City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	July 29, 2002
From:	Gordon Chan, P. Eng. Director, Transportation	**File:**	6460-01
Re:	**TRANSPORTATION DEPARTMENT - LEVELS OF SERVICE 2002**		

Staff Recommendation

That the attached report from the Director, Transportation, regarding levels of service for various transportation programs be received for information.

Gordon Chan, P. Eng.
Director, Transportation

Att. 3

FOR ORIGINATING DIVISION USE ONLY

CONCURRENCE OF GENERAL MANAGER

Staff Report

Origin

At the February 25, 2002 regular Council Meeting, it was resolved:

"That each General Manager review with their appropriate Committee of Council, departmental programs and service levels prior to the start of the 2003 budget review process."

This report provides information on the programs and service levels for the Transportation Department, Urban Development Division.

Analysis

1. Department Mandate

The overall mandate of the Transportation Department is to provide the most efficient, effective and safe service to enhance the mobility of people and goods in Richmond. The Transportation Department is made up of three units: Transportation Planning, Traffic Operations and Traffic Signals. The organizational chart of the department is presented in Attachment 1.

2. Programs and Services

The major programs and services provided by the Transportation Department are summarized below. Attachment 2 presents a more detailed list of the projects and initiatives undertaken by the department over the last two years.

Transportation Planning
Transportation Planning is responsible for: developing plans that best serve the public's current and future travel needs; establishing the priority, scope, and functional design of transportation improvements; reviewing the transportation requirements of new developments; and working with external agencies on local and regional transportation initiatives such as transit services, major highways, bridge crossings, and regional transportation policy/funding/governance issues. These programs and services help ensure that existing and future transportation infrastructure and services enhance the mobility of people and the movement of goods in the community.

Traffic Operations
Traffic Operations is responsible for: the design and implementation of traffic control and parking signage, pavement markings, pedestrian crosswalks, school zone safety and other road traffic safety measures; issuance of special vehicle and event permits; analysis of traffic accident data; implementing traffic and parking control for special events, road closures/detours, and location filming; and investigation of complaints on traffic and parking related matters.

Traffic Signals
Traffic Signals is responsible for the design, construction, operation, and maintenance of the City's traffic signal system including: new traffic control installations at intersections and railway crossings; signal timing; detector loops; communications network; fire department pre-emption;

automated traffic volume counting; and centralized control of all traffic signals under the City's jurisdiction. These services are critical to the safe and efficient operation of all transportation activities on City roads, including those of motorists, transit operators, cyclists, and pedestrians.

3. Recent Transportation Initiatives

The recent initiatives undertaken by the Transportation Department are highlighted below.

Traffic Safety Enhancements
The continued implementation of traffic safety enhancements have helped reduce the number of reported vehicular collisions in the City over the past several years. The collision statistics have declined over 40 percent from an average of 3,000 - 4,000 annual incidents in 1994-96 to 2,000 - 2,200 in 1997-2000. Community-based initiatives include the Traffic Safety Advisory Committee, the annual Traffic Safety Awareness Week and the production of a school zone brochure (which has been adopted in communities within and outside the region) and other traffic safety educational efforts. Richmond was also a pioneer in the use of fluorescent yellow-green backgrounds for advance school zone signs (which has since become a provincial standard) and other traffic safety innovations.

Cost-Sharing Arrangements
The Transportation Department continues to secure funding from a number of agencies. In 2001 and 2002 the following agencies have contributed towards various road and traffic projects: ICBC (about $400,000 for road safety projects), TransLink (over $2.6 million for road, cycling and transit infrastructure funding) and the Provincial Government ($200,000 in 2001 for cycling infrastructure). Over the period between 1999 and 2002, the department received over $5.0 million in capital funding from external agencies. These financial contributions have allowed the City to accelerate the implementation of various transportation infrastructure improvements.

Regional Major Road Network
Richmond has a total of 139.3 lane-km of the regional Major Road Network (MRN), which accounts for 6.4 percent of the total network of 2,179.3 lane-km. In 2001 and 2002, Richmond received $940,000 and $1,284,300 respectively from TransLink as part of its cost-sharing MRN Minor Capital Program. This amount represented more than 9 percent of total program funding. Richmond also receives over $1,000,000 annually from TransLink as operations and maintenance funding for MRN roads within its jurisdiction.

Transit Service Improvements
Richmond has benefited from a significant increase in transit service as part of the implementation of the Richmond Area Transit Plan. While transit service was reduced 4 percent system wide in 2001, service in Richmond, however, increased by 9,700 hours as a result of the introduction of the #98 B-Line and the associated improvements to local routes. Transit service improvements will continue over the 2002-04 period, with the proposed increase in annual service hours for Richmond-related bus service representing 56 percent of the total additional standard bus service hours for the region.

Richmond Tall Ships 2002 Transportation Plan
A comprehensive transportation plan encompassing traffic control, parking and transit service was prepared in-house to support the Richmond Tall Ships 2002 event. The plan includes significant additional transit services with an innovative fare structure. This is the first time that TransLink has provided special event transit services with these features (i.e., free return on park and ride services for event ticket-holders and free venue shuttle).

Traffic Signals and Communications
The Transportation Department continues to enhance the emergency vehicle pre-emption system, which provides traffic signal pre-emption for improved response times for police, ambulance, and fire and rescue vehicles. Richmond is a leader in Canada in the use of light emitting diode (LED) traffic lights. BC Hydro, under their LED energy saving program, will be providing $120,000 in credits for energy previously saved from the City's LED installations. Richmond also has one of the most advanced automated vehicle counting systems in North America. The system, which counts vehicular volumes at all traffic signals 24 hours a day, provides data for enhanced signal timing plans. Arrangements are being finalized for the management of YVR owned traffic signals by the City. The signal integration will provide for emergency vehicle pre-emption and enhance overall corridor traffic flow efficiency. Operations continue to become more efficient as the expansion of the City's physical plant is being achieved without any increase in staff.

Traffic Calming Initiatives
The Transportation Department has achieved a high degree of success in addressing local traffic concerns through active consultation on proposed measures with affected neighbourhoods and the implementation of effective traffic calming measures at minimal cost.

4. Challenges and Opportunities

The following summarizes some of the high priority initiatives, in addition to the regular work activities, being undertaken by the Transportation Department that require a significant commitment of resources over the coming years.

Richmond/Airport-Vancouver Rapid Transit
The Richmond/Airport-Vancouver (RAV) Rapid Transit Study was initiated in June 2000 with the objective of determining whether there is sufficient interest among local and provincial governments and agencies to proceed with a rapid transit line linking Richmond, Vancouver and the airport in the next decade. The Transportation Department has been participating actively in carrying out this project since its inception and will become increasingly involved as the Project Definition Phase considers alignment, technology and urban design issues in more detail in preparation for its implementation.

Highway 99 Interchange Upgrade at Steveston Highway and Blundell Road
The Southeast Richmond Transportation Study, which examined the need for road improvements on Highway 99 in the vicinity of Steveston Highway and Blundell Road, recommended significant changes to the road network including the widening of the Steveston Highway overpass at the Highway 99 interchange, a new interchange at Blundell Road and Highway 99

and the widening and extension of Blundell Road. The Transportation Department is involved in addressing detailed design issues, sequencing of improvements and the development of funding strategies with all levels of government.

City Centre Transportation Improvements

The Transportation Department will continue to implement the *City Centre Transportation Plan*. Key improvements being pursued include the completion of the North Loop Road by re-aligning Hazelbridge Way and in the interim, by providing a parallel road to No. 3 Road via the extensions of Corvette Way and Browngate Road. Collaboration with the private sector and property/business owners will be required to implement these projects. A number of pedestrian improvements such as new sidewalks and crosswalks are also being proposed to promote walking and to support enhanced transit services in the core area.

Community-Based Transportation Initiatives

The Transportation Department will continue to improve neighbourhood liveability by undertaking various traffic safety initiatives (e.g., new walkways near schools, signage replacement programs to enhance the visibility of stop signs and advance school zone signs), traffic calming projects to manage traffic impacts on local areas, pedestrian facility improvements (e.g., upgrade of all arterial crosswalks), and continued implementation of the City's cycling network. Efforts in educating road users on various traffic safety issues by preparing promotional materials and participating in community events are increasing to provide non-engineering solutions.

Greater Vancouver Transit Authority (GVTA) Governance Review and Financial Strategy

The GVTA Governance Task Force is charged with reviewing the governance structure of TransLink with consideration to the recommendations of the Auditor General on this issue and the information gathered during the public consultation process conducted in Fall 2001. The Task Force is seeking input from municipalities and other stakeholders to formulate governance options and will consult further in Fall 2002 on specific governance models. Municipal consultation will form part of TransLink's efforts to establish a secure long-term financial strategy to support the continued implementation of its Strategic Transportation Plan.

External Grant Strategies

Annual grant applications are presented to and reviewed with regional and provincial agencies (e.g., ICBC and TransLink) to maximize external funding for cost–sharing on transportation improvements including roads, traffic signals, pedestrian facilities, transit-related roadway infrastructure, traffic control measures, and cycling facilities. Public private partnerships are also a source of funding that the Transportation Department may pursue to counteract reduced funding opportunities in other areas. For example, the restructuring of ICBC may reduce or eliminate funding for its cost-sharing Road Safety Improvement Program.

Local Transit Planning

The Transportation Department's efforts to secure bus service improvements, as part of the implementation of the Richmond Area Transit Plan remains strong. Key improvements to be pursued in 2003-04 include the Williams Road Connector, new regional services to Burnaby (Metrotown) and South Delta / Surrey (Newton) and expanded service for the Crestwood

industrial area. Richmond's HandyDART service will also gain expanded service hours over the period.

2010 Winter Olympics Bid
Transportation staff are actively involved in the planning of transportation services to support the 2010 Winter Olympics, particularly with respect to a potential passenger-only marine service between Richmond and Squamish, and an international broadcast centre.

Trade and Exhibition Centre
Staff are undertaking a comprehensive transportation study to identify the required road infrastructure improvements, site planning issues and transit service needs to support the development of a trade and exhibition centre in the City Centre.

Fraserport Lands
The southeast Richmond industrial area is undergoing development into a major industrial centre of over 1,000 acres which will include the Fraser River Port Authority lands and other industrial operations such as manufacturers, waste management operations, goods and vehicles distribution centres. Ultimately, with full build-out of this land, the number of truck movements (not including general traffic) expected to be generated is estimated to be up to 10,000 per day. This will require staff working closely with the Port Authority and other landowners to implement the required transportation improvements to support future activities generated in this area.

Parking Strategies
Staff are involved in monitoring the utilization of existing on-street and off-street parking facilities, examining the potential for their expansion and the impacts on adjacent businesses/residents, and identifying the requirement for long-term off-street parking facilities both in the City Centre and Steveston areas.

Street Racing / Drag Racing
Transportation staff continue to work closely with Richmond RCMP, other agencies and community groups to develop co-ordinated strategies to address the issues of aggressive driving, street racing and drag racing.

Central Traffic Signal System Replacement
Our current traffic signal system is aging and will require replacement in the next five years to cope with the increasing plant inventory and customer demands as a result of traffic volume increases. The estimated cost for a system replacement is $1.1 million, which includes central computers and software, field traffic control and communications equipment, and a new GPS based Emergency Vehicle Pre-emption system. To ease capital and resource commitments, the system is best designed and implemented over a five year period at an annual budget of $220,000.

Provincial Owned Traffic Signals
There are twelve provincial traffic signals in Richmond. These signals interrupt traffic flow and emergency vehicle response. A proposal is being considered by the province to integrate these signals into the City's system. Upgrading the provincial traffic signals to Richmond standards

could cost up to $500,000. Funding sources for such work could be shared through sources such as MoTH, ICBC, TransLink, and the City.

Financial Impact

The Transportation Department's main programs and services provided and the associated budget are summarized in Attachment 3. It should be noted that Attachment 3 represents rough estimates and does not include resources required for staff participation in strategic teams, various advisory committees/task forces and special projects such as Tall Ships, Winter Olympics bid, trade and exhibition centre planning, etc. The table in Attachment 3 is aimed to provide a general overview of some of the key regular programs of the department.

The 2002 departmental operating budget is $1.6 million, or 0.8% of the City's total operating budget. Out of this budget, $712,000 is allocated for maintaining the City's traffic signal system including contract and power costs. The remainder of the budget, $943,400 or 0.45% of the City's operating budget is allocated primarily for staffing.

In 2001 and 2002, as a result of grant applications submitted by the department, $1.55 and $1.66 million respectively were received by the City for cost sharing on various transportation improvement projects with funding contributors such as TransLink, Ministry of Transportation, and ICBC.

Since the inception of TransLink in 1999, through staff's on-going participation in the Major Road and Transit Advisory Committee (MRTAC), the City has received $2.22 million to improve MRN roadway infrastructure in Richmond up to 2001. A further $1.38 million has recently been approved for Richmond in 2002. In addition to the above capital funding, the City has also obtained over the last four years approximately $1.0 million annually from TransLink in operations and maintenance funding for MRN roads. The total funding from TransLink to the City for capital improvements and maintenance of Richmond MRN roads from 1999 to 2002 inclusive is over $7.0 million ($3.6 million for capital and $3.5 million for maintenance). ICBC also provided close to $1.0 million towards road safety improvements over the period 1998-2001.

Conclusion

The existing levels of service allows the Transportation Department to ensure the safety and efficiency of the City's transportation infrastructure, the mobility of our customers, and that local objectives are protected when addressing issues related to external agencies.

Some of the key challenges related to transportation that require a high level of commitment of staff resources include major projects such as the Richmond/Airport-Vancouver Rapid Transit, Highway 99 interchange upgrade at Steveston Highway and Blundell Road, City Centre transportation improvements, and the Fraserport Lands development. Other regional issues of equal importance are the review of Greater Vancouver Transit Authority (GVTA) governance and funding, the 2010 Winter Olympics bid, and the City's strategies in obtaining external grants and other financial contributions, especially in times of low capital funding levels.

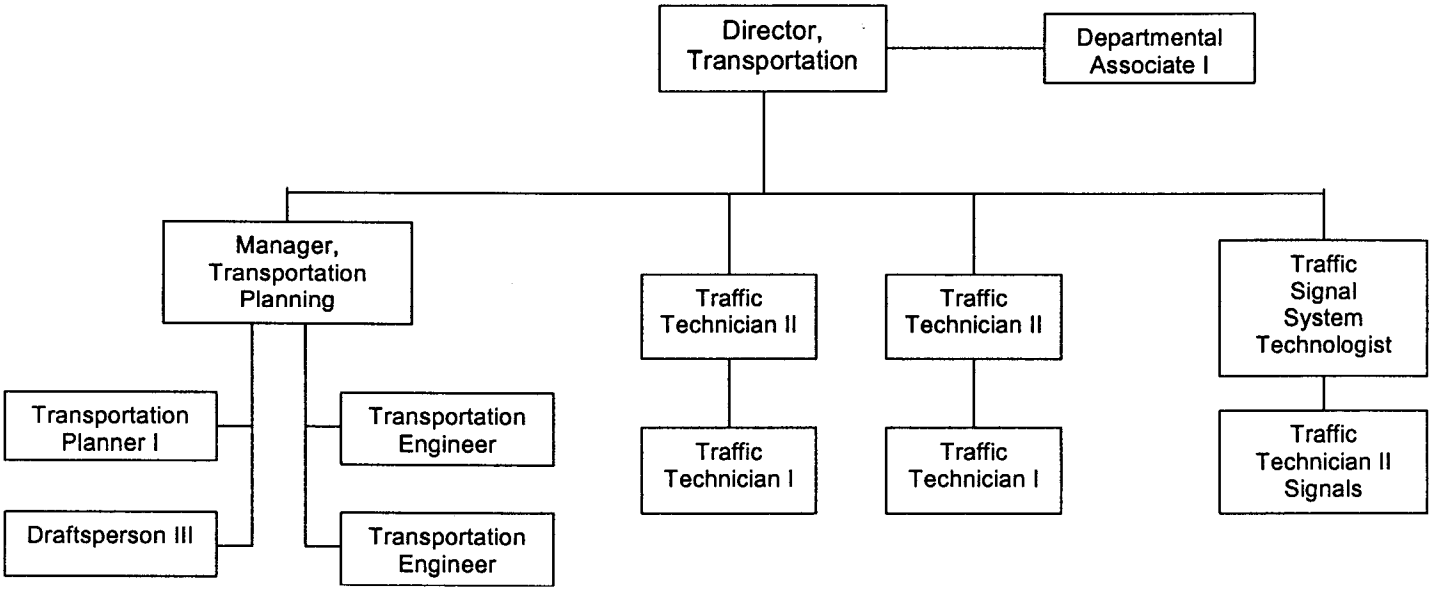
At the local level, the continued implementation of community-based transportation initiatives, pursuit of local transit improvements, planning and design for the new trade and exhibition centre, development of city-wide parking strategies, and addressing the issue of street racing / drag racing are also considered as high priority tasks.

The levels of service of the Transportation Department are therefore based on the regular work programs carried out on an on-going basis to meet the needs of the community, unscheduled events and tasks arising throughout the year, as well as resources required for tackling the above challenges.

Gordon Chan, P. Eng.
Director, Transportation

JC:lce

Transportation Department
Organizational Chart



Transportation Department
Major Projects and Initiatives Undertaken in 2001/02

1. Transportation Planning

#98 B-Line Median Busway – Planning and design of the re-construction of No. 3 Road to create a 2-km exclusive median busway that serves as a precursor to a rapid transit system.

Transit Plan Improvements – Working with TransLink to introduce new transit services and passenger amenities in as part of the three-year transit plan.

Airport Connector Project – Working with YVR on the completion of the Airport Connector including a new river crossing across the Middle Arm.

Richmond/Airport-Vancouver Rapid Transit Project – Participation in the review of a multiple account evaluation of the timing for building a Richmond-Airport-Vancouver rapid transit system. Current phase of the study involves Project Definition (alignment options) and ridership/revenue forecasts.

Highway 99 Interchange Upgrade – Planning and joint study on upgrading the Steveston and Blundell interchanges.

Garden City Road Extension – Planning and design of the Garden City Road extension between Sea Island Way and Bridgeport Road.

Cycling Network Expansion – Continued addition of new infrastructure to expand the network of designated cycling routes throughout the city.

Major Road Network Improvements – Planning, design, and development of funding strategy for extension of Garden City Road from Sea Island Way to Bridgeport Road.

City Centre Transportation Plan Improvements – Continued implementation of the plan including the re-alignment of Hazelbridge Way, extension of Corvette Way, extension of Browngate Road, four-laning of Cooney Road and Northgate Way to enhance traffic flow.

Development Reviews – Continued review of development applications to ensure adequate transportation improvements to support new development (45 active reviews at any given time).

Sidewalk Improvement Program – Continued implementation of new sidewalks, particularly in the City Centre area.

Pay Parking – Working closely with Community Safety to implement/monitor the pay parking initiative.

Steveston Parking Strategies – Working with the Steveston Advisory Task Force on Parking to develop comprehensive short and long term parking strategies for the Steveston Village.

Traffic Calming Strategies – Continued implementation of neighbourhood traffic calming measures to address local traffic concerns and development of a traffic calming policy.

Transportation Demand Management (TDM) Initiatives – Co-ordination of the City's Carpool Program and TransLink Employer Bus Pass initiative. Other TDM measures include the trial introduction of an HOV lane on Russ Baker Way north of Hudson Avenue, introduction of pay parking, and pedestrian and cycling improvements.

External Grant Strategies – Annual grant application presentation to and review with other municipal staff, regional and provincial agencies to maximize external funding for cost –sharing on various types of transportation improvements including roads, traffic signals, pedestrian facilities, transit-related roadway infrastructure, traffic control, and cycling.

2. Traffic Operations

Traffic Calming Initiatives – implementation of traffic control measures to manage traffic impacts on local neighbourhoods including a traffic circle on Heather Street at Dayton Avenue, raised medians on Graybar Road and Hammersmith Drive and curbside barriers on River Drive and Westminster Highway in east Richmond.

Traffic Safety Initiatives – distribution of various traffic safety brochures (e.g., "*U-turns on No. 3 Road*" and Chinese-language version of expanded second edition of "*Traffic Safety Around Schools and Playgrounds*"), development of a city-wide phased program to upgrade arterial road crosswalks and initiation of the replacement of advance warning signs for school zones and school crosswalks to the new standard of black graphics on a yellow-green fluorescent background.

Pedestrian Facility Enhancements – new pedestrian walkways on Heather Street, River Road (22,000-block) and Leonard Road, crosswalks upgraded to full pedestrian lights and new crosswalks at various locations.

Special Traffic Control – coordinated City services required for special oversized vehicles and parades as well as location filming for 67 productions within the city.

Arterial Crosswalk Upgrade Program – Continued implementation of arterial road crosswalk upgrade to special overhead yellow flasher control.

Traffic Accident Summary – Annual compilation and summary of traffic accident inventory.

3. Traffic Signals

#98 B-Line Traffic Signals – installation of transit priority software and hardware, including monitoring pre-emption activity at the Control Centre.

City Communications Network – completion of the cable plant to all traffic signals as part of the City's copper cable communications network and initiation of design and implementation of a

fibre optic trunk line between key City buildings to provide higher bandwidth communications.

Emergency Vehicle Pre-emption System –initiated the design stage of major enhancement to the existing system that will utilize GPS (Global Positioning System) data.

Light Emitting Diode (LED) Traffic Signal Indications – installation of approximately 500 LEDs, which have lower operating costs than light bulbs.

City-Wide Traffic Counting System – upgrade to computer hardware and software to provide the capability to retrieve and manipulate data from approximately 1,200 counting detectors that monitor traffic flow volume every five minutes for each approach lane at all traffic signals in Richmond.

New Traffic Signal Devices – installation and upgrade of a number of traffic signals and illuminated pedestrian crosswalks, including a major upgrade at Russ Baker Way and Miller Road.

Audible Traffic Signals – enhancements to audible pedestrian devices and review of potential additional locations.

Transportation Department - Level of Service

Program	Service Level (frequency of service provided)	FTE*	Cost	External Grants & Revenues (2001)	Net Cost	Technical & Safety	Community & Partners	Socio-Economic	Financial	Political	Environmental
Traffic Signal Operations, Maintenance and Power Cost	Daily	1.0	$760,000			X			X	X	
Traffic Signal Installation & Improvement Program	Daily	1.0	$72,000	$175,000		X	X		X	X	
Parking Regulation and Policy Development and Implementation	Daily	0.5	$36,000			X	X		X	X	X
Cycling Improvement Program	Weekly to Monthly	0.3	$18,000	$343,000		X	X		X	X	X
Pedestrian Facility Improvement Program	Daily	0.8	$54,000			X	X		X	X	X
Rapid Transit Planning	Daily	0.6	$46,000			X	X	X	X	X	X
Public Traffic Issue Investigation and Response	Daily	1.5	$108,000			X	X		X		
Administrative, Training, Citizens Committee meetings, Professional Membership and Publications	Daily	0.3	$20,200			X			X		
Review Transportation Impacts of Development	Daily	1.0	$72,000			X	X		X		
Annual/5-Year Capital Program Development	Over 3-6 Months	0.5	$46,000			X			X		X
Traffic Control Improvement and Management Program	Daily	1.0	$72,000			X	X		X	X	
Transit Planning and Related Infrastructure Implementation	Daily	1.0	$72,000	$52,000		X	X	X	X	X	X
Neighbourhood Traffic Management Program	Daily	0.8	$54,000			X	X	X	X	X	X
TransLink - MRN/Governance/ Funding/Technical Committees	Weekly to Monthly	0.8	$59,900	$940,000		X	X	X	X	X	X
Road and Traffic Permit Issuance	Daily	0.7	$36,000	$63,000		X	X	X	X	X	
Traffic Safety Enhancement Program	Daily	1.4	$72,000	$394,000		X	X		X	X	
TOTAL			$1,598,100	$1,967,000							

* Resources allocated to support special initiatives such as Tall Ships, various advisory committees and task forces, Strategic Teams, Teamworks, Winter Olympics bid, etc. are not included.