Agenda - Executive Policy Committee - July 7, 2010

REPORTS

Item No. 5 Light Rail Transit / Bus Rapid Transit Analysis
eFile TT-8

WINNIPEG PUBLIC SERVICE RECOMMENDATION:

As comparative costs of $38 million per kilometre for Bus Rapid Transit (BRT) and approximately $50 million per kilometre for Light Rail Transit (LRT) have been independently validated in documents from the IBI Group and HDR Decision Economics, and most recently in follow up discussions with HDR, indicating that LRT is more affordable than previously thought:

1. That Council formally endorse LRT as a preferred rapid-transit option for the City of Winnipeg, as identified and determined through further analysis of each proposed route pursuant to recommendation 2 below;

2. That, as part of the Transportation Master Plan currently underway, the Public Service be directed to further investigate the five preliminary rapid transit corridors identified in the Sustainable Transportation Direction Strategy document of OurWinnipeg, to identify the preferred route or routes for consideration as candidates for implementing light rail technology in Winnipeg.

3. That, as Light Rail offers life-cycle benefits in terms of increased ridership and affordable mobility, increased residential and commercial development density, and reductions in greenhouse gas emissions, the Public Service be directed to incorporate these findings in the development of the Transportation Master Plan.

4. That the Chief Financial Officer be directed to continue discussions with P3 Canada, to explore potential funding opportunities.

DECISION MAKING HISTORY:

COUNCIL DECISION:

On April 28, 2010, Council passed the following motion, namely:

Moved by His Worship Mayor Katz,
Seconded by Councillor Steeves,

WHEREAS reducing greenhouse gas emissions is essential for the protection of human health and our environment;

AND WHEREAS Manitoba has enacted legislation that requires the province to meet its Kyoto commitment for 2012 and sets long-term goals for further reductions by 2020 and 2025 across all sectors of the Manitoba economy;

AND WHEREAS The Climate Change and Emissions Reduction Act enshrines in the 50/50 transit funding partnership to ensure the Province continues to pay one-half of Winnipeg transit's net operating costs, including rapid transit;

AND WHEREAS the Rapid Transit Task Force recommended one-third City/Provincial/ Federal cost-sharing of a rapid transit system;

AND WHEREAS as a first step in the development of a long term strategy for the development of a rapid transit system in Winnipeg, the City of Winnipeg, the Province of Manitoba and the Government of Canada have committed to funding for Stage 1 of the Southwest Rapid Transit Corridor, which is currently being constructed;

AND WHEREAS the expansion of rapid transit facilities in Winnipeg may help to increase transit ridership, reduce reliance on automobiles and achieve the Province's long-term greenhouse gas emission reduction goals;

AND WHEREAS rapid transit offers a potential stimulus for future development potential in terms of density and value, and light rail rapid transit may present an opportunity to increase development potential along rapid transit corridors;

THEREFORE BE IT RESOLVED THAT the City of Winnipeg Public Service be directed to review the applicability of light rail rapid transit and report back to the Executive Policy Committee in 90 days with a business case that includes:

(i) an analysis of comparative costs per kilometer for bus rapid transit and light rail rapid transit;
(ii) an analysis of the comparative advantages of bus rapid transit and light rail rapid transit;
(iii) prioritized options for light rail rapid transit routes;
(iv) recommended options for the type or types of light rail technology that may be appropriate for use in Winnipeg;
(v) comparison and quantification of anticipated benefits of light rail rapid transit vs. bus rapid transit including: incremental taxes generated from development, ridership increases, reduction of greenhouse gas emissions; and
(vi) funding options, including a strategy for pursuing intergovernmental funding.

BE IT FURTHER RESOLVED that funding to a maximum of $100,000.00 be approved for costs associated with undertaking such analysis, to be allocated from Transit Capital Account No. 442-181000-420755-4220000309 (Transportation Authority Study).

BE IT FURTHER RESOLVED that any consultant contracts awarded in association with the preparation of such business case that are estimated to exceed $100,000.00 must be tendered through a competitive RFP process.

ADMINISTRATIVE REPORT

Title: LRT/BRT ANALYSIS

Issue: LRT/BRT COMPARISON

Critical Path: EXECUTIVE POLICY COMMITTEE - COUNCIL

AUTHORIZATION

Author	Department Head	CFO	CAO
B Sacher Director of Public Works	B Sacher Director of Public Works	Jo-Anne Ferrier, Acting CFO	G. Laubenstein

RECOMMENDATIONS

As comparative costs of $38 million per kilometre for Bus Rapid Transit (BRT) and approximately $50 million per kilometre for Light Rail Transit (LRT) have been independently validated in documents from the IBI Group and HDR Decision Economics, and most recently in follow up discussions with HDR, indicating that LRT is more affordable than previously thought:

1. That Council formally endorse LRT as a preferred rapid-transit option for the City of Winnipeg, as identified and determined through further analysis of each proposed route pursuant to recommendation 2 below;

2. That, as part of the Transportation Master Plan currently underway, the Public Service be directed to further investigate the five preliminary rapid transit corridors identified in the *Sustainable Transportation Direction Strategy* document of OurWinnipeg, to identify the preferred route or routes for consideration as candidates for implementing light rail technology in Winnipeg.

3. That, as Light Rail offers life-cycle benefits in terms of increased ridership and affordable mobility, increased residential and commercial development density, and reductions in greenhouse gas emissions, the Public Service be directed to incorporate these findings in the development of the Transportation Master Plan.

4. That the Chief Financial Officer be directed to continue discussions with P3 Canada, to explore potential funding opportunities.

REASON FOR THE REPORT

On April 20, 2010, Council directed the Public Service to report back to the Executive Policy Committee within 90 days regarding:

(i) an analysis of comparative costs per kilometre for bus rapid transit and light rail rapid transit;

(ii) an analysis of the comparative advantages of bus rapid transit and light rail rapid transit;

(iii) prioritized options for light rail rapid transit routes;

(iv) recommended options for the type or types of light rail technology that may be appropriate for use in Winnipeg;

(v) comparison and quantification of anticipated benefits of light rail rapid transit vs. bus rapid transit including: incremental taxes generated from development, ridership increases, reduction of greenhouse gas emissions; and

(vi) funding options, including a strategy for pursuing intergovernmental funding.

IMPLICATIONS OF THE RECOMMENDATIONS

If the recommendations as set out in this report are approved by Council, the Public Service will do all things necessary to identify, as part of the Transportation Master Plan currently underway, a potential route or routes for the implementation of light rail in Winnipeg. As well, the Public Service will continue investigating potential funding with P3 Canada.

HISTORY

The *Sustainable Transportation Direction Strategy* prepared pursuant to the OurWinnipeg process concluded that both Light Rail Transit (LRT) and Bus Rapid Transit (BRT) are technologies that merit consideration for implementation in Winnipeg, subject to assessment of the corridors to be served, operating characteristics of the technologies, and the City's financial capacity.

Over the last year, the Public Service received information indicating that the cost of LRT is more affordable than was previously supposed. On April 20, 2010, Council directed the Public Service to confirm and provide analysis of this information in the form of the present report.

FINANCIAL IMPACT

There are no financial implications as a result of this report.

CONSULTATION

In preparing this report there was consultation with:

- Planning, Property and Development
- Winnipeg Transit
- Corporate Finance

SUBMITTED BY

Department: Public Works
Division: n/a
Prepared by: Brad Sacher, Director of Public Works….986-5285
Date: June 30, 2010
Processed by: Gisele Foster….986-2740
File No.: BRT/LRT Report
File Name: BRT/LRT

Attachment:

- LRT/BRT Discussion

LRT/BRT Discussion

The following is a discussion of the subjects upon which Council directed the Public Service to report, in the motion adopted on April 20, 2010, and as enumerated in the "Reason for the Report", above.

Required:

(i) an analysis of comparative costs per kilometre for bus rapid transit and light rail rapid transit;

Discussion:

Capital Costs:

The actual cost of implementing Phase 1 of the Bus Rapid Transit (BRT) initiative in Winnipeg is $38 million/km. The cost of tracks, systems, maintenance facilities and cars for the preferred LRT technology is estimated at $50 million/km, which has been independently validated in documents from the IBI Group and HDR Decision Economics, and most recently in follow up discussions with HDR.

The estimated costs for LRT are based on average costs per kilometre and will be further refined on a route / site-specific basis, once such routes / sites are determined through the Transportation Master Plan.

Required:

(ii) an analysis of the comparative advantages of bus rapid transit and light rail rapid transit and;

(v) comparison and quantification of anticipated benefits of light rail rapid transit vs. bus rapid transit including: incremental taxes generated from development, ridership increases, [and] reduction of greenhouse gas emissions.

Discussion: (Note: for this discussion, item (ii) and (v) have been combined).

Summary of Benefits

The following is a comparison of life-cycle benefits between BRT and LRT

Mean Life-Cycle Benefits:	***BRT***	***LRT***
(Millions of 2009 Dollars)		
Affordable Mobility Benefits:	**$ 52.11**	**$ 61.31**
Liveable Community Benefits:		
Residential Development Benefits:	$ 22.23	$ 33.77
Commercial Development Benefits	$ 29.28	$ 67.29

Total Liveable Community Benefits	**$ 51.50**	**$101.06**
Congestion Management Benefits:		
Auto Travel Time Saving	$ 0.25	$ 0.21
Transit Travel Time Savings	$ 27.28	$ 32.10
Vehicle Operating Cost Savings	$ 23.25	$ 26.18
Emission Cost Savings	$ 1.12	$ 2.45
Accident Cost Savings	$ 5.55	$ 6.23
Total Congestion Management Benefits	**$ 57.45**	**$ 67.18**
Grand Total Life-Cycle Benefits	**$161.07**	**$229.55**

The benefits shown above represent the present value of benefits accrued in millions of dollars over the life of each facility. The mobility benefits result from increased ridership and social and economic benefits by providing affordable public transit options. The residential and commercial benefits accrue as an outcome of increased density through transit oriented development resulting, in part, in increased property taxes. The emission cost savings represent the value of reduced GHG emissions from congestion management for each of the modal options.

Required:

(iii) prioritized options for light rail rapid transit routes;

Discussion:

For the purposes of this report, it is noted that Winnipeg's *Sustainable Transportation Direction Strategy*, which was developed as part of OurWinnipeg, identifies five potential routes as rapid transit corridors. It is recommended that the most suitable route for implementation of light rail be identified through the Transportation Master Plan, whose development is currently underway.

Required:

(iv) recommended options for the type or types of light rail technology that may be appropriate for use in Winnipeg;

Discussion:

Through an examination of technologies utilized in other cities such as Minneapolis, Dallas, Calgary and Salt Lake, it has been determined that conventional LRT technology appears applicable for future use in Winnipeg on rapid transit corridors, and merits further investigation in other applications where use is deemed appropriate as a result of adequate analysis.

Light rail technology in the form of modern streetcars has been successfully implemented in cities such as Portland, where significant transit-oriented, mixed-use development has occurred in the downtown as a direct result of the construction of light rail facilities. This streetcar technology is also being utilized in Seattle and Toronto. Streetcars used on downtown circulator projects are capable of manoeuvring on rails embedded in city streets, as well as travelling up to 80 km/h on dedicated transitways.

Required:

(v) comparison and quantification of anticipated benefits of light rail rapid transit vs. bus rapid transit including: incremental taxes generated from development, ridership increases, [and] reduction of greenhouse gas emissions.

Discussion:

Please note that for this report, item (v) has been combined with item (ii) above.

Required:

(vi) funding options, including a strategy for pursuing intergovernmental funding.

Discussion:

The Chief Financial Officer has been engaged in preliminary discussions with representatives of P3 Canada, and as per recommendation 4, will continue these discussions with the goal of submitting a formal funding proposal.