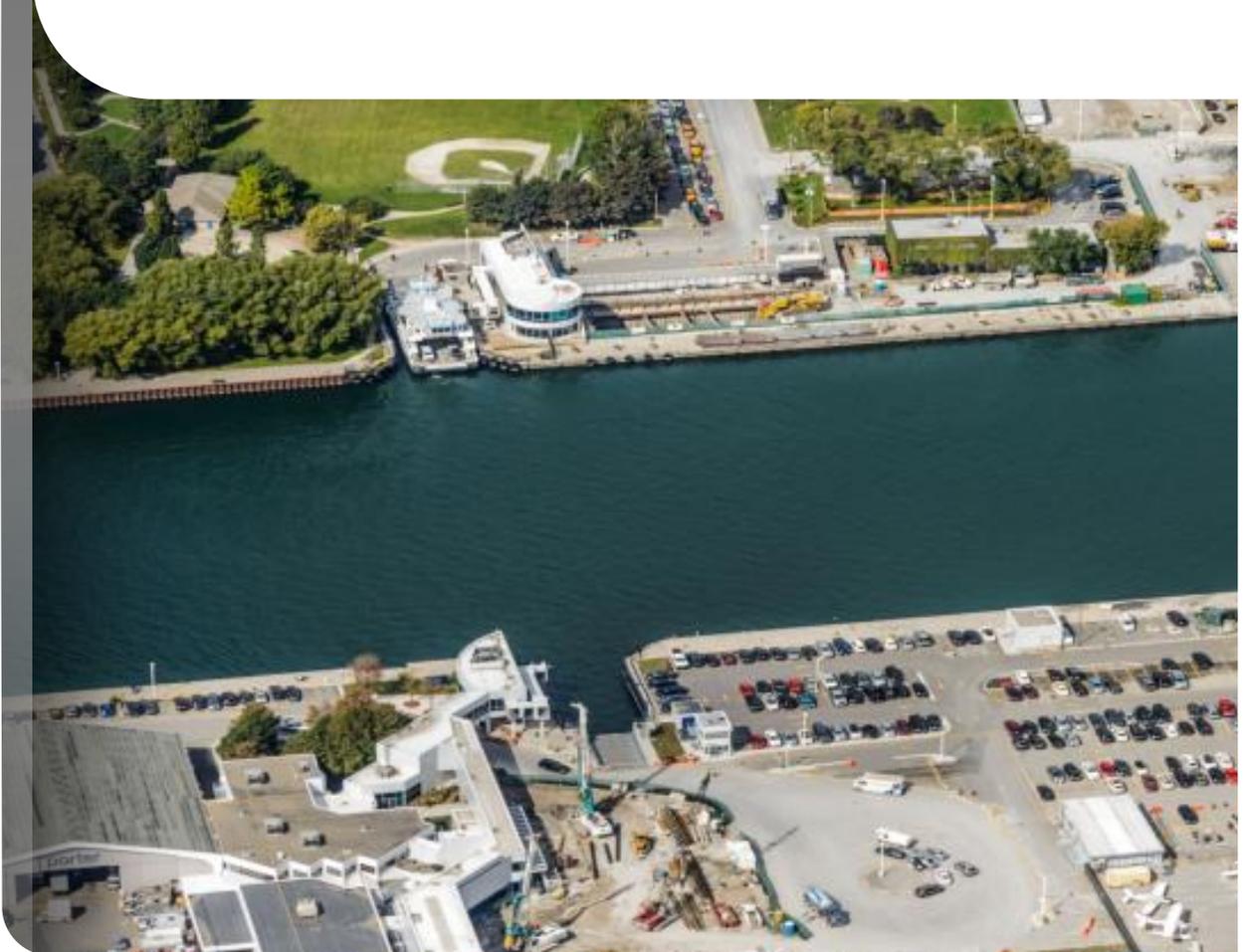


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Billy Bishop Toronto City Airport

Summary of 2015 Traffic and Passenger Surveys



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Summary of 2015 BBTCA Traffic and Passenger Surveys

Surveys of traffic volumes and pedestrian activity were undertaken in the vicinity of Billy Bishop Toronto City Airport (BBTCA) in April 2015. The surveys established baseline “pre– pedestrian tunnel” conditions related to traffic volumes, modal split and taxi occupancy levels for travel to and from the airport. The following summarizes the survey findings.

Survey scope

The surveys included the following separate components:

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

The surveys were undertaken on Thursday, April 23, 2015. A subset of the surveys (related to passenger movements and queuing) was repeated on Friday, April 24, 2015. The surveys were undertaken for four hours in the morning (6:30–10:30 AM) and four hours in the afternoon / early evening (3:00–7:00 PM). These timeframes represent peak hours for the airport.

The study area for intersection counts extended from the lake northerly to Lake Shore Boulevard / Fleet Street, and from Stadium Road easterly to Dan Leckie Way.

Modal split

The modal split for trips to and from the airport — the proportion of trips made using the various travel modes — was estimated based on observed shuttle usage, auto and taxi pick-ups and drop-offs, pedestrian activity, and parking statistics.

- The greatest percentage of trips are made via taxi (44% of trips to the airport; 47% of trips from the airport);
- The shuttle bus between Union Station and the airport carries more than a quarter of airport trips (25% of trips to the airport; 27% of trips from the airport);
- Pick-up and drop-off trips make up 11% of trips to the airport and 8% of trips from the airport;
- Approximately 6% to 8% of trips drive to the airport and park in one of the three available lots (Stadium Road; Canada Malting site; island parking); and
- Approximately 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).

The calculated modal splits are presented in **Table 1**. When comparing against previous surveys undertaken in 2012 (interviews of a sample of passengers within the terminal):

- The proportion of pick-up and drop-off trips via private auto has decreased, both to and from the airport;
- The proportion of taxi trips to the airport has decreased; and
- The proportion of shuttle trips to the airport has increased.

TABLE 1: MODAL SPLIT FOR TRAVEL TO/FROM BBTCA

Travel mode to/from BBTCA	2015			2012	2012 to 2015	
	AM	PM	Avg.	24h	Change	% change
Trips to BBTCA (drop-offs):						
Taxi drop-off	41%	47%	44%	49%	-5 p.p.*	-10%
Private auto drop-off	14%	8%	11%	19%	-8 p.p.	-42%
Self-drive / park	10%	5%	8%	5%	+3 p.p.	+60%
Airport shuttle bus	26%	25%	25%	17%	+8 p.p.	+47%
Other (TTC, walking, bicycle)	9%	15%	12%	10%	+2 p.p.	+20%
Trips from BBTCA (pick-ups):						
Taxi drop-off	54%	44%	47%	46%	+1 p.p.	+2%
Private auto drop-off	7%	8%	8%	14%	-6 p.p.	-43%
Self-drive / park	3%	7%	6%	5%	+1 p.p.	+20%
Airport shuttle bus	30%	26%	27%	25%	+2 p.p.	+8%
Other (TTC, walking, bicycle)	6%	15%	12%	10%	+2 p.p.	+20%

*p.p. = percentage points

Airport traffic as a proportion of total traffic

In general, airport traffic makes up approximately 10–12% of all traffic in the surrounding area; however, the proportion of traffic varies by roadway.

- On Lake Shore Boulevard, which serves a commuter function, airport traffic makes up 2–4% of all traffic.
- On Bathurst Street north of Queens Quay, which is a key airport approach route, 30–35% of traffic in this block is airport related.
- Within the neighbourhood to the west (Queens Quay to the west; Stadium Road), airport traffic comprises 2% of all traffic in the morning peak and 7% 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 15% of total traffic.

Traffic volumes on Eireann Quay

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

- During the morning peak period, Eireann Quay carries approximately 600 vehicles per hour; this peak occurs after the end of the main commuting peak.
- During the afternoon peak period, Eireann Quay carries approximately 750 to 800 vehicles per hour in the mid-afternoon (prior to the start of the main commuting peak). During the main commuting peak period, airport traffic drops to approximately 550 to 600 vehicles per hour.
- In both the morning and the afternoon, the airport peak and the roadway peak do not coincide.

Taxi deadheading

Taxi movements 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, a smaller number of taxis enters the corral to pick up a fare immediately after dropping off passengers, generating no deadhead trips.
- At busier times, however, this can be offset by taxis that arrive empty when the taxi corral is full and are turned away, generating two deadhead trips and serving no passengers. This typically occurs later in the morning and throughout much of the afternoon.

The rate of deadheading varies by time of day.

- In the morning, it is generally in the order of 0.7 to 0.9 deadhead trips per fare, but increases substantially after 9:45 as taxis are turned away from the corral.
- In the afternoon, it typically fluctuates between 1.0 and 1.2 deadhead trips per fare.

Deadhead trips are a less efficient use of road capacity, particularly “double deadhead” trips wherein an empty taxi is turned away from the taxi corral. Measures to reduce deadheading would lessen the impact of airport traffic on the road network and within the surrounding neighbourhood, and would allow the groundside infrastructure to be used more efficiently.

Turning prohibitions

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 one to two northbound left turns observed during the peak periods.
- An average of 15 vehicles per hour (all private vehicles) were observed making prohibited right turns at Lake Shore Boulevard and Stadium Road.
- An average of 49 vehicles per hour (of which 16% were taxis) were observed making prohibited left turns at Lake Shore Boulevard and Stadium Road during the PM peak period. These vehicles are likely comprised of through traffic from westbound Queens Quay, rather than originating at the airport, since the volume of traffic turning left from Eireann Quay onto Queens Quay is negligible.
- 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.

Peaking of traffic and queues

A considerable level of variability is observed in traffic volumes and queues leaving the airport on Eireann Quay.

Traffic patterns are closely related to the ferry schedule. The ferry is scheduled to arrive every 15 minutes, although for much of the day this can stretch to 20 minutes due to the length of time required to board and disembark passengers at both the island and mainland terminals.

A surge of traffic activity typically occurs shortly after the arrival of a ferry carrying passengers from one or more flights. Particularly in the afternoon, this can be accompanied by queues on Eireann Quay that extend to the taxi corral driveway. This is followed by a period of reduced activity and short queues until the arrival of the subsequent ferry.

Similar patterns are observed in the shuttle ridership levels.

- For shuttle trips leaving BBTCA, there is a great deal of variation. Some trips connect with incoming flights and are heavily used, with all seats full on many trips (and some with standing passengers). Other trips that do not connect with flights leave empty; they cannot remain at the airport to wait for passengers because they need to return downtown so as to maintain a regular schedule for airport-bound passengers.

- For trips destined to BBTCA, there is less variation associated with the flight schedule, and shuttle occupancy generally ranges from 2 to 20 passengers.

The opening of the pedestrian tunnel is expected to smooth out the surging effect by better dispersing the flow of passengers to the mainland, as opposed to dropping off a large group of passengers at the mainland terminal all at once.