

BRT NETWORK PLAN

SUMMARY/ISSUE

Calgary's Bus Rapid Transit (BRT) network plan.

PREVIOUS COUNCIL DIRECTION/POLICY

At its 2010 February 22 Regular meeting, Council approved NM2010-08 (Alderman Colley-Urquhart):

"NOW THEREFORE BE IT RESOLVED, that Administration be directed to prepare an implementation plan for BRT, including the following:

- a) Prioritization of key links in the Primary Transit Network;
- b) Review of the efficiency and effectiveness of current and future BRT routes operating in mixed traffic;
- c) Opportunities for transit priority measures (e.g. transit-only signals, queue jumps, transit-only lanes) to reduce travel times;
- d) Opportunities for bus-only facilities, drawing on the experience of other agencies operating transitways (e.g. City of Ottawa);
- e) A summary of capital and operating costs related to the plan; and

report to the SPC on Land Use, Planning and Transportation no later than 2011 February with the results."

At its 2010 December 06 Combined Meeting, Council approved the following with respect to NM2010-08 (LPT2010-62):

"That Council approve the amendments to the Attachment entitled "Status of Outstanding Items as of 2010 July 26" as follows:

2. On Page 7 of 12, Item NM2010-08, Bus Rapid Transit (BRT) Network Plan under the Heading "Anticipated Meeting Date" by deleting the date "2011 February" and substituting with the date "2011 January 19".

ADMINISTRATION RECOMMENDATIONS:

That the SPC on Land Use, Planning and Transportation recommends that Council direct Administration to:

1. Approve the attachment, "BRT Network Plan for Calgary," as the guiding document for future investments in BRT in Calgary.
2. Incorporate operating and capital funding for the following short-term priorities in the BRT Network Plan into the 2012-2014 business plan and budgets:
 - Route 302 Southeast/Downtown Extension and Enhancements;
 - Route 301 North Enhancements Phase 1;
 - Route 305 Bowness/17 Avenue SE Extension and Enhancements Phase 1;
 - Airport BRT Phase 1;
 - Southwest Crosstown BRT Westbrook / Quarry Park Phase 1 (Westbrook to Heritage LRT Station) ; and
 - Southwest BRT Downtown / Woodbine Phase 1 (Downtown to Mount Royal University).
3. Review and prioritize the following medium-term projects and, where possible, incorporate the highest priority projects into the 2012-2014 business plan and budget, subject to supportive land use:
 - Route 301 North Enhancements Phase 2;
 - Route 305 Bowness/17 Avenue SE Extension and Enhancements Phases 2/3/4;
 - 52 Street East BRT Saddletowne/South Health

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- Campus;
- Southwest BRT
Downtown/Woodbine Phase 2;
 - Southwest Crosstown BRT
Westbrook/ Quarry Park Phase
2;
 - North Crosstown BRT
Brentwood/ Saddletowne.

4. Incorporate funding for functional studies required for medium/long-term BRT projects in the 2012-2014 business plan and budget.

RECOMMENDATIONS OF THE SPC ON LAND USE, PLANNING AND TRANSPORTATION, DATED 2011 JANUARY 19:

That Report LPT2011-03, and its approved amendment, be referred back to Administration to return to the SPC on Land Use, Planning and Transportation in Q4 of 2011 in order to spend more time specifically on (but not limited to):

1. How long BRT routes connect major Corridors;
2. Whether all major centres (campuses, hospitals, etc.) are adequately connected;
3. Better/more detailed prioritization plan;
4. Whether the currently proposed plan achieves the primary transit network of the CTP;
5. The opportunity for and/or prioritization of TOD; and
6. A non-equivocated use of BRT vis-a-vis Express Bus services.

Opposition to Recommendations:

Opposed: A. Chabot

INVESTIGATION

Calgary Transit has operated BRT since 2004 on Route 301 (North/West) and has since introduced BRT on Routes 305 (Bowness/17 Avenue SE) and 302 (Southeast/Downtown). The review of efficiency and effectiveness of these routes suggests they have been successful in providing a higher level of service than local bus routes in these corridors through limited stops, transit priority measures, higher average operating speeds and higher capacity vehicles. Relative to the level of capital investment in facilities to date, Calgary's BRT routes are highly effective and offer efficiencies that benefit Calgary Transit's overall service delivery and customer satisfaction.

Effectiveness of BRT is limited by operating in mixed traffic. The most effective route in terms of ridership, Route 301, relies on bus-only crossings and HOV lanes to gain an advantage over other traffic. Route 301, 305 and 302 have all benefitted from targeted transit-priority projects such as traffic signal priority and intersection queue jumps. Looking ahead to the vision of the Calgary Transportation Plan, separate lanes for buses and off-street passenger stops/stations will be a key element of the future BRT network.

The Calgary Transportation Plan, approved by Council in 2009 September, identified the development of a Primary Transit Network as necessary to support the objectives of the Municipal Development Plan. The Primary Transit Network will be distinguished from base transit service by its frequency, hours of service, directness, operating speed, reliability and high capacity. The Primary Transit Network is defined by this level of service, not by specific modes or routes. As outlined in the Attachment, BRT plays an

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important role in the delivery of Primary Transit Network service in the future. In some corridors, BRT will continue to function as it has in Calgary to date, as a precursor to higher-capacity rail-based modes in high ridership corridors. However, the development of separate, dedicated BRT facilities is desirable on other corridors, particularly where they can be used by other bus routes. These BRT facilities are described further in the Attachment.

Administration has reviewed BRT systems throughout Canada and the world; there are literally hundreds of BRT systems in operation today. Many are similar to Calgary's model of modest capital investment, buses operating in mixed traffic with targeted transit priority. Some cities have developed separate BRT facilities that are closer in scale to the level of investment required for rail-based modes and offer a similar level of service. Calgary Transit has included successful and relevant elements of these cities' approaches to BRT in the development of a phased approach to the BRT Network Plan, outlined in the attachment.

Two categories of infrastructure are identified in the plan:

- Targeted transit-priority projects, such as transit signal priority, queue jumps, short transit-only lanes (e.g. bus-only shoulders), park and ride lots, and bus-only crossings in new community development plans. Cost of a new BRT route that includes these enhancements is typically \$0.5-2.0 million per km.
- Larger BRT infrastructure projects, include transit-only or HOV lanes in corridors, median busways, separate bus-only facilities, and park and ride lots. The cost of a new BRT route that includes these improvements, without using existing traffic lanes, is typically \$10-20 million per km. By comparison, light rail transit (LRT) costs range from approximately \$50

million per km (at-grade) to \$250 million per km (underground).

In addition, BRT network facilities could produce efficiencies when combined with other public transit and roadway improvement projects. These will be identified in the update to the Transportation Infrastructure Investment Plan (TIIP) scheduled for presentation to the SPC on Land Use, Planning and Transportation in Q2 2011.

IMPLICATIONS

General

Continued expansion of the public transit system is critical to achieving Calgary's smart growth objectives as outlined in the Municipal Development Plan.

Social

The existing and proposed BRT network enhances mobility for citizens who rely on Calgary Transit for personal travel.

Environmental

Movement of people on public transit makes the most efficient use of natural resources, allows for a more compact city and offsets the need for motor vehicle travel, resulting in fewer impacts to natural areas and the existing built environment.

Economic (External)

BRT enhances economic development opportunities in adjacent areas/corridors, and enables goods movement on parallel roadway corridors.

BUSINESS PLAN/BUDGET IMPLICATIONS

There are no new impacts to the 2011 budget. Short- and medium-term priorities identified in the Attachment will be identified in the 2012-2014 capital and operating budget after being refined in the update to the TIIP.

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RISKS

There are no significant risks associated with this report.

ATTACHMENT

Bus Rapid Transit (BRT) Network Plan for Calgary