

TO: CITY MANAGER

1998 July 07

FROM: DIRECTOR PLANNING & BUILDING
DIRECTOR ENGINEERING

OUR FILE: 08.109

SUBJECT: Greater Vancouver Transportation Authority Major Road Network

PURPOSE: To request Council approval in principle of the criteria for defining a Major Roads Network for the Greater Vancouver Transportation Authority (GVTA) and authorization for staff to submit to the Municipal Roads Technical Advisory Committee (MRTAC) the specific major roads in Burnaby to be included in the Major Roads Network and the municipal roads capital projects in Burnaby required to assist in developing a Five-Year Capital Plan for the Major Roads Network.

RECOMMENDATIONS:

1. **THAT** Council approve in principle the criteria for defining a Major Roads Network subject to the changes in definition of the two criteria on Activity Centres and Network Continuity as outlined in Section 2.2 of this report.
2. **THAT** Council authorize staff to submit the Burnaby section of the Major Roads Network as outlined in Section 3 and shown on the map entitled "Major Roads Network in Burnaby" *attached* to this report as an initial response to assist the Major Roads Technical Advisory Committee to define a Major Roads Network subject to further refinement by Council as the terms and conditions of the Greater Vancouver Transportation Authority evolve.
3. **THAT** Council authorize staff to submit the projects outlined in Section 5.0 and Attachment A of this report to assist the Major Roads Technical Advisory Committee to develop a Five-Year Capital Program for the Greater Vancouver Transportation Authority.
4. **THAT** staff develop the detailed program required for an orderly transition of the maintenance and operational responsibilities from the Ministry of Transportation and Highways to the City for devolved Provincial highways in the Major Roads Network.

REPORT

1.0 BACKGROUND

In 1998 March, the Greater Vancouver Regional District (GVRD) Board approved the formation of a Greater Vancouver Transportation Authority (GVTA) to be responsible for overall planning and funding of transit, major roads and bridges, transportation demand management and AirCare in the Region. A transition team has been operating since then to develop the organization and program for the GVTA to begin operation on 1999 April 01. Municipal staff response is being coordinated through a Major Roads Technical Advisory Committee (MRTAC) comprising staff representing all municipalities in the Greater Vancouver Region and other stakeholder agencies. The MRTAC has been assigned the following tasks:

- to develop and recommend a Major Roads Network (MRN) to the GVRD Board, and
- to develop overall standards for the operation and maintenance of the MRN and the costs of rehabilitating the MRN and submit to the GVTA Board as a basis for budget and funding allocations, and
- to develop a five-year capital program and funding sources and cost sharing agreements for upgrading the MRN.

City of Burnaby staff have received a request from the Chair of the MRTAC for municipal views on the criteria for defining a major road, the roads to be included in the MRN, the existing features of each road in the MRN and the municipal road capital projects to upgrade the MRN.

The purpose of this report is to seek the authorization of Council for a initial response to these requests for information with the proviso that the City's submission on the municipal elements of the MRN may be modified as the final terms and conditions of the GVTA evolve.

2.0 DEFINITION OF A MAJOR ROADS NETWORK

2.1 Principles for Major Road Network Definition

The Agreement between the Province and the GVRD that established the GVTA identified twenty principles to govern the planning and funding of the MRN including the following principles to guide the process of **defining** an MRN:

- a declassified road will be included in the MRN at the discretion of the municipality in which it is located

- any municipal road may be proposed for inclusion in the MRN by the municipality in which it is located, but the GVTA will only consider a municipal road for inclusion if it is proposed by the municipality
- criteria for evaluating proposals for suggested roads for inclusion in the MRN will be established by the GVRD Board on the advice of the MRTAC
- once included, roads can only be removed by mutual consent of the GVTA and the municipality

2.2 Criteria for Defining a Major Roads Network

The report of the Regional Engineers Advisory Committee (REAC) of the GVRD in 1997 April defined a Major Road as “*a road that has a significant role in providing mobility, accessibility and connectivity at the regional level.*” This definition was subsequently specified in the Agreement that developed six criteria as an initial guide to the process of defining the MRN. A commentary on these criteria from a Burnaby perspective follows:

- **Activity Centre** - *provides direct access to an Activity Centre or connects interacting Activity Centres. ‘Activity Centres’ are defined as designated regional town centres, gateway facilities (eg. airports), major industrial areas and major educational institutions. From a transportation perspective, the definition of “Activity Centre” should be broadened to include the phrase “large municipal town centres.” In Burnaby, large municipal town centres are not defined as “regional,” although they may create and attract more trips than some currently designated regional town centres. Thus the list of activity centres in Burnaby should include not only include Metrotown, SFU and BCIT but also the Edmonds, Brentwood and Lougheed town centres.*
- **Inter-Municipal Travel** - *roads that carry inter-municipal travel between municipalities. These roads are specifically defined as roads with a minimum of 70% of trips with a distance greater than 10 km and a traffic volume greater than 800 vehicles in the peak hour.*
- **Transit Corridor** - *roads that carry a minimum of ten buses in the peak hour and the peak direction.*
- **Goods Movement** - *roads that carry a minimum of 800 trucks per day.*
- **Emergency Response** - *roads that are elements of the Greater Vancouver Emergency Routes Plan.*

- **Network Continuity** - roads that connect network elements to each other. It is suggested that the definition of connectivity be expanded to include the phrase “roads that connect Provincial arterial network elements, principally freeways, to the Major Roads Network.”

It is the view of staff that, overall, these criteria are sufficient at this time to define the elements of the GVTA Major Roads Network, including the above-noted amendments to the definition of the two criteria - Activity Centres and Network Continuity.

3.0 MAJOR ROAD NETWORK IN BURNABY

3.1 Existing Provincial Highways

The principles for the MRN indicate that “each municipality has discretion over which declassified Provincial highways within its jurisdiction are to be included in the MRN.” However, as all Provincial highways identified for declassification in the 1996 November declassification initiative of the Ministry of Transportation and Highways (MOTH) will be devolved to municipal control as of 1999 April 01, any Provincial highway that is not included in the MRN will not be eligible for GVTA funding. As such a road would likely become the sole responsibility of the municipality in which it is located, it would not be in the interest of a municipality to suggest the exclusion of a declassified Provincial highway from the MRN unless it would be prepared to fund it.

In reviewing Provincial highways for inclusion in the MRN in Burnaby, staff have therefore applied the following approach as shown on the map entitled “Major road Network in Burnaby” *attached* to this report:

- inclusion in the Burnaby section of the MRN of all Provincial highways identified for declassification in the 1996 November declassification initiative of the Ministry of Transportation and Highways
- for Highway 1, the only Provincial highway in Burnaby that will not be devolved to the GVTA, the proposed Burnaby MRN clarifies jurisdiction over the interchange areas where the freeway interfaces with the municipal system. Roads that serve an interchange function such as Willingdon Avenue (Highway 1 - Canada Way), Sprott Street (Highway 1 - Kensington), and Kensington (Sprott - Canada Way) and Grandview Highway are proposed for inclusion in the MRN as Provincial highways which would be retained by the Province.

3.2 Municipal Roads

3.2.1 Existing Major Roads

The initial proposal identified in the Agreement between the Province and GVRD for the MRN in Burnaby included Boundary Road, North Road and Willingdon (Hastings to Kingsway) as the only municipal elements to be “uploaded” to the MRN. To this initial proposal, staff would recommend for inclusion in the Burnaby section of the MRN the following additional municipal arterial roads that satisfy the criteria as noted below:

- **Canada Way (Kensington Avenue to Boundary Road)**

Activity Centres, directly accesses the Central Valley, a large industrial area with more than 5,000 jobs and BCIT, a major post-secondary institution

Network Continuity, connects Canada Way east of Kensington to Boundary Road, both network components.

- **Kensington Avenue (Spratt Street to Lougheed Highway)**

Network Continuity, connects Highway 1, the most significant Provincial highway element in the MRN to the Lougheed Highway, a major declassified Provincial element.

- **19th Street/Griffiths Street (Kingsway to 10th Avenue)**

Activity Centres, serves Edmonds Town Centre.

Network Continuity, connects Kingsway (via 20th Street) to the Queensborough Bridge and the Highway 17 system.

Goods Movement, carries a significant volume of truck movements via Highway 91 and the Queensborough Bridge.

- **Austin Avenue (Lougheed Highway to North Road)**

Activity Centres, directly accesses the Lougheed Town Centre

Inter-Municipal Travel, carries a significant volume of travel between Coquitlam and Burnaby

Major Transit Corridor, carries significant transit volumes

Network Continuity, connects Austin Avenue in Coquitlam with Lougheed Highway.

- **Imperial Street (Boundary Road to Kingsway)**

Activity Centres, directly accesses Metrotown from the City of Vancouver and New Westminster
Goods Movement, carries a significant volume of truck movements
Network Continuity, connects Kingsway and Boundary Road, two elements of the MRN

3.2.2 Future Major Roads

In an approach similar to that of the Major Roads Network in the Burnaby Transportation Plan which includes future roads in addition to existing roads, it is also recommended that the Marine/Tenth Connector be added to the Major Roads Network. Phased construction has been underway on this municipal element of the MRN since 1990 with completion of the final Southpoint Drive - 20th Street section targeted for 2002.

4.0 MAJOR ROADS NETWORK FEATURES SURVEY

As part of the preparatory work for this report, staff have inventoried both the proposed municipal and declassified Provincial elements of the MRN within Burnaby. This survey involved gathering data on the kilometres of travelled lanes and channelization, as well as counts on the number of traffic signals and structures involved. This information will be included in our submission to the GVTA. It becomes very evident that the expansion of the City's road inventory will have significant implications for the City in how we approach maintaining this new infrastructure. Table 1 below provides a summary of the major elements categorized by uploaded municipal and declassified Provincial elements.

Table 1
Major Roads Network Features
Burnaby Section

Road Network Feature	Municipal Uploaded Roads	Provincial Declassified Roads	Total MRN in Burnaby
Major Roads (Lane-Km)	99.7	210.2	319.9
Traffic Signals	43	51	94
Pedestrian Signals	9	19	28
Structures	4	3	7
Pedestrian Overpasses	1	5	6

5.0 MUNICIPAL ROADS CAPITAL PROJECTS

5.1 Principles

The Principles for the MRN approved by the GVRD Board in the Agreement provide for the development of Annual and Five Year Capital Plans for improvements to the MRN. The GVTA Board, upon consultation with the Regional Administrative Advisory Committee (RAAC) and MRTAC, is to undertake the following:

- adopt annual and five year capital plans for the upgrading of the MRN
- circulate them to local municipalities for comment
- provide for input from the public and other levels of government as appropriate
- submit final draft plans to the GVRD Board for ratification

The capital plans are intended to identify capital funding requirements for the MRN upon which the GVTA could establish a minimum annual funding allocation for roads capital projects. The MRN principles imply that projects submitted by municipalities would be subject to the following process:

- approval by a municipal council would be required for a GVTA-funded project to proceed within its jurisdiction
- a municipality would be responsible for carrying out the projects contained in the approved capital plan
- a municipality could carry out projects on the MRN not provided for in the capital plan without financial support from the GVTA if the project did not reduce the capacity of the road

5.2 Major Road Network Capital Program for Burnaby

As a first step toward a Five Year Capital Program for the MRN, the MRTAC is requesting information from municipal staff to develop an inventory of municipal roads projects that are currently under planning, design or construction. This list will be supplemented with capital projects for the remaining Provincial highways and Provincial devolved highways based on an analysis of the deficiencies in MRN and

undertaken by a subcommittee of MRTAC. This analysis will identify road capacity problems as a basis to recommend potential improvements to the MRN, including roads projects (new road construction, existing road reconstruction), transit projects (rapid transit, bus improvements etc.), High Occupancy Vehicle lanes or transportation demand management measures.

The table in *Attachment A* shows the municipal road projects proposed for submission as part of the MRTAC process. Staff have generally included as capital projects those involving municipal roads in the Burnaby Capital Program 1998-2002. The City is aware of needed capital projects for the devolved provincial highways, but a comprehensive program for devolved Provincial highways remains to be developed and costed. It is to be noted that after 1999 April the City of Burnaby will be ultimately be responsible for developing capital programs for these facilities.

6.0 OPERATIONAL ISSUES

The City will become responsible for Ministry of Transportation and Highways (MOTH) declassified roads on April 01 of next year and many issues remain to be addressed. The MOTH contract for maintenance of the highways (including snow clearing) will remain in place until it expires in the year 2000, but the administration of this contract (Province, GVTA or municipality) remains to be clarified. A thorough evaluation of the services required, method of delivery, staff and equipment resources available, and costs is also needed. The wider benefits from regional coordination of road maintenance on devolved highways may be significant but the benefits from economies of scale for activities such as snow clearing needs more thorough examination. A determination that maintenance is to be carried out by the City's own forces will trigger the need for additional Works Yard space, equipment and accommodation that cannot be met on the existing constrained site.

Adding the devolved Provincial road elements will not only double the arterial road infrastructure in Burnaby, but it will also more than double operations and maintenance costs due to the higher traffic volumes on these roads. Even if the City is not immediately responsible for road maintenance or administration of maintenance contracts, we would expect to receive complaints and service requests that currently are handled by the Province.

It is also noted that the current MOTH maintenance contractor is not responsible for the operation and maintenance of traffic signals, signing and road marking carried out by the Ministry's own forces. As ownership and responsibility for this work transfer to the City on 1999 April 01, it will be necessary, by the next budget cycle, to work out the logistics of

delivering these services in an integrated manner.

The City is currently responsible for 92 traffic signals (including 12 pedestrian signals) and cost shares the maintenance of 24 "border" signals operated by adjacent municipalities. The Ministry operates 74 traffic signals in Burnaby, all but 4 of which will be devolved to the municipality. As the Ministry signals are located at busier, more complex intersections, they are typically more expensive to maintain and operate than Burnaby's and we would expect the City budget to more than double for this activity. As many of the Ministry signals are older and utilize proprietary signal controllers, we would also expect higher costs for routine rehabilitation, including an accelerated program of controller upgrades. These requirements cannot be determined until a thorough inventory and evaluation of each signal installation on the declassified Provincial highways is carried out. There is the possibility of the Ministry continuing on a fee-for-service basis to maintain and operate devolved traffic signals in the interim, but more City staff resources will be required to administer this process.

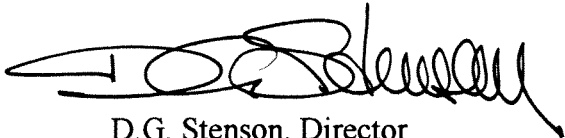
Similarly, substantial additional resources will be required for pavement marking and signs. While the Engineering Signs and Markings Shop can absorb some additional work on devolved highways by hiring more staff, it is constrained by a shortage of workshop space and storage in the Works Yard. There is also the need to replace the present 1974 vintage centreline striping vehicle with a newer, more productive unit. This replacement will require a significant lead time between order and delivery.

While there is the assurance that the City will receive GVTA funding for MRN roads, there is no certainty that this funding will be adequate. Of particular concern is the availability of sufficient funds to cover the initial capital requirements should the City move actively toward taking on the additional responsibilities for devolved Provincial highways. A corollary concern is the degree to which the GVTA will move to limit the current autonomy that the City enjoys relative to its own roads versus the future MRN. At this time, the Provincial legislation empowering the GVTA has not been enacted and levels of authority have not been established.

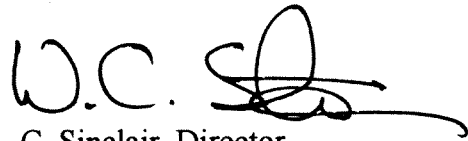
7.0 CONCLUSION

The combination of Provincially devolved highways and municipally uploaded roads will leave the City of Burnaby dependent on adequate funding from the GVTA for one of the largest sections of the MRN in the Greater Vancouver Region. For this reason, the definition of the MRN, the funding of operation, maintenance, and rehabilitation functions and the development of capital programs for upgrading the MRN will have a major impact on the development of the transportation system in the City and the costs of sustaining the network. As the request from the MRTAC for input from City staff is the first step in the process of

As the request from the MRTAC for input from City staff is the first step in the process of GVTA involvement in the transportation system in Burnaby, it is therefore vital that Council be engaged in this process at an early stage. To further this objective, this report seeks the concurrence of Council for the initial information provided to MRTAC on the MRN definition criteria, the roads to be included in the MRN, the major features of these roads and the capital projects necessary to upgrade the MRN. As this process continues towards its objective of advancing and developing the Major Roads Network for the Greater Vancouver Transportation Authority, Council will be kept fully informed and will have the opportunity to make further refinements if so desired.



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C. Sinclair, Director
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Attachments
RG/PL:sk

cc: Director, Finance

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**Capital Project Survey
Major Road Network (MRN)
Municipal Five Year Capital Program Elements**

No.	Project Name & Description	Project Location	Estimated Cost (\$ 1998)	Project Status	Proposed Start Date	Proposed Completion Date	MRN Type	Other Comments/Justification
1	Boundary Road: Construct to finished arterial standard and widen north side of Schou at Boundary	Laurel to Fir Street	1.0 M				Municipal uploaded road	
2	Willington Avenue: HOV/Bus lane: Development of curb lane as HOV/bus lane	Deer Lake Parkway to Loughheed Highway	.5 M	BCTFA HOV Program			Municipal uploaded road	Cost shared with BCTFA
3	Kingsway: Reconstruct Intersection	Edmonds Street	.8 M	5 Year Capital Program	1999	1999	Devolved Provincial road	
4	Willington Avenue: Reconstruction to a four lane arterial standard including urban trail	Hastings to Dawson	3.0 M	5 Year Capital Program	2000	2000	Municipal uploaded road	
5	Marine Way/Tenth Connector: Construction of four lane arterial road	Byrne Road to 20 th Street/10th Avenue	10.0 M	5 Year Capital Program	2000	2001	Future MRN element	
6	Canada Way: Widen to arterial standard	Westminster Avenue to Gilmore Avenue	2.0 M	5 Year Capital Program	2001	2001	Municipal uploaded road	

**Capital Project Survey
Major Road Network (MRN)
Municipal Five Year Capital Program Elements**

No.	Project Name & Description	Project Location	Estimated Cost (\$ 1998)	Project Status	Proposed Start Date	Proposed Completion Date	MRN Type	Other Comments/Justification
7	Imperial Street: Reconstruction of Intersection	Kingsway intersection	5.0 M	5 Year Capital Program	2001	2001	Municipal uploaded road	
8	Imperial Street: Reconstruction of Intersection	Nelson intersection	2.0 M	5 Year Capital Program	2001	2002	Municipal uploaded road	
9	Tenth Avenue: Widen to a four lane arterial standard	20 th Street to Kingsway	4.0 M	5 Year Capital Program	2002	2002	Municipal uploaded road	

