Airport Traffic Management
(Departures)
# Version History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Changes</th>
<th>Revised By</th>
<th>Approved By</th>
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<td>Revised roles of AMU and RMU.</td>
<td>A. Tolton</td>
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<td>Airlines are to contact the RMU, rather than the AMU for slot allocation information.</td>
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<td>2014-05-23</td>
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<td>L. Olsson</td>
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# Revision and Approval Control of Last Version

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<tr>
<td>Preparation</td>
<td>L. Olsson</td>
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# Reference Documents

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<td>PASSUR Departure Metering Program</td>
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1 Introduction

The purpose of this document is to describe the methodology involved in metering departing aircraft traffic from Toronto Pearson during periods wherein airport departure capacity is unable to meet the scheduled demand.

Departure Traffic Management Initiative (D-TMI) slot calculations are facilitated by a software application module of the PASSUR OPSnet. The slot allocations are to be requested/modified via the Resource Management Unit (RMU) and operational oversight is the responsibility of the Manager, Operations – Aviation Services (MO AVS) while overall responsibility of the program rests with the Airport Duty Manager (ADM).

This document is maintained by the Aviation Programs business unit within the Aviation Services Department and has a planned annual review cycle. Updates are distributed to all stakeholders via GTAA Operational Directives.

1.1 Objectives

The objectives of a D-TMI are as follows:

a) to maintain the daily flight schedule as much as safely practical during periods of reduced departure capacity;

b) to provide a fair, equitable, transparent and systematic procedure for the allocation of limited departure slots based on mix of schedule, actual demand, and capacity;

c) to manage the flow of aircraft to the deicing facilities or runway, thereby reducing the congestion on the maneuvering area surfaces, eliminating unnecessary fuel burn and minimizing inconvenience for the travelling public;

d) to enable airlines to plan for and carry out flight schedule management activities as required; and

e) to enable Nav Canada and the GTAA to effectively manage traffic flows and ground facilities during severe weather conditions or reduced runway capacity situations.
2 Methodology

2.1 Scope
The PASSUR OPSnet Departure Metering module is based on a ‘ration-by-schedule’ methodology that uses the hourly flight schedule and flight plan data to establish fair, equitable and transparent slot allocations. Allocations are based on Slot Allocation Groups and are assigned by the RMU in thirty minute segments based on hourly percentages.

2.2 PASSUR OPSnet Departure Metering Module Access
An account to access the PASSUR OPSnet Departure Metering module can be received by contacting passur.administrator@gtaa.com
The program can be accessed at the following internet address: http://www5.passur.com/SiropsYYZ.html

2.3 Implementation
Implementation of a D-TMI, including the decision to activate and deactivate, rests with the ADM in consultation with the MO AVS, Nav Canada and the airlines.
Considerations for program implementation include:

a) forecasted weather conditions;
b) deicing hourly throughput rate; and
c) hourly runway departure rate provided by Nav Canada.

Implementation of a D-TMI may occur when any of the following conditions are present:
d) the deicing throughput rate or the runway departure rate is less than scheduled demand;
e) the weather forecast indicates high volumes of precipitation including, but not limited to the following: snow, sleet, freezing rain, or ice pellets; and
f) whenever there is an unexpected reduction in deicing or runway departure capacity.
2.3.1 Advanced Implementation

The ADM will seek to implement a D-TMI with as much notice as possible to allow the airlines time to manage their flight schedules to meet their departure slot allocations.

Typically, when the MO-AVS sees that the forecast indicates precipitation (snow, freezing rain) they will assess the situation and advise the ADM of a requirement for a D-TMI. The ADM will arrange an internal pre-planning call with the Core Planning Group. The ADM will also communicate operational plan, inclusive of requirements for the D-TMI and associated rate at the At-Large Briefing call with all stakeholders.

The ADM in consultation with the MO-AVS shall determine the timings of the Core Planning Group pre-planning calls based on the forecasted start time of the event. The ADM will determine the timing and frequency of subsequent At-Large Briefing calls.

The following agencies shall participate in the pre-planning call:

a) ADM;

b) MO-AVS;

c) Deicing Operations;

d) Weather Service Provider;

e) Apron Management Unit (AMU);

f) Resource Management Unit (RMU);

g) Aviation Operations / Airfield Maintenance;

h) Nav Canada;

i) Air Canada/WestJet;

The following information shall be discussed during the call:

a) Weather forecast inclusive of anticipated winds, precipitation type, duration, and accumulation rate;

b) Deicing throughput capability in forecasted conditions;

c) Anticipated runway configuration(s); and

d) Nav Canada runway departure rate.
Airport Operations Control (AOC) will communicate any briefing timings and D-TMI implementation to all stakeholders, inclusive of applicable Class I NOTAM issuance.

As required, the ADM will convene an At-Large Briefing call with stakeholders. In addition to the normal agenda, the ADM will advise all users of the D-TMI implementation and the associated duration. Hourly departure rates and associated slot allocations will be communicated to the airlines via PASSUR OPSnet and also available via the RMU at (416) 776-2800.

If an airline is unable to use a slot in any given hour, they are requested to advise the RMU so this slot can be assigned to another airline. It is the airline’s responsibility to request the flights to be allocated slots, either via PASSUR OPSnet, or via the RMU.

In the event that the weather is forecast later in the day, the ADM will convene, as required, an adhoc pre-planning call with the Core Planning Group prior to the forecast start of the event to communicate the D-TMI requirement.

### 2.3.2 Unexpected Implementation

There may be times when there is an unexpected reduction in aircraft departure capacity. In these instances, Deicing Operations or Nav Canada will immediately report expected throughput rates to the MO-AVS. If demand exceeds capacity and this situation is expected to continue for more than two hours the MO-AVS will report this to the ADM with recommendation whether or not to implement a D-TMI. The ADM will contact the RMU to calculate the D-TMI slot allocations at the rate communicated.

Upon recommendation from the MO-AVS the ADM will initiate an ad-hoc planning call to advise the Core Planning Group of the D-TMI requirement. A subsequent At-Large Briefing call to the stakeholders will be delivered by the ADM to communicate the D-TMI rate.
2.4 Program Phases

2.4.1 Planning Phase

The Planning Phase is the period wherein the departure metering rate is determined and the Slot Calculation Process is completed. Carriers can begin to make adjustments to their flight schedules as required.

Slot Calculation Process

Step 1: The D-TMI rate for the program will be re-entered into the Slot Calculator and canceled flights will be removed from the slot allocation. Air Carriers will maintain their original slot allocations as the Slot Calculator utilizes the ration by schedule philosophy based on the original schedule and NOT the revised schedule. Once the D-TMI Rates have been re-entered into the Slot Calculator the Air Carriers will be able to view the final slot allocations before entering the Active Phase. The Airlines are required to submit their slot requests a minimum of two- hours before the allocated hour. During this timeframe airlines are to update their flight plan information with Nav Canada Flight Planning.

Step 2: Allocations are to be submitted/requested /modified via the Resource Management Unit (RMU) via fax at (416) 776-5552 or phone at (416) 776-2800. Flight plan information must be updated with Nav Canada Flight Planning.

2.4.2 Active Phase

The Active Phase is the period wherein the program is scheduled to start and/or conditions impacting throughput are present.

2.4.3 Recovery Phase

The Recovery Phase is the period wherein conditions impacting throughput are no longer present. However, excess demand carried over from the Active Phase requires metering to achieve balance with throughput capacity and forecasted demand. Normal operations will resume once this balance is achieved (Note: Not all D-TMIs will require a Recovery Phase).

2.5 General Principles

a) Slot allocations are calculated on a 24-hour rolling timeframe and are based on original scheduled slots.

b) The departure queue entering the Central Deicing Facility (CDF) from Taxiway Echo is not to exceed 25% of the D-TMI rate for the given hour (Note: The queue is not inclusive of aircraft in the deicing staging bays).

c) The GTAA will seek to provide the airlines as much notice as possible of a D-TMI requirement.

d) Each 30 minute segment of the program is independent and there is no carry-over of departure slots into the next segment.

e) Airlines are expected to use all of their allocated slots. Unused slots will be reassigned at the discretion of the RMU.
f) General Aviation (GA) aircraft will be assigned available slots by the RMU.

g) A D-TMI will remain in effect until the end of the event as forecast, until
departure capacity restrictions are no longer present, or at the discretion of the
MO-AVS in consultation with the ADM.

h) The AMU will dynamically manage the flow to the CDF to ensure that target
inventory is met while maintaining program compliance.

i) Pushback approvals will be authorized within +5 minutes of a slot allocation
timeframe (e.g. 0900-0930 allocation period; pushback authorized between 0900
and 0935 without requiring a new slot). Requests received outside these
parameters will require a new slot allocation. Pushbacks authorized without a new
slot allocation will count towards Dynamic Management.

j) A Class 1 (NOTAM) indicating that a D-TMI is in effect will be issued.

k) Everbridge Notifications

2.6 Slot Allocation Groups
Slot allocations are divided into the following groups:

a) Group 1 (Non-Pool Airlines): Any airline with greater than or equal to five (5)
departure operations per day for the slot allocation period (i.e. Summer or Winter
schedule);

b) Group 2 (Pool Airlines): Any airline with less than five (5) departure operations per
day for the slot allocation period (i.e. Summer or Winter schedule); and

c) Group 3: All General Aviation (GA) aircraft and Cargo Operations.

2.7 Exemptions
The following are exempt from a deicing-based D-TMI:

a) any flight that does not require the use of deicing facilities;

b) Medical Evacuation flights (MEDEVACs);

c) flights related to active Police operations;

d) Heads-of-State;

Note: During a runway capacity based D-TMI, all departures are subject to the slot assignment
process.

2.8 Nav Canada Traffic Management Initiatives
To manage arrival capacity challenges created during periods of D-TMIs, Nav Canada
may utilize an Arrival Traffic Management Initiative (A-TMI) such as a Ground Delay
Program (GDP) or Ground Stop (GS). D-TMIs will not be automatically cancelled when
an A-TMI (i.e. GDP or GS) is in place, as there may be periods of time where both
programs are required to manage arrival and departure capacities.
3 **Roles and Responsibilities**

Responsibility for the overall co-ordination of the D-TMI rests with the GTAA in consultation with the Core Planning Group.

### 3.1.1 Core Planning Group

In anticipation of any D-TMI event, members of the Core Planning Group collaboratively formulate a plan to facilitate operations at the airport. The Core Planning Group is exclusively responsible for initiating direct line pre-planning calls and any ad hoc revisions or adjustments required to the D-TMI rate. The Core Planning Group includes:

a) Airport Duty Manager (ADM)

b) Manager Operations, Aviation Services (MO-AVS).

c) Shift Manager, Deicing Operations.

d) Weather Service Provider.

e) Apron Management Unit (AMU).

f) Resource Management Unit (RMU).

g) Aviation Operations / Airfield Maintenance.

h) Nav Canada (including representatives from both the ACC and the Control Tower).

i) One representative each from Air Canada and Westjet
3.1.2 **Airport Duty Manager – (ADM)**

a) Overall responsibility for safety and security at the airport;

b) Implementation and termination of the program;

c) Host Core Planning Group pre-planning calls and At-Large calls; and

d) Communicate pertinent information to stakeholders in a timely fashion.

3.1.3 **Manager, Operations – Aviation Services (MO-AVS)**

a) Overall operational oversight for the D-TMI;

b) Responsible for establishing the D-TMI rate;

c) Direct the allocation of D-TMI slots via the RMU;

d) Initiate pre-planning calls as required;

e) Communicate pertinent information to ADM in a timely fashion;

f) Actively monitor throughput times via the Nav Canada APM or any other means available.
3.1.4 **Shift Manager, Deicing Operations**

a) Prior to D-TMI implementation, establish the hourly throughput rate based on estimated deicing times, available resources and actual wide body to narrow body mix based on normal schedule. This will be based on the current weather forecast. The estimate will be by hour for the entire period of the event;

b) Immediately advise the AOC of any events that may impact the throughput rate; and

c) Report to the AOC the deicing throughput rate in the previous hour in the absence of automated reporting.

3.1.5 **Airport Operations Control (AOC)**

a) Functions, as in daily operations, as the point of contact for all operational problems, delays, and/or disruptions;

b) Advise MO-AVS and ADM of any relevant information that may impact capacity;

c) Monitor PASSUR OPSnet for any relevant operational messages and communicate them to the ADM or appropriate MO;

d) Communicate pertinent information to colleagues and stakeholders in a timely fashion;

e) Communicate relevant pre-planning call, At-Large External Briefing, and D-TMI implementation to all stakeholders; and

f) Issue Notice to Airmen (NOTAM) indicating D-TMI in effect (see Appendix B – link to NOTAM Worksheet and Appendix D for Class 1 wording).

3.1.6 **Apron Management Unit (AMU)**

a) Participate in pre-planning calls;

b) Ensure program compliance;

 c) Monitor the queue to the CDF to ensure there is sufficient inventory (target of three to five aircraft) and that is does not exceed 25 per cent of the throughput rate or departure rate. If the AMU observes this and the line is increasing; the AMU shall immediately report this observation to the MO AVS;

 d) Notify the MO AVS of any unforeseen /anticipated reduction in runway capacity;

 e) Notify the AOC of any significant operational information that may impact operations;

 f) Monitor PASSUR OPSnet Departure Slot Allocation page;

 g) Notify the RMU of flights approved to push using Dynamic Management method; and

 h) Confirm slot allocations with the RMU for GA or any other aircraft from Vista Cargo or the North End General Aviation Area.
3.1.7 **Resource Management Unit (RMU)**

a) Participate in pre-planning calls;

b) Utilize the PASSUR OPSnet Departure Metering module to:
   i. Input the Departure TMI rate to facilitate allocation calculations for Groups 1, 2, and 3.
   ii. Allocate slots to the appropriate allocation segments as submitted by the airlines.
   iii. Exchange unused slots and/or reassign slots to other groups to ensure the integrity of the program is maintained and that the airport’s capacity is maximized.
   iv. Change slot allocations individually or by groups.
   v. Allocate GA and Cargo slots manually as required.

c) Monitor PASSUR OPSnet Departure Metering module for:
   i. New requests.
   ii. Changed requests.
   iii. Delayed/unused slots.
   iv. Cancelled flights.
   v. Exempt Flights

d) Notify the ADM of any gating conflicts, return to gate requests and/or significant operational information that may impact operations;

e) Verify slot information requests from the AMU;

f) Notify the AMU of any slot allocation changes within the present 30-minute allocation segment, and the following three segments (1 hour window);

g) Provision flight information to GTAA business units on request.

3.1.8 **Shift Manager, Integrated Operations Control Center (IOCC)**

a) Revise and issue Everbridge Notifications as per Airsde MO/ADM

3.1.9 **Nav Canada**

a) Participate in pre-planning calls;

b) Advise the MO AVS of any of the following situations:
   i. Anticipated operations on runways 15R or 15L.
   ii. Any unforeseen /anticipated reduction in runway capacity.
   iii. Requirement to reduce traffic taxiing to a certain runway.
iv. Requirement to implement a Traffic Management Initiative.

c) Ensure the arrival and departure rates are balanced when the runway 33 or 15 combination becomes active; and

d) Coordinate with AMU to ensure all aircraft originating from GA and Cargo areas have been assigned a departure slot.

3.1.10 Airlines

a) Manage slot allocations specific to their airline area-of-responsibility via calls to the RMU and, maintain current flight plan data, with updates as required for the entire event.

b) Liaise with the RMU to ensure priority flight information is shared.

c) Notify the RMU of any flights that do not require deicing.

d) Manage slot allocations so as to not exceed given allocations within defined time segments.

4 Contingency Plan

The matrix below outlines the various contingencies available to support the Departure TMI:

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<th>SYSTEM FAILURE</th>
<th>CONTINGENCY</th>
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<tr>
<td>GTAA Host / Internet</td>
<td>Mobile device / Wi-Fi or Cellular Data Network</td>
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<tr>
<td>PASSUR Host</td>
<td>1. RMU Departure Metering Module</td>
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<td>2. If AODB connection lost, manual Calculations based on aggregate winter schedule departure slots (Appendix C)</td>
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5 Appendix A: PASSUR Training Manual

To request a copy of the PASSUR Training Manual please contact: aviationprograms@gtaa.com

GTAA Intranet Link:

6 Appendix B: NOTAM Worksheet

(For GTAA Use Only)

GTAA Intranet Links:
Central Deicing Facility Based Departure TMI: http://gtaall01/i-share/livelink.exe?func=ll&objaction=overview&objid=55378365
Runway Based Departure TMI: http://gtaall01/i-share/livelink.exe?func=ll&objaction=overview&objid=55378122

7 Appendix C: Scheduled Departure Slots

(For GTAA Use Only)

GTAA Intranet Link:

8 Appendix D: Class 1 NOTAM

GTAA AOC to issue NOTAM as indicated below.

CYYZ DEPARTURE TRAFFIC MANAGEMENT INITIATIVE IN EFFECT. ALL OPERATORS CTC (416) 776-2800 FOR DEPARTURE SLOT FROM (DATE/TIME TO DATE/TIME)