

DATE: May 25, 2004

TO: Chairman and Members of the Planning and Development Committee

FROM: Edward R. Sajecki, Commissioner of Planning and Building

SUBJECT: **Formalization of Jet Turn Trial Procedure**
Lester B. Pearson International Airport
MEETING DATE: JUNE 14, 2004

ORIGIN: Planning and Building Department

BACKGROUND: The Greater Toronto Airports Authority (GTAA), in their attached letter (Exhibit 1) dated March 18, 2004 requests comments on the permanent implementation of the Jet Turn Trial Procedure.

The Jet Turn Trial Procedure was initiated in June, 2000 in response to a request from the operators of Canadair Regional Jet (CRJ) to permit immediate departure turns following take off similar to those used by propeller aircraft, specifically the Dash - 8, during non-restricted hours (0700-2300). The GTAA is now proposing to permanently implement the Jet Turn Trial procedure, but expanded to include additional aircraft with noise footprints similar to the CRJ and Dash - 8.

COMMENTS: **1. The Proposal**

The GTAA, in conjunction with Air Canada and Nav Canada, through consultation with the Technical Noise and Noise Management Committees, agreed to the implementation of the Jet Turn Trial Procedure on specific departure headings off the east/west runways. Exhibit 2 identifies the runways.

For Mississauga, this means that the Jet Turn Trial Procedure assigns most departing regional jet aircraft to Runway 24R (or 24L if 24R is closed) and heading south, southwest, southeast and east to 180° HDG (Exhibit 3). As a result, these aircraft, instead of flying straight out to approximately Mavis Road before turning to the south and east (Exhibit 4), will immediately turn to the south after take off, over the Northeast Planning District, and will continue to their destination by flying over the southeasterly part of Mississauga, as shown on Exhibit 5.

In a few situations, where runways 24R and 24L are not available for operational reasons, departing regional jet aircraft are assigned to runway 05/23. After departure, they turn immediately to the north and continue to their destination by flying over Brampton, with little impact on Mississauga.

According to the GTAA, noise monitoring has been carried out over the course of the trial, which was reviewed by the Airport Noise Management Committee throughout the trial. The GTAA advises that the noise data comparisons show no significant difference in hourly Leq (Equivalent Sound Level) over the impacted communities when comparing days with a low and high number of CRJ turns.

The GTAA has determined that, in addition to a reduction of fuel emissions while airborne, there are significant reductions in aircraft on the ground in the departure queue. This procedure also reduces the amount of queuing time when aircraft have exited the Central Deicing Facility.

According to the GTAA, community complaints received by the GTAA, which are directly attributable to the Jet Turn Trial, have been relatively few, 114 over the entire trial period, with 52 of those registered within the first three months of the trial.

The GTAA has concluded that the Jet Turn procedures will improve the airport's operating efficiency and capacity, while reducing fuel emissions both airborne and on the ground, without significant noise impacts to surrounding communities.

2. Impact on Mississauga

Based on information supplied by the GTAA, it appears that the implementation of the Jet Turn Trial Procedure will have the following impacts on Mississauga:

- a shifting of certain Regional Jet overflights from the central portions of Mississauga to the southeast part of Mississauga;
- no significant increase in noise impact;
- a decrease in airborne fuel emissions.

CONCLUSION:

There is no objection to the permanent implementation of the Jet Turn Procedure.

RECOMMENDATIONS:

1. That the Greater Toronto Airports Authority be advised that the City of Mississauga has no objection to formalizing the Jet Turn Procedure as a permanent procedure.
2. That a copy of the report titled "Formalization of Jet Turn Trial Procedure - Lester B. Pearson International Airport" dated May 25, 2004 from the Commissioner of Planning and Building be forwarded by the City Clerk to the GTAA.

Original Signed By:

Edward R. Sajecki

Commissioner of Planning and Building



Lester B. Pearson International Airport
P.O. Box 6031, 3111 Convairst Drive
Toronto AMF, Ontario, Canada L5P 1B2

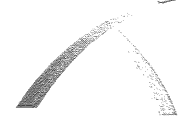
Dear Mr. Calvert:

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The Jet Turn Trial initially incorporated CRJs only; however, it was expanded in the fall of 2003 to include additional aircraft with noise footprints similar to the CRJ and Dash-8. These aircraft include the: E135, E145, J328, CL60, C750, F900, GLEX, GLF4 and GLF5. Additional aircraft may be added; but, the base line noise certification level will be the Dash-8 aircraft when determining future aircraft eligibility.

...2



Runway 05, 06L & 06R

- Eastbound departures will remain on the SID
- Aircraft heading south, southeast, southwest and west when able will be assigned **100° HDG**
- Aircraft heading north, northeast, northwest and west when able will be assigned **010° HDG**

Runway 23, 24R & 24L

- Westbound departures will remain on the SID
- Aircraft heading south, southwest, southeast and east when able will be assigned **180° HDG**
- Aircraft heading north, northwest, northeast and east when able will be assigned **290° HDG**

Portable noise monitoring has been carried out over the course of the trial to determine actual noise levels versus certification noise levels. It has been demonstrated that CRJ noise levels are very similar to those of propeller aircraft, specifically the Dash-8, while operating in the same manner. Noise data comparisons show no significant difference in hourly Leq (Equivalent Sound Level) over the impacted communities when comparing days with a low and high number of CRJ turns.

Air Traffic Control allocates turns based on destination and aircraft line up in the departure queue. Through specific flight analysis, a series of simulator evaluations were conducted to quantify the reduction of fuel emissions. It has been determined that in addition to a reduction of fuel emissions while airborne, there are significant reductions in emissions by aircraft on the ground in the departure queue. It has been further noted that this procedure reduces the amount of queuing time when aircraft have exited the Central Deicing Facility thus reducing the potential for an aircraft exceeding its holdover time.

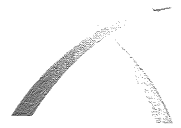
Community complaints received by the GTAA which are directly attributable to the Jet Turn Trial have been relatively few, 114 in total over the entire trial period with 52 of those registered within the first three months of the trial.

The Jet Turn Trial has demonstrated the ability to improve the airport's operating efficiency and capacity, while reducing fuel emissions both airborne and on the ground, without significant noise impacts to surrounding communities. The Jet Turn Procedure can improve runway utilization safely, effectively and in a way that is environmentally acceptable.

The GTAA is proposing that this procedure be formalized as outlined below.

CURRENT PROCEDURE:

All jet aircraft must complete the assigned Standard Instrument Departure procedure to 3600 feet ASL.



PROPOSED PROCEDURE:

Jet aircraft (CRJ1, CRJ2, E135, E145, J328, CL60, C750, F900, GLEX, GLF4 & GLF5) may commence a turn, to one of four specified headings assigned at take-off, at 1100 feet ASL (0700-2300 local) when departing Runways 06L/24R, 06R/24L and 05/23.

Runway 05, 06L & 06R

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- Aircraft heading north, northeast, northwest and west when able will be assigned **010° HDG**

Runway 23, 24R & 24L

- Westbound departures will remain on the SID
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As a stakeholder within the airport community, you are requested to provide your comments to the GTAA within 90 days. If you do not reply by June 21, 2004, the GTAA will assume that you have no objection to the permanent implementation of the Jet Turn Procedure.

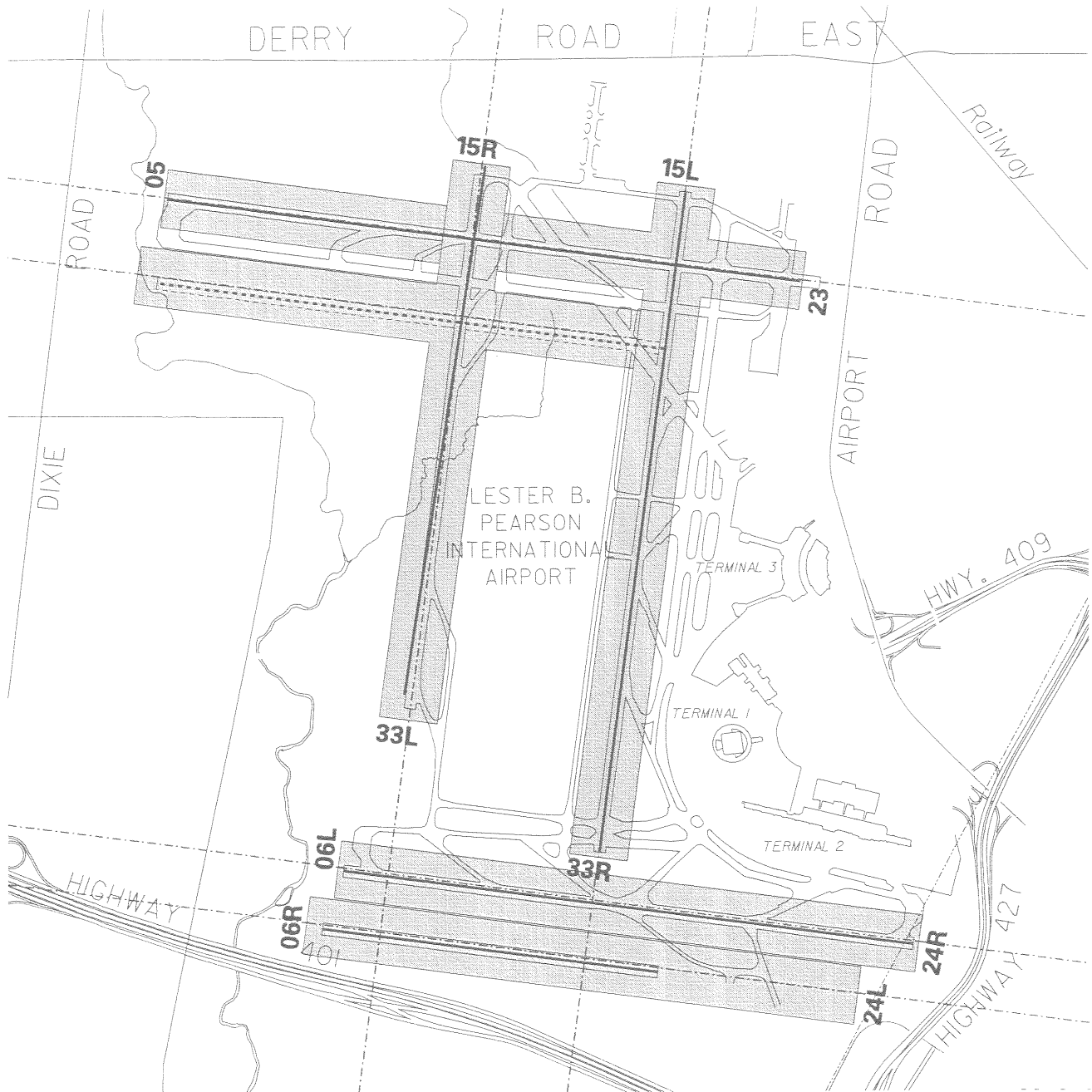
Any questions may be directed to Mr. Wil MacMillan, Manager, Aviation Standards, Noise & Enforcement at (416) 776-7117.

Yours truly,

GREATER TORONTO AIRPORTS AUTHORITY

Brian R. Lackey
Vice President, Operations & Chief Engineer

- c. Louis A. Turpen, President & Chief Executive Officer - GTAA
Steve A. Shaw, Vice President, Corporate Affairs & Communications - GTAA



L.B.P.I.A. RUNWAYS MAP



DRAWING NO:

AR RM1

SCALE:

N.T.S.

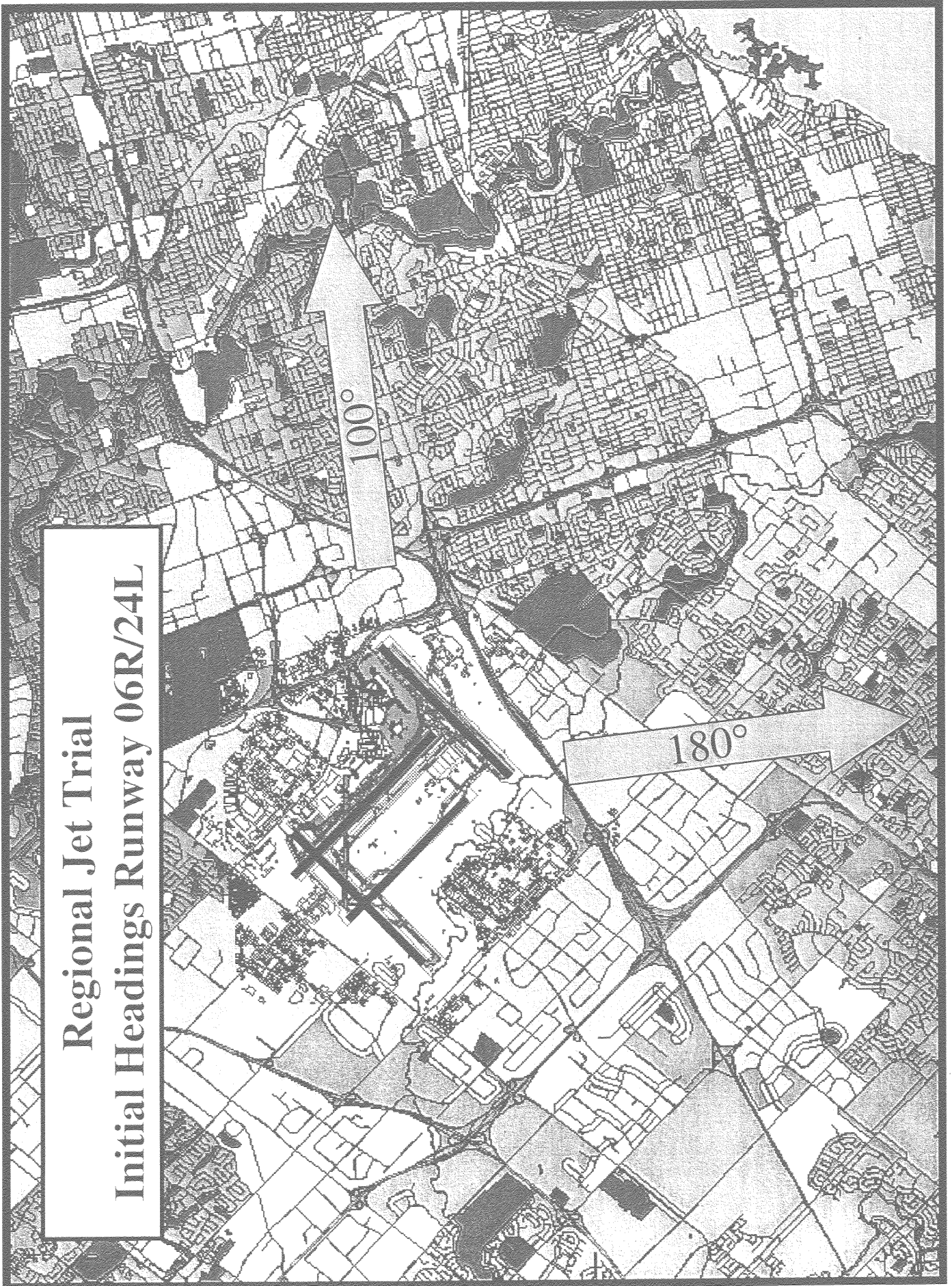
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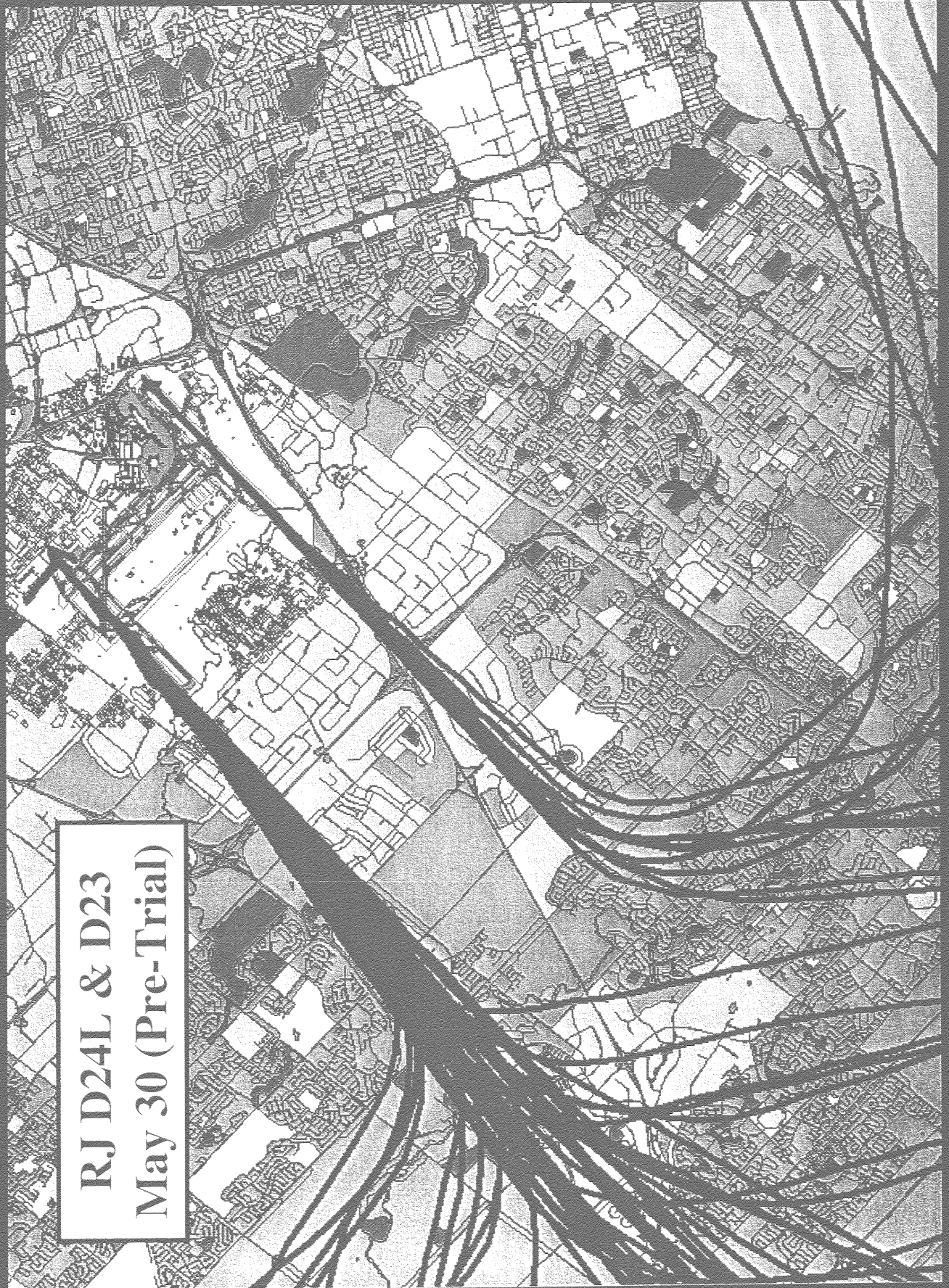
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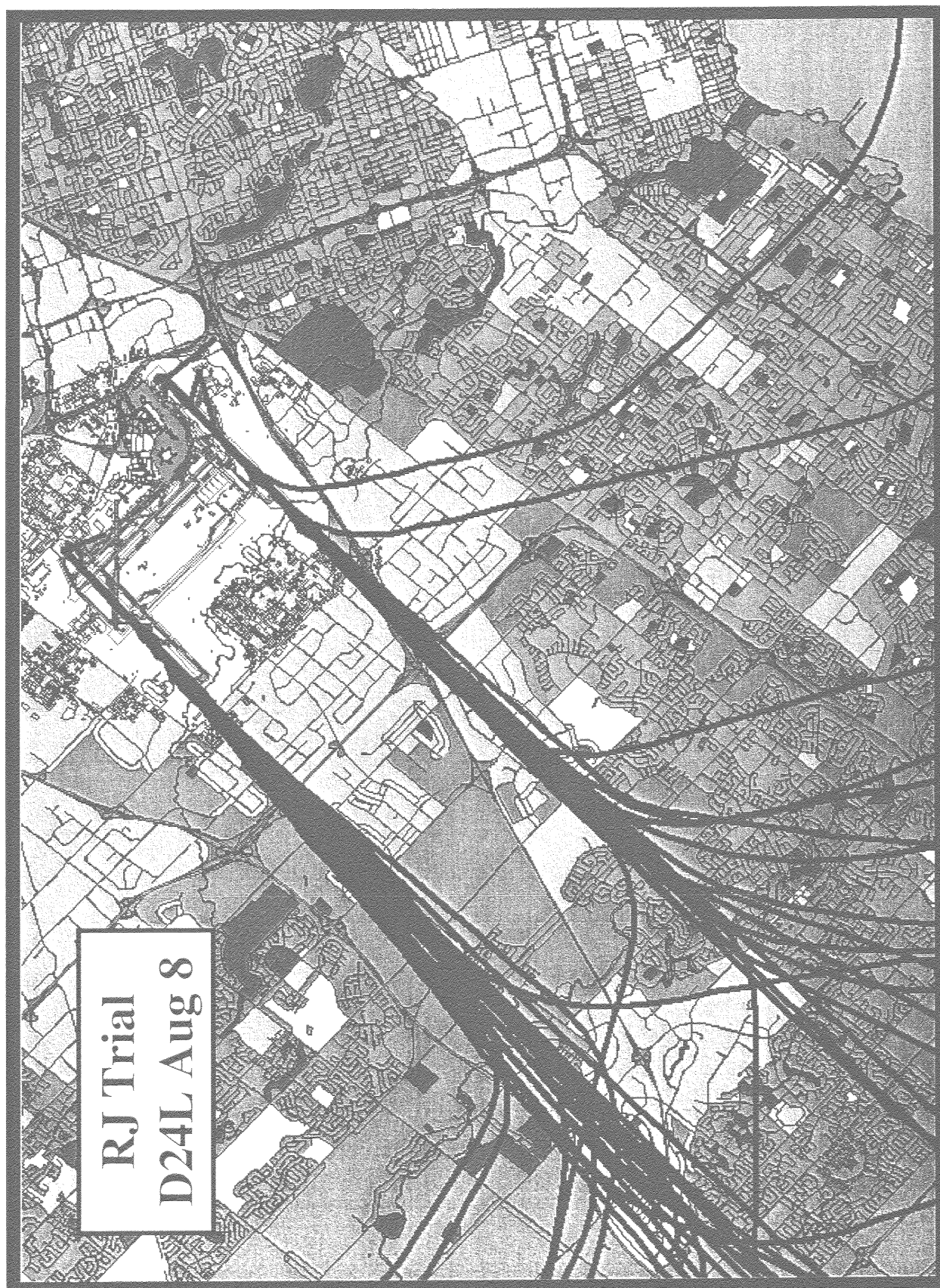
MISSISSAUGA
Planning and Building

**Regional Jet Trial
Initial Headings Runway 06R/24L**





RJ D24L & D23
May 30 (Pre-Trial)



RJ Trial
D24L Aug 8