

THE CORPORATION OF THE DISTRICT OF BURNABY

TRANSPORTATION COMMITTEE

HIS WORSHIP, THE MAYOR
AND MEMBERS OF COUNCIL

Madam/Gentlemen:

REPORT OF THE TRANSPORTATION COMMITTEE

The Transportation Committee met on Monday, 1984 June 11 at 17:00 h in the Personnel Department Conference Room, Municipal Hall, 4949 Canada Way, Burnaby, B.C. to consider the following:

REPORT FROM THE DIRECTOR
PLANNING AND BUILDING INSPECTION

Re: Metrotown Core-Related Road Network
(Item 11, Manager's Report No. 34, 1984
May 14

Recommendations

1. THAT Council support in principle the Metrotown Core - Related Road Network (Sketch "C" attached) as discussed in this report and outlined in the staff report to Council at its meeting of 1984 May 14 (Item 11, Municipal Manager's Report No. 34, 1984 May 14).
2. THAT Council amend the Burnaby Conceptual Transportation Plan to reflect the following:
 - (a) That the Metrotown spine road, Central Boulevard (formerly North Beresford Street), be aligned as a major collector (commercial) between Willingdon Avenue and Imperial Street.
 - (b) That the Willingdon Avenue extension from Central Boulevard to Imperial Street be designated a major collector (commercial).
3. THAT staff be authorized to define the terms of reference for a comprehensive study of parking strategy related to the development of Metrotown and all four (4) A.L.R.T. Stations in Burnaby.

R E P O R T

An undated report was received from the Director Planning and Building Inspection providing an overview of the Metrotown Core-Related Road Network which was referred to the Transportation Committee by Council at the regular Council meeting held on 1984 May 14.

Representation from Daon Development Corporation and their transportation engineering consultants, Wilbur Smith and Associates were in attendance at the meeting of the Transportation Committee to respond to points of enquiry raised by members of the Committee.

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The adoption of the Metrotown Core - Related Road Network concept will allow staff to work towards the inclusion of those road linkages in the Capital Budgeting process which are not already included. Specific alignment details, right-of-way acquisition estimates, and road construction estimates will be pursued. The core-related road network is compatible with the adopted overall Conceptual Transportation Plan and in order to be fully coincident with the Plan, requires only two refinements. One of the refinements involves the realigning of the Metrotown spine road, Central Boulevard (formerly North Beresford Street), to a location further to the south adjacent the B.C. Hydro right-of-way. A second refinement is to assure the necessary service capacity to the Metrotown core by adjusting the stretch of the Willingdon Avenue extension north of Imperial Street to Central Boulevard to a 46' wide pavement standard compatible with the rest of the core-related road network. The Conceptual Transportation Plan as it relates to Patterson Avenue south of Imperial Street would remain unchanged. The Transportation Committee also considered the pursuance of an overall parking strategy including consideration of park and ride provisions to be important and wanted it made clear that the parking study not be limited to the Metrotown area but include consideration of all 4 A.L.R.T. Stations in Burnaby.

The Director Planning and Building reported as follows:

"RECOMMENDATIONS:

1. THAT Council support in principle the Metrotown Core-Related Road Network as discussed in this report and outlined in the staff report to Council in its meeting of 1984 May 14 (Supplementary Item 11, Manager's Report No. 34).
2. THAT Council amend the Burnaby Conceptual Transportation Plan to reflect the following:
 - a) That the Metrotown spine road (Central Boulevard) be aligned as a major collector (commercial) between Willingdon and Imperial Street.
 - b) That the Willingdon Avenue extension from the Metrotown spine road (Central Boulevard) to Imperial Street be designated a major collector (commercial).
3. THAT staff be authorized to define the terms of reference for a comprehensive study of parking strategy related to the development of Metrotown and the implementation of the ALRT.

R E P O R T

1.0 INTRODUCTION/SUMMARY

The Development Plan for Burnaby Metrotown was adopted by Council in 1977. The plan established the fundamental guidelines for the development of a regional town centre. The Burnaby Comprehensive Transportation Plan adopted by Council in 1979 recognized and was supportive of the Metrotown Regional Town Centre concept. In particular the Transportation Plan proposed a major public transit 'focus' in the Metrotown core area. This focus was to include a rapid transit station coupled with a major bus interchange. The implementation of the ALRT in 1986 will realize this transportation concept.

ALRT has also served as a catalyst for the development of Metrotown, particularly the commercial core area. As ALRT and core-area land-use development plans have become more firmly defined, so too have related municipal road improvement initiatives. These initiatives are detailed in the report, 'Metrotown Core - Related Road Network', which was considered by Council at its meeting of 1984 May 14 (Manager's Report No. 34, Supplementary Item No. 11). Council adopted the staff recommendation and referred the report to the Transportation Committee for its review and consideration.

This report is intended to serve as an overview of the 'Metrotown Core Related Road Network' report referred to the Committee. As such this report discusses how Metrotown core-related road improvements relate to The Burnaby Comprehensive Transportation Plan and the Plan Implementation Strategy both of which were developed by the Transportation Committee and subsequently adopted by Council. This contextual review confirms that the proposals for Metrotown transportation improvements are in harmony with both broad and specific objectives of The Comprehensive Transportation Plan as well as the Plan Implementation Strategy. The report also reviews specific concerns that have arisen from Council's consideration of the 'Metrotown Core-Related Road Network' report. The issue of parking has been identified as a major item requiring further study.

2.0 TRANSPORTATION PLAN CONTEXT

2.1 TRAVEL PATTERNS AND TRAFFIC FLOW PROJECTIONS

The Comprehensive Transportation Plan for Burnaby document shows the capacity of the conceptual road network relative to forecast automobile travel demand. Those forecasts have been reviewed relative to more current projections derived from the GVRD computer-based transportation model (See Appendix "A" attached). These more current forecasts reflect the present economic climate and predict that traffic will grow much less rapidly than was envisaged in 1978 when the transportation plan was in preparation.

The broad conclusion to be drawn from this review is that the substantial proportion of travel growth in 1996 in the South Burnaby corridor will be accommodated by public transit, particularly the ALRT. At a more detailed level the model also suggests a decline in vehicle trips on Kingsway at Boundary Road, but we consider the current model to be too coarsely structured to place much credence on what is predicted for individual road links.

The G.V.R.D. is in the process of converting to a new transportation model (EMME/2) which will enable us to project traffic travel demand with more ease and confidence. In particular, we anticipate building finer grain sub-sets of the regional model for both the Municipality and Metrotown. Pending the availability of these more powerful analytic capabilities and subsequent experiential understanding of ALRT operation and Daon's Phase I project, we feel that a flexible approach has to be taken to planning for the longer term.

The improvements proposed however have been measured against estimates of core area (Phase I) traffic generation superimposed on existing peak traffic flows. This analysis which is shown on Figure I attached was carried out for Daon by Wilbur Smith and Associates, Transportation Engineering Consultants.

2.2 REGIONAL TOWN CENTRE DEVELOPMENT

The development of a major town centre in Metrotown addresses a host of municipal and regional social and land use planning objectives. From a transportation perspective the regional town centre program including the development of Metrotown addresses the problems that are inherent in the continued centralization of commercial activity in downtown Vancouver. The regional town centre program will tend to obviate peak hour commuter traffic problems by

- i) reducing travel distances,
- ii) encouraging the use of public transit instead of cars, and encouraging contra-peak travel flow.

This is congruent with the Municipality's Transportation Policies and Comprehensive Transportation Plan.

2.3 PUBLIC TRANSIT

The Burnaby Comprehensive Transportation Plan stresses, as a requirement, that public transit will have to play an increasingly larger role in the future movement of people in and through the municipality. The plan defines a municipally-oriented transit system based on transit focal points in areas of high activity to enhance intra-municipal accessibility as well as improving the regional travel opportunities.

Local bus routes will converge on these focal points which will be major bus (time transfer) interchanges. The interchanges will be interlinked as well as connected with regional trunk routes. The major transit focus in the municipality will be Burnaby Metrotown where buses will "feed" the ALRT system as well as the core area. The Metrotown transit focus will be directly integrated with core development by means of an overhead passerelle linking the ALRT station, the bus interchange and core development. This integration supports both municipal land use (Metrotown development) and transportation objectives. Accordingly the core related road network improvements proposed are as important for bus accessibility as they are for use by private and commercial vehicles.

2.4 ROAD NETWORK HIERARCHY

The Core Related/Road Network Improvements proposed agree with the road network hierarchy concept defined in the Comprehensive Transportation Plan.

Kingsway will continue to function as the major primary arterial through Metrotown carrying intermunicipal traffic as well as traffic destined for Metrotown. However, in accordance with the principles of a street network hierarchy, the use of Kingsway for the direct servicing of developments will be minimized. Direct access to the core area developments will be effected by collector streets. From the north core area servicing will be accomplished by Silver, Sussex and McMurray. The intersection spacing of these cross streets with Kingsway is such that the potential for signal progression on Kingsway is maximized. Left-turn movements at these intersections should be generally precluded in order to maximize vehicle flows on Kingsway.

The Grange/Dover secondary arterial will be used for the east-west distribution of core area traffic. Hazel, which lies between Kingsway and Grange, will provide further opportunity for east-west distribution and will be used for round block left-turn movement to minimize traffic impidence on Kingsway. The proposed Oakland link between Royal Oak and Burriss will tie into the Grange-Dover route and maximize access to the Metrotown core area for the residential area south of Deer Lake.

Imperial will increasingly assume its defined role as a primary arterial and provide an east-west travel alternative to Kingsway for through traffic. Imperial will also bring traffic to the Metrotown area from the south-west via the Willingdon extension and traffic from the east and south-east will use Imperial for access to the core area via Central Boulevard (North Beresford Street) and Nelson. Central Boulevard will be a key major collector element servicing the core. This street is proposed to follow the North Beresford alignment from Willingdon to Imperial north of and adjacent to the B.C. Hydro/ALRT right-of-way. The other key streets serving the core area such as Silver, McMurray, Sussex, Hazel, etc. are considered to be local commercial collectors with a recommended standard pavement width of 46'.

3.0 TRANSPORTATION PLAN IMPLEMENTATION STRATEGY

A strategy for the implementation of the transportation plan was formulated by the Transportation Committee subsequent to the adoption of the Comprehensive Transportation Plan. The Transportation Plan Implementation Strategy was subsequently adopted by Council for use as a guideline. It has been used as a basis for scheduling Municipal transportation initiatives (Capital Budgeting) as well as in discussions with other agencies including BC Transit and the Ministry of Transportation and Highways.

The strategy has been encapsulated as a flow chart depicted on Figure 2 attached. This chart defines the ordered development of related major transportation improvements that affect the Municipality and reflects some timing judgments made with respect to various land-use developments in the Municipality. The impending major core related project being advanced by Daon Development Corporation reemphasizes those priority judgments made with respect to the Metrotown area. The attached version has been updated to indicate projects that have been completed or are under construction. The Willingdon extension and the Metrotown spine road (Central Boulevard) are shown in the implementation strategy as prerequisite projects for the completion of rapid transit. Accordingly these two items appear in the major roads component for the Municipality's Capital Budget for completion before 1986.

The projects indicated in the implementation strategy are those that have a wider transportation system significance. Excluded are those improvements which are essentially perceived to be related to land-use development. Thus, the improvement to local (commercial) collector streets in the Metrotown area is not included in the strategy chart because it relates directly to land-use development. (Other improvements in this category include the Big Bend loop road and the development of Still Creek even though both are shown on the Conceptual Transportation Plan). Since the transportation improvements related to land-use development must compete for scarce funds in the Municipal budgeting process, concern has been expressed that the proposed transportation improvements in Metrotown may 'prejudice' implementation of other major road projects.

However, this competition for funding applies to all proposed municipal capital improvements. Staff consider the Metrotown core-related road improvements as a necessary capital item of the highest priority that relates to a major land use development capable of having a significant catalytic affect in our developing town centre area. Metrotown Core related road network improvements, as a prerequisite for town centre development, foster broad transportation and land use objectives.

4.0 PARKING

Difficulties in implementing traffic management resources which invariably require restriction of on-street parking have indicated the need for a comprehensive appraisal of parking policy in the Municipality, particularly relative to commercial core areas including Metrotown. The impending completion of the ALRT system also requires the formulation of a workable parking strategy to deal with likely problems arising from 'park and ride' occurring at ALRT stations. This has been identified as a major concern by the developer of the proposed commercial complex in the Metrotown core area and, in fact, precipitated the proposal to incorporate the Electrolier lands for surface parking purposes such as 'park and ride'.

An appropriate strategy might include the regulation and pricing of on-street parking as well as Municipal participation in the development of off-street parking (possibly through the establishment of a parking commission). In summation, a comprehensive study is required on a priority basis to deal with the issue of parking relative to core area development and ALRT operations in Burnaby. Accordingly, it is proposed that staff outline for Council's consideration the terms of reference for such a study including an examination of the resources required for its completion.

5.0 OTHER ISSUES

A number of more detailed concerns have arisen relative to Council's consideration of the Metrotown core-related road network report. They include the following:

5.1 THE METROTOWN SPINE ROAD (CENTRAL BOULEVARD)

The original Metrotown development plan concept showed a spine road parallel to and mid-way between Kingsway and the B.C. Hydro right-of-way extending from Willingdon to Nelson. As a result of the constraints imposed by continued foreseeable operation of the Sears catalogue centre and the ALRT alignment, the spine road has been shifted southward to a North Beresford alignment. The westerly portion of this alignment terminates at Willingdon Avenue with the further westward extension to Patterson reserved as a longer term possibility.

The development of a design for the eastern-most section of Central Boulevard was a more complex problem because of right-of-way constraints. Consideration of a number of alternative linkages to the major road network led to the design concept that has been recommended for implementation (see Figure 3 attached). Some concern has been expressed about this design relative to the splitting of the roadway into separate 'legs'. The major problem in defining the eastern terminus of Central Boulevard was the proximity of the requisite signalized junction with Imperial to the Imperial/Nelson intersection. By stripping off westbound traffic in advance of this intersection the overall junction capacity is enhanced and the overall delay is minimized.

The advance westbound slip road to Metrotown avoids the need for a level crossing of the B.C. Hydro Rail for the westbound lanes and avoids the operational problems that would arise from poor sight lines as a result of the ALRT guideway.

5.2 USE OF MCKAY IN LIEU OF SILVER

Silver has been defined as a key linkage to the Metrotown core area. Its use is preferred to McKay because of the following:

- i) the intersection spacing along Kingsway is optimized if signals are located at McMurray, Sussex and Silver. McKay's proximity to Willingdon would prejudice signal optimization,
- ii) Silver abuts the primary proposed core area development, and
- iii) the development of a continuous alignment along Silver between Central Boulevard and Grange is considered more achievable than the McKay alignment. McKay currently has only a 54' right-of-way width for its existing length between Central Boulevard and Kingsway compared to an existing 50' width on Silver Avenue which is not considered a compelling advantage.
- iv) BC Transit has indicated a desire to establish a trolley bus alignment on Silver Avenue directed to the Metrotown ALRT station/bus interchange. The possible interim use of McKay would likely further delay the installation of the required permanent trolley facilities on Silver Avenue.

5.3 REALIGNMENT OF McMURRAY ACCESS TO SEARS SITE (Figure 4 attached)

This item has been touched upon above in terms of optimal signal spacing along Kingsway. In addition, the McMurray alignment already exists between Grange and Kingsway and offers potential for early development of an internal north/south route through the Sears property.

5.4 ELECTROLIER EAST-WEST ACCESS ROAD

This road midway between Central Boulevard and Kingsway is shown on Sketch 11 of the attached report. The primary rationale for developing this link is to provide a balance of set access points to the primary core area development. This road linkage has always been part of the proposed overall Metrotown road network and has been identified as a necessary and priority provision by Wilbur Smith and Associates to enable the proposed major core development to function.

5.5 DESIGN STANDARD FOR WILLINGDON BETWEEN CENTRAL BOULEVARD AND IMPERIAL STREET

It has been determined that the high intensity of activity in the Metrotown core area warrants development of a local collector network built at a standard width of 46 feet to allow for up to 4 moving lanes of traffic. From the south-west, a key access point identified to the core area is Willingdon which is to be extended across the B.C. Hydro Rail right-of-way to Patterson/Imperial. The Transportation Plan shows this line as a major collector with a pavement width of 36 feet. It is recommended that this street between Central Boulevard and Imperial Street be designated as a major commercial collector within the Plan and built to a 46' wide standard. The portion of Willingdon between the Metrotown spine road (Central Boulevard) and Kingsway would continue to be designated as a major commercial collector (refer to Section 5.1 of this report).

6.0 CONCLUSIONS

The development of Metrotown as a regional town centre has been a Municipal objective for some time. The ALRT has been a catalyst for promoting the development of the commercial core area. This, in turn, has further stimulated the development of the regional town centre in accordance with the Metrotown concept in the form of a major core area proposal. The development of the ALRT and the core area requires some participation by the Municipality through provision of a satisfactory internal road network as well as the appropriate network linkages to the Conceptual Transportation Plan. The present major development proposal presents a timely opportunity to advance both land use and transportation objectives that will be of benefit to the community at large."

Respectfully submitted,

Alderman Egon Nikolai
Chairman

Alderman G.H.F. McLean
Member

Alderman L.A. Rankin
Member

Metrotown

The Corporation of the

District of Burnaby

Composite Sketch of

Development Guidelines

Completed or Rezoned
in accordance with
Development Guidelines



Legend:

1-CD (RM1)

2-CD (RM2)

3-CD (RM3)

4-CD (RM4)

5-CD (RM5)

6-CD (RM5/C3)

7-CD (C3 use guideline)

8-CD (RM3/C1)

9-CD (RM4/C2)

10-CD (Office)

11-CD (P2)

12-CD (RM3/HST)

13-RM2

14-RM3

15-RM4

15-R6

P1

P3

Particular guidelines

with C.U.

any set

inquiries

designs

are ready

under

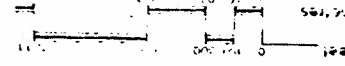
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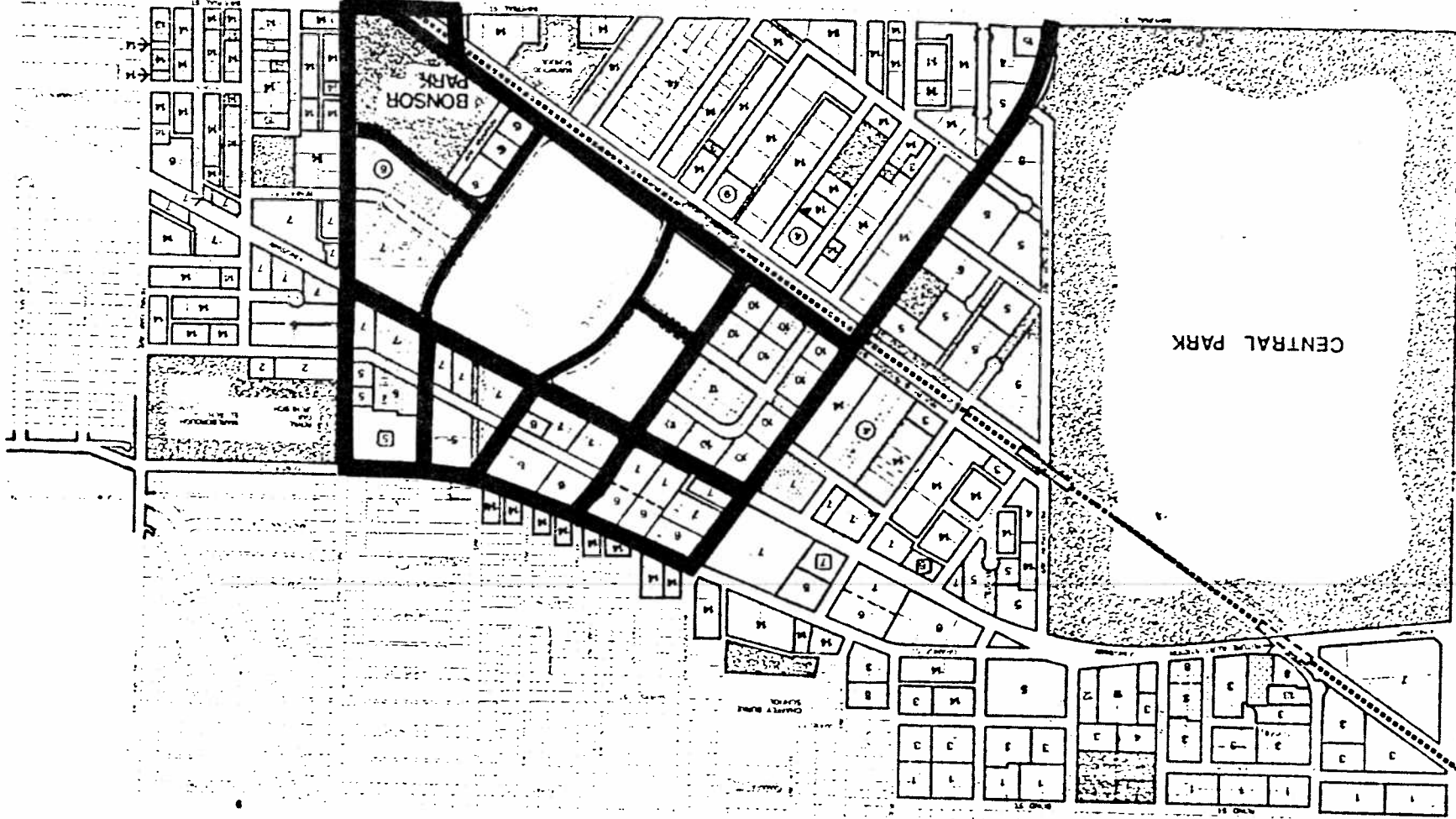
development

Planning and Building Inspector

Updated to 1984 May 01



SKETCH "C"



CORE-RELATED ROAD NETWORK CONCEPT (RING/RADIAL CONCEPT)

ITEM SUPPLEMENTARY 11
MANAGER'S REPORT NO. 34
COUNCIL MEETING 1984 05 14

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SKETCH "C"

APPENDIX "A"

SCREENLINE VOLUME/CAPACITY ANALYSIS: UPDATE

The Comprehensive Transportation Plan for Burnaby document (page 46) shows the capacity of the conceptual road network relative to forecasts of automobile travel demand. Those forecasts were made in 1978 and were based on 07:00 to 09:00 h peak direction travel across screenlines and were derived from GVRD transportation model runs carried out for the regional LRT project. Since travel demand forecasts reflect the expectations relative to growth in employment and labour force, recent demand projections are considerably scaled down from previous ones. Table I below shows projected growth in person trips by mode across a screenline west of Boundary Road and Highway No. 1.

TABLE I: GROWTH IN A.M. PEAK (07:00 - 09:00 h WESTBOUND) PERSON TRIPS BY MODE ACROSS A SCREENLINE WEST OF BOUNDARY ROAD AND HIGHWAY NO. 1 (I.E. INCLUDES 2ND NARROWS TRAFFIC)

YEAR	PERSON TRIPS			% TRANSIT
	TRANSIT	AUTO	TOTAL	
1981	10,000	34,500	44,500	22%
1996	18,600	38,800	57,400	32%
GROWTH	8,600	4,300	12,900	---
%	86%	12%	29%	45%

The above Table indicates that a substantial proportion of future travel growth will be accommodated by major increases in transit usage, particularly ALRT, and also commuter rail. Table II following shows forecasts of peak direction traffic flow across another screenline immediately east of Boundary Road. This screenline has been segmented to reflect westbound morning peak flows in the North Burnaby and the South Burnaby corridors.

It should be noted that the data in Table II is not directly comparable to the data in Table I above but does correspond to the Boundary Road screenline used in the capacity analysis outlined in the Comprehensive Transportation Plan document.

(Appendix A - Page 2)

TABLE II: FORECASTS OF A.M. PEAK HOUR/DIRECTION TRAFFIC FLOW (VEHICLES)
 ACROSS A SCREENLINE EAST OF BOUNDARY ROAD

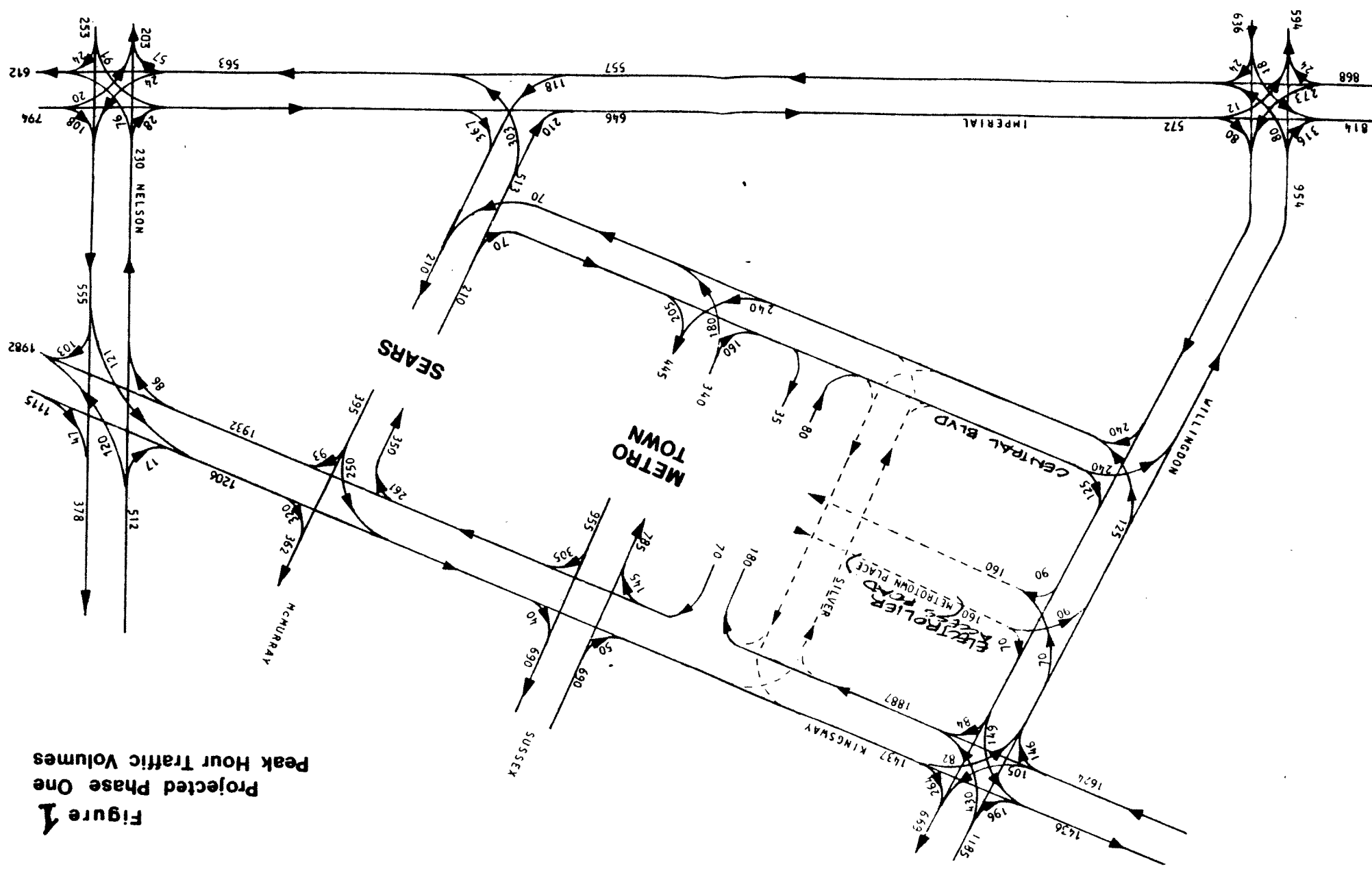
SCREENLINE	PRESENT ACTUAL	1981 MODEL	1996 MODEL	(MODEL) GROWTH	1996 VOLUME CAPACITY
BURRARD INLET TO FREEWAY	7860	7870	9380	1510	112%
CANADA WAY TO FRASER RIVER	5980	5370	5880	510	68%
TOTAL	13840	13240	15260	2020	

Source: GVRD Transportation Model
 Engineering Department's comments.

The volume capacity estimate used in Table II is based on estimates of the potential traffic capacity of the existing east-west roads (including traffic management). The volume/capacity ratio indicates that, by and large, the road network in South Burnaby will continue to operate at an acceptable level of service with some margin for accommodating extra demand. The absolute capacity for personal travel is, of course, much higher in the South Burnaby corridor because of the high capacity potential for ALRT (up to 20,000 per hour per direction).

In North Burnaby the situation is somewhat different. The demand is expected to outstrip available capacity well before 1996. If present day congestion levels were to be maintained (i.e. at the existing volume capacity ratio of 90%), then an additional lane on the Freeway would be required.

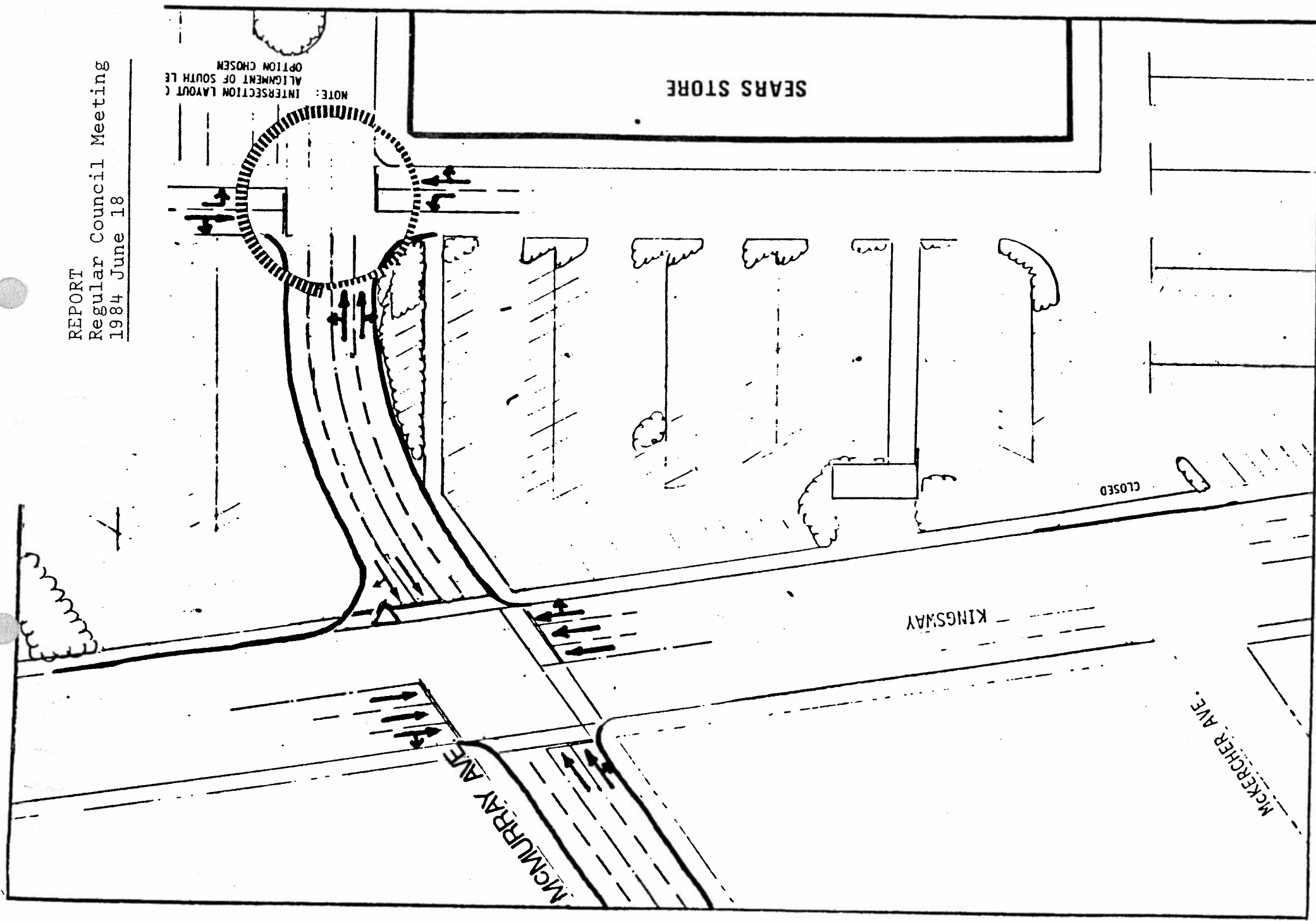
Figure 1
Projected Phase One
Peak Hour Traffic Volumes



SCOTT, LOUISE SMITH & ASSOCIATES

"FIGURE 1"

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Date

1984 MAY

Scale

N.1.S.

Drawn By

PROPOSED RELOCATION OF SEARS ←
NORTH ENTRANCE WAY FROM
MCKERCHER AVE. TO MCMURRAY AVE.

"FIGURE 4"

60

