

ITEM	8
MANAGER'S REPORT NO.	20
COUNCIL MEETING	1979 04 02

RE: ORIGIN-DESTINATION TRAVEL PATTERN STUDY AND  
BURNABY METROTOWN TRANSPORTATION STUDY  
(ITEM 17, REPORT NO. 58, 1978 AUGUST 28)

The following report from the Director of Planning contains information on the results of studies that have been carried out relative to Metrotown.

RECOMMENDATION:

1. THAT the recommendations of the Director of Planning be adopted.

\* \* \* \* \*

1979 March 28

TO: MUNICIPAL MANAGER  
FROM: DIRECTOR OF PLANNING  
RE: ORIGIN-DESTINATION TRAVEL PATTERN STUDY and  
BURNABY METROTOWN TRANSPORTATION STUDY

RECOMMENDATIONS:

1. THAT Council receive the above reports from N.D. Lea & Associates Ltd.
2. THAT Council authorize the Planning Department to prepare an implementation program for transportation improvements in Metrotown.
3. THAT this report and the Consultant's reports be sent to the Transportation Committee.

REPORT

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INTRODUCTION

At their meeting of 1978 August 28 the Council authorized the engagement of N.D. Lea & Associates Ltd. to carry out the Metrotown Transportation Study and the Origin-Destination Travel Pattern Study for the sums of \$20,000 and

\$15,000. respectively. Previously, at their meeting of 1978 May 15 Council had approved in principle the terms of reference for the two transportation studies, authorized the Planning Department to secure proposals from Consultants qualified to carry out these studies. At this meeting Council resolved to make application for a grant for the study under the 1978 Municipal Planning Grant Program and authorized the Planning Department to pursue the submission of the required application to the Ministry of Municipal Affairs and Housing. On 1978 July 31 Council received a letter from the Honourable Hugh Curtis, Minister of Municipal Affairs and Housing, informing the municipality of approval of a Planning Grant for the amount of \$23,666. under Part VI, Section 16 of the Revenue Sharing Act Regulations. The sum was to cover two-thirds of the \$35,000. total cost of the Burnaby Metrotown Transportation Study and the Origin-Destination Travel Pattern Study.

The Consultant, N.D. Lea & Associates Ltd. has satisfactorily carried out both studies within the established budgets and submitted their final reports to the Director of Planning. Application has been made to the Ministry of Municipal Affairs for the funds constituting the approved grant covering two-thirds of the total cost of each of the studies.

#### ORIGIN-DESTINATION TRAVEL PATTERN STUDY

A copy of the Origin-Destination Travel Pattern Study has been submitted to members of Council but has not been attached to this agenda for general circulation, however, copies of this report are available for inspection in the Planning Department by interested members of the public. The Origin-Destination Travel Pattern Study Report is basically a technical document that relates the data gathering process undertaken by the Consultant. The Consultant distributed survey forms to motorists travelling westbound on roads crossing the eastern boundaries of Burnaby during the morning peak period. A total of 6300 questionnaires (38% response rate) were returned by post and subsequently coded for input to computer analysis. Appended to the report are tabulations on the frequency response to the questions that were asked in this survey and more detailed information on origins and destinations is available on computer print-out that is held within the Planning Department. Analysis that has been carried out is based solely on the raw data and hence may not be representative of the screen line as a whole. This data will be used in a comprehensive analysis of travel within and through the Municipality of Burnaby as other origin and destination information becomes available. For example the City of Vancouver Engineering Department carried out an origin-destination travel pattern study around their boundaries in 1977 and Burnaby staff are currently awaiting the release of the results of this study. It would be desirable to augment existing information with further data on north-south movements within Burnaby and the possibility of obtaining these data will be the subject of a future Council report.

#### METROTOWN TRANSPORTATION STUDY

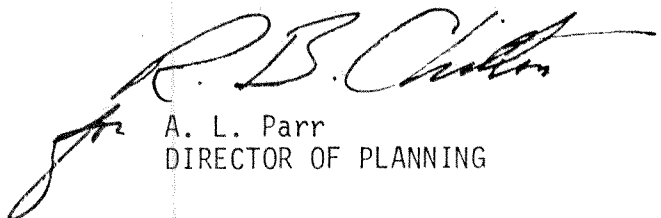
A copy of the full report has been submitted to each member of Council individually, however, for the benefit of others receiving this agenda, the summary section of the report is appended. Copies of the full report are available in the Planning Department for examination.

The report shows that the Metrotown concept is achievable with regard to transportation infrastructure and provides a basis for planning improvements to the existing transportation system. It should be noted that the time scale used in the report, as shown in Figure "S", and discussed elsewhere in the report, has been adopted purely for analysis purposes. It is quite conceivable that the ultimate development potential of Metrotown will not be achieved until well beyond 1996, in which case requisite improvements to the transportation network could be deferred accordingly. Therefore, this report should be used as the basis for preparing a short term implementation program for transportation improvements relating to Metrotown and this program should be reviewed regularly. There are a number of unresolved issues, however, which relate

to the proposed road pattern within Metrotown itself. The Consultant has seen the need for a road connection from the Metrotown core to the southwest and they have therefore conceptually shown a connector based on the southward extension of Willingdon to Imperial to illustrate how such a connection might be developed. The precise alignment of this and other elements of the internal road network will be determined in conjunction with more specific community plan studies, redevelopment programmes and a Metrotown implementation programme for transportation improvements.

SUMMARY

The data and analysis presented in these two studies would serve to assist the Transportation Committee in its deliberations as background information and will be used by staff in the implementation of the Transportation Policies that will be adopted by Council.



A. L. Parr  
DIRECTOR OF PLANNING

PL/hf

Attach.

c.c. - Municipal Engineer  
Municipal Treasurer

## METROTOWN TRANSPORTATION STUDY

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## SUMMARY

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Background

N. D. Lea & Associates Ltd. were retained by contract dated August 29, 1978, to study the transportation needs of Metrotown, to analyze the capacity of the existing Metrotown street network and to refine this street network to meet the future development needs.

The terms of reference for the transportation study stated that:

"In the Burnaby Metrotown Development Plan, substantial growth in residential and commercial development has been projected to occur in the town centre by 1996. However, the increased demand that this growth would place on the transportation system has not been fully assessed nor has its impact been totally evaluated."

The purpose of the Metrotown Transportation Study was therefore to:

(a) Determine the impact of the proposed level and mix of development upon the existing street system; (b) Determine the improvements required to the transportation system to serve this development; (c) Assess options in the proposed level of development where additional capacity is too costly to obtain or land is not available; and (d) Assess the proposed road network including improvements or adjustment.

Development Stages

Development of Metrotown was divided into three time frames:

Stage I	(Approximately - 1980)	Immediate Program
Stage II	(Approximately - 1986)	Intermediate Program
Stage III	(Approximately - 1996)	Long Range Program

A baseline year of 1976 was used for all data and development criteria.

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### Study Organization

The study was organized as follows:

- (a) A description of existing conditions through data assembly and analysis (Chapter 2).
- (b) A confirmation of development criteria (Chapter 3).
- (c) Forecasting and assignment of future travel (Chapter 4).
- (d) Analysis of existing street network to determine needs (Chapter 5).
- (e) Conclusions and review of options (Chapter 6).
- (f) Development of transportation strategies and recommendations (Chapter 7).

### Study Findings

Burnaby's Metrotown centre is strategically located on a major east-west corridor with excellent regional access. The site can be adequately served by existing transportation facilities for more than ten years providing that modest improvements in capacity and traffic flow are undertaken.

The upper limit to development is determined mainly by the east-west capacity of the transportation system (Kingsway corridor), so that the quality of transit service will become critically important in the future. Additional capacity provided by a rapid transit corridor would be an excellent development tool, giving confidence to investors.

Metrotown will work; the challenge in developing this site will be to decide how much development, of what kind, and of building the transportation system to fit the level and mix of development selected.

A staged program matched to development is essential. The facilities to be improved and developed in the first stage are those which are needed now and which readily integrate with the future transportation system. The consultants assumed that these improvements would be implemented by Burnaby when developing the long-term strategies.

The achievement of an intermediate term level of development as defined requires a substantial number of improvements but no major capital expenditures.



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Based on current knowledge and experience, the full development of Metrotown would require an LRT or other rapid transit system to be installed plus four additional E-W street lanes as well as new street linkages, widening of critical streets, and good traffic management. Our consideration of the only possible alternatives at this time to the traffic lanes required would be in the area of changing retail shopping patterns or staggering work hours.

There are several aspects of the transportation system, including the proposed LRT system, which require detailed discussion with the other levels of government concerned with the region.

The full development of Metrotown as conceived requires a major transportation investment. The implications of not making this investment are that the site would simply not be as attractive to a potential developer as another more accessible area.

The ultimate development of Metrotown must be periodically re-evaluated in the light of changing community needs, objectives and experience and available technology. For example, retail and residential components could change in the future and changes in life styles and energy shortages could produce much greater use of transit than presently forecast. This would tend to scale down the street capacity required.

If the development of the Metrotown centre was to proceed more slowly than planned at present and the LRT system was in place, then the need for additional major road construction could be postponed.

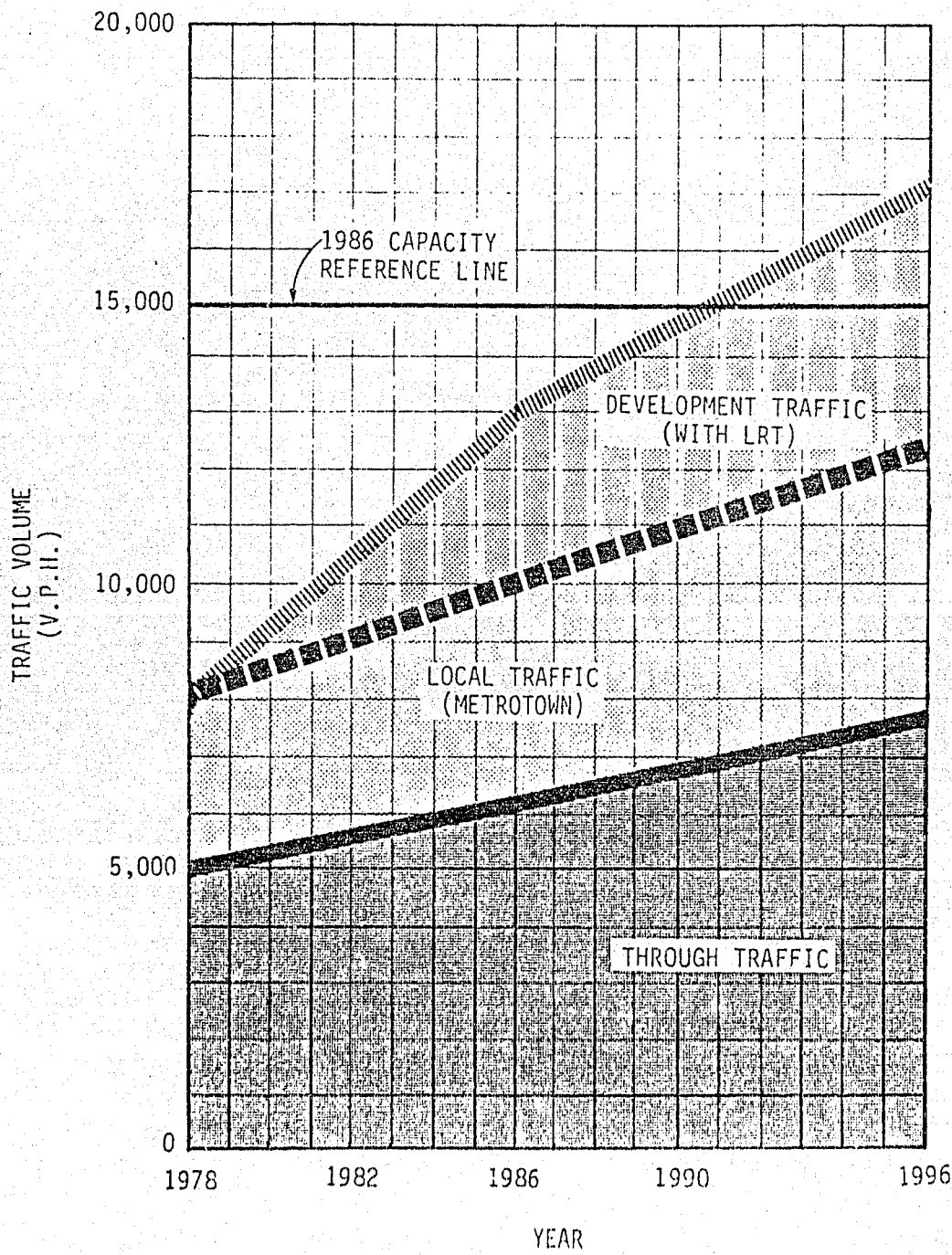
The detailed transportation plans to be developed for the Metrotown area must be geared to the mix of development that occurs. The plan must be as flexible as possible and capable of shift to meet unforeseen circumstances, while it is necessary that the plan be comprehensive and accommodate transportation requirements through the year 1996 and beyond.

Recommendations presented in Chapter 7 of this report are intended as a framework to guide the development of the area's overall transportation network. Careful attention was given to the details of the system developed to ensure that it is functionally feasible. Modifications in details can be expected when actual engineering design is undertaken.

Figure "S" on page (ix) has been prepared to illustrate how the growth of the traffic components; local, through traffic and generated development traffic would exceed the east-west street capacity limit about 1991. This illustration assumes that the proposed LRT system is in place.

From this diagram it can be seen that any further east-west through capacity provided by higher transit usage or major traffic improvements such as the widening of Highway 401 would likely have a beneficial effect on Metrotown access, while road improvements that would tend to increase east-west flow would probably have an adverse effect on Metrotown.

FIGURE "S"



N. D. Lea & Associates Ltd.	
TRANSPORTATION ENGINEERS	
GROWTH OF TRAFFIC COMPONENTS TO EAST-WEST STREET CAPACITY LIMIT	

(ix)