

Date: January 10, 2014
To: Mr. Gene Cabral, Executive Vice-President, Toronto Port Authority
From: Mr. James Lindsey, Director, Aviation, WSP Canada Inc.
Project No.: 131-16853-00 Billy Bishop Toronto City Airport – City of Toronto On-Going Services
Subject: Billy Bishop Toronto City Airport
Strategic Vision for Peak Hour Passenger Forecast

The objective of this technical memorandum is to forecast peak hour passenger demand based on current and projected future slot allocation policies, and to establish a strategic vision for Billy Bishop Toronto City Airport ("BBTCA") with respect to passenger activity while still remaining within the Tripartite Agreement NEF contours.

SLOT ALLOCATION

Prior to implementing the current slot allocation policy for scheduled service carriers, the Toronto Port Authority ("TPA") commissioned Jacobs Consultancy to assess the practical capacity for BBTCA. Based on this analysis, TPA determined that a maximum of 202 slots per day, seven (7) of which are 'night-time slots', would be allocated for use by scheduled service carriers, until otherwise determined by TPA based on relevant information such as changes in capacity parameters and further capacity testing and analysis.

With air carrier activity currently limited to 202 movements per day, the maximum total annual movements are 73,730. However, it should be noted that currently air carriers do not fully utilize allocated slots. In 2012, the average daily slot utilization was approximately 84% according to data provided by Airports Coordination Limited, the independent third-party agent responsible for managing the slot allocation program at BBTCA.

The current slot utilization of 84% is due to reduced weekend schedules, irregular operations and cancellations. As the Bombardier CS100 is introduced, slot utilization may increase as these longer-range aircraft could potentially be utilized during off peak hour availability for flights to sun destinations. Under the terms of the slot allocation program, a slot is considered 'historic' where it has an annual utilization of greater than 80%. Therefore, all current 202 slots have been allocated and considered 'historic' for the carriers to whom they have been granted.

In addition to the daily restriction of 202 slots, there is also a restriction of eight (8) slots within a thirty (30) minute period (four (4) arrival slots and four (4) departure slots). This restriction establishes the peak period in terms of aircraft and passenger movements. In the future this may change to permit increased transfer connectivity within the airport environment.

PEAK HOUR ACTIVITY

Peak hour activity at BBTCA is currently restricted through the slot allocation policy to a maximum of sixteen (16) slots per hour. However, in the future when improvements to the airside, terminal and groundside system are implemented, increases to the maximum hourly slots are possible.

During peak periods, load factors of upwards of 90% are not only feasible, but common place. As a result, for the purposes of calculating the peak hour activity, a load factor of 90% has been utilized. However, a 90% load factor is not sustainable over an extended period, such as an entire day, week, month or year.

It is proposed that the peak hour activity for BBTCA will be forecasted over three (3) phases, where:

- Phase 1 = Short-Term (0-1 years)
- Phase 2 = Medium-Term (1-5 years)
- Phase 3 = Long-Term (5+ years)

Based this phasing, Table 1 has been developed that summarizes the anticipated number of slots, by aircraft type, during each phase:

**Table 1
Aircraft Slot Allocation**

Aircraft Type	Phase 1	Phase 2	Phase 3
Q400	16	14	16
CS100	0	6	8
Total Slots	16	20	24

It is anticipated that in the medium-term, the total number of Q400 slots during the peak period will drop to fourteen (14) per hour, and that any additional slots during peak periods will be allocated to CS100 flights. Therefore, during the initial phases of CS100 flight operations, a maximum of six (6) movements per hour are anticipated. As more CS100 aircraft come into service, additional slots during the peak period will be allocated for CS100 flight operations up to a maximum of eight (8) per hour. In addition, Q400 activity will return to the sixteen (16) slot level.

Therefore, it is proposed that the maximum number of slots during a single peak hour will increase from the current sixteen (16) to a maximum of twenty-four (24).

As additional CS100 aircraft come into service, it is anticipated that the percentage of connecting passengers will increase due to the new routes and connectivity being introduced with the CS100 aircraft.

Currently, approximately 17% of the passengers connect from one flight to another and therefore do not originate or terminate at BBTCA. These passengers connect through the terminal building and do not use the ground transportation system.

As CS100 aircraft come into service, it is anticipated that a higher percentage of passengers will connect between flights. In Phase 2, it is anticipated that connecting passengers will increase to 22%, but could represent upwards of 27% of all passengers once all CS100 flights are operational.

Table 2 details the proposed passenger type distribution over the three (3) Phases:

**Table 2
Passenger Type Distribution**

Passenger Type	Phase 1	Phase 2	Phase 3
Origin / Destination	83%	78%	73%
Connecting	17%	22%	27%
Total Passengers	100%	100%	100%

Based on the foregoing, and utilizing a seating configuration of 74 seats for the Q400 and 107 seats for the CS100, Table 3 details the peak hour passenger forecast for BBTCA at 90%passenger load factor:

**Table 3
Peak Hour Passenger Forecast**

Passenger Type	Phase 1			Phase 2			Phase 3		
	Q400	CS100	Total	Q400	CS100	Total	Q400	CS100	Total
Origin / Destination	884	0	884	727	451	1,178	778	562	1,340
Connecting	181	0	181	205	127	332	288	208	496
Total Passengers	1,065	0	1,065	932	578	1,510	1,066	770	1,836

Therefore, peak hour passenger forecasts (long-term) for BBTCA are **1,836** where: **496** are connecting and **1,340** are origin and destination.

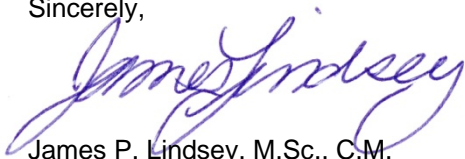
CONCLUSIONS

Therefore, based on our current understanding of the future operational environment and passenger demand profile, for planning purposes infrastructure at BBTCA should be designed to accommodate the following peak hour passenger demands:

**Table 4
Recommended Planning Peak Hour Forecast**

Passenger Type	Phase 1	Phase 2	Phase 3
Origin / Destination	884	1,178	1,340
Connecting	181	332	496
Total Passengers	1,065	1,510	1,836

Sincerely,



James P. Lindsey, M.Sc., C.M.
Director, Aviation