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**STAFF REPORT TO THE
PLANNING, TRANSPORTATION & PROTECTIVE SERVICES COMMITTEE
MEETING OF WEDNESDAY, JUNE 23, 2010**

SUBJECT: CAPITAL REGIONAL DISTRICT (CRD) REGIONAL TRANSPORTATION MODEL UPDATE

PURPOSE:

This report provides update on the status of the CRD Regional Transportation Model and overview of current applications.

BACKGROUND:

A regional transportation model was developed by the CRD in 1994 as part of the *Regional Transportation and Development Strategies for the Capital Region*. The model was intended to establish directions for sustainable transportation policies and investments. The initial model application was meant to evaluate various transportation investment strategies for the CRD ranging from highway expansion to implementation of rapid transit services. The current CRD transportation model is based on advances in computer processing and display. The current model has abilities to enhance the reliability of travel forecasts, extend the range of application beyond traditional approaches and provide information in an easily understandable form to the public and decision makers. These enhancements add to a solid base of information and analyses, significant to upcoming discussions on regional growth and development.

Regional transportation models are computer based analytical tools used by Planners to assess transportation and development policies in terms of projected impacts on overall travel behaviour. Transportation models estimate changes to trip modes shares, congestion levels and travel times resulting from projected changes to transportation networks and land-use patterns. They are thus critical to strategic planning initiatives because they can demonstrate the potential effectiveness of transportation and development policies in meeting regional goals and objectives. Transportation models are also important to the assessment of the regional costs and benefits of major transportation infrastructure investment proposals.

Since 1994 the model has been updated at regular intervals and revised to support major regional initiatives such as:

- The 1996 *LRT (Light Rail Transit) Feasibility Study* lead by BC Transit to evaluate the regional benefits of investment in rail based rapid transit between Downtown and West Shore.
- The CRD Regional Growth Strategy. Part of the analytical work was to apply the model to evaluate the transportation impacts of different future growth and development scenarios.
- The *Travel Choices Implementation and Investment Plan (TIIP)* completed in 2007. The model was applied to evaluate and prioritize Municipal transportation proposals for funding eligibility from the Federal Government's *New Deal for Town and Cities* program.

In 2007 the regional transportation model was moved to a software platform based on Geographical Information Systems (GIS). The reasons were to address operating issues with

the previous software related to usability, data processing and graphic representation. Adaptation to a GIS platform has increased the level of sophistication, depth of analysis and range of applications of the model, and at the same time has provided a much more accessible platform for non-expert users and capabilities to present information more clearly to the public and decision makers.

Applications of the regional transportation model since the 2007 conversion have been used to:

- Assist the Ministry of Transportation and Infrastructure during the planning stage for McTavish Road interchange. The model was applied to assess alternate interchange configurations in terms of impacts to overall traffic patterns on the Saanich Peninsula.
- Provide analytical support for BC Transit's Rapid Transit Plan and Transit Master Plan. BC Transit and consultants have used the model results of current and future conditions on the Region's transportation system to help design an effective transit network for the CRD.
- Assist City of Victoria engineering staff evaluate traffic control options in the planning for upgrade/replacement of the Johnson Street Bridge. Four options ranging from partial closure to full closure were assessed in terms of projected impacts to traffic flows in Victoria, Saanich and Esquimalt.
- Develop a central area model between Uptown and Downtown to test the impacts of proposed changes to lane and intersection configurations on major roads.

INTERGOVERNMENTAL IMPLICATIONS:

The maintenance of a regional transportation model enhances CRD Regional Planning Divisions data support and information service roles for member municipalities, Provincial agencies and their consultants by providing a reliable tool for measuring the impacts of their own transportation and development initiatives. Furthermore this ability to credibly measure the impacts of transportation and development plans strengthens the CRD's role in regional growth and development discussions.

Currently CRD Regional Planning Division is developing population and employment projections for traffic analysis zones as part of a commitment to the Victoria Regional Rapid Transit Project and the Transit Master Plan. Traffic analysis zones are smaller than municipalities and generally correspond to neighbourhoods and employment centres. Employment and population projections to 2038 by Municipality have already been completed, and the sub-municipal projections will add a level of detail necessary for the assessment of growth and development scenarios for the region. To carry out this work, CRD staff will have to communicate and liaise with staff at Municipalities to make sure the projections are based on Municipal realities as well as representations of Municipal plans and intentions.

REGIONAL SUSTAINABILITY & TRANSPORTATION IMPLICATIONS:

The CRD transportation model is a valuable tool for evaluating the regional travel impacts of growth and development as well as major transportation investment proposals. Current applications and for the near future are:

- Regional Sustainability Strategy. The model will be used to compare the transportation impacts of growth and development scenarios. For example comparing dispersed

employment and population growth with growth focussed on designated Regional Growth Centres.

- CRD Transportation Corridor Plan. The main purpose of this initiative is to develop a general planning framework to define the current and future roles of the CRD's major transportation corridors. The transportation model is and will be applied to identify problem areas such as road sections with severe congestion, and to test recommended policies which may include transit priority measures.
- CRD Transportation Demand Strategy. The purpose of this initiative is to recommend strategies supporting sustainable transportation in the region. The transportation model will be applied to evaluate the impacts of proposed and recommended measures which decrease the costs of sustainable travel and increase the costs of automobile travel.
- BC Transit's Victoria Rapid Transit Project and Transit Master Plan. The purpose of these initiatives is to develop convenient and sustainable public transit alternatives to automobile travel. Currently consultants are working on adapting the model to forecast transit mode share and ridership resulting from Rapid Transit Plan and Master Plan implementation.

SUMMARY AND CONCLUSIONS:

The CRD has had a regional transportation model since 1994 which has provided valuable analytical support for important transportation and development initiatives in the region. The current model is based on an enhanced GIS software platform which has increased its flexibility and capabilities, and has already been applied to important current initiatives. Provincial Greenhouse Gas (GHG) reduction directives to Municipalities and Regional Districts to develop policies supporting a major shift in travel behaviour away from automobile dependency and toward sustainable modes highlights the importance of a reliable and credible tool to estimate the effectiveness of these policies.

RECOMMENDATION:

That the Planning, Transportation and Protective Services Committee receive this report for information.



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COMMENTS: