Agenda – Council – October 22, 2008

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – October 7, 2008

Item No. 3 Southwest Rapid Transit Corridor – Stage 1
E-File TT-1

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On October 15, 2008, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works with the following amendment:

- Recommendation 5
  Add the words "and Bus Replacement Reserve" after the the words "Public Transit Fund",

and submits the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On October 7, 2008, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submits the following to Council:

1. That a new 2009 capital project be approved, namely, the "Southwest Rapid Transit Corridor – Stage 1", in an amount of $138,000,000.00, contingent upon financing from the Federal and Provincial Governments as outlined in the report of the Director of Transit dated October 6, 2008.

2. A. That a transfer of $10,500,000.00 from prior years' authorized transit bus projects ($9,400,000.00 Public Transit Capital Trust and $1,100,000.00 Public Transit Fund) be approved.

   B. That borrowing authority in an amount of $89,750,000.00 be approved.

3. That an amount of $67,000,000.00 of expenditures be authorized prior to the adoption of the 2009 Capital Budget as a first charge, in accordance with Subsection 288(2) of The City of Winnipeg Charter.

Report –Standing Policy Committee on Infrastructure Renewal and Public Works – October 7, 2008

4. That annual operating contributions to the Rapid Transit Infrastructure Reserve be increased from $2,750,000.00 annually to $4,250,000.00 in 2009 and beyond to assist in the financing of the Southwest Rapid Transit Corridor.

5. That the reallocation of $12,000,000.00 of Public Transit Fund funding from the Diesel-Electric Hybrid Articulated Bus Project for the purchase of 30 additional transit diesel buses in 2008 be approved.

6. That the purpose of the Rapid Transit Infrastructure Reserve (as established by Council on March 26, 2008) be revised to accumulate funds and subsequently expend on costs incurred on account of public transit infrastructure, including the operation and construction of rapid transit infrastructure, structures and facilities, development, and other related costs including bus purchases, technology, personnel, and land acquisition.

7. That the Chief Administrative Officer be delegated the authority to finalize contribution and/or cost-sharing agreements and/or arrangements with the Federal and Provincial Governments for this project as outlined in the report of the Director of Transit dated October 6, 2008, prior to project implementation.

8. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – October 7, 2008

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On October 15, 2008, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works, with the following amendment, namely:

- Recommendation 5
  Add the words "and Bus Replacement Reserve" after the the words "Public Transit Fund",

and submitted the matter to Council.

Further on October 15, 2008, the Executive Policy Committee received a presentation from Jairo Viafara, Winnipeg Rapid Transit Coalition, entitled "Winnipeg Rapid Transit Coalition (WRTC) Proposed Public Involvement Plan: Towards a Community Supported Sustainable Rapid Transit System for Winnipeg" in support of the Southwest Rapid Transit Corridor – Stage 1.

STANDING COMMITTEE RECOMMENDATION:

On October 7, 2008, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

RE:	**Southwest Rapid Transit Corridor – Stage 1**
FOR SUBMISSION TO:	**Standing Policy Committee on Infrastructure Renewal and Public Works**
ORIGINAL REPORT SIGNED BY:	**Dave Wardrop, Director of Transit**
REPORT DATE:	**October 6, 2008**

RECOMMENDATIONS:

1. That a new 2009 capital project be approved, namely the "*Southwest Rapid Transit Corridor – Stage 1*", in an amount of $138,000,000, contingent upon financing from the Federal and Provincial Governments as outlined in the report.
2. That the following be approved:
   (a) a transfer of $10,500,000 from prior years' authorized transit bus projects ($9,400,000 Public Transit Capital Trust and $1,100,000 Public Transit Fund); and
   (b) borrowing authority in an amount of $89,750,000.
3. That an amount of $ 67,000,000 of expenditures be authorized prior to the adoption of the 2009 capital budget as a first charge, in accordance with Subsection 288(2) of *The City of Winnipeg Charter*.
4. That annual operating contributions to the Rapid Transit Infrastructure Reserve be increased from $2,750,000 annually to $4,250,000 in 2009 and beyond to assist in the financing of the Southwest Rapid Transit Corridor.
5. That City Council approve the reallocation of $12,000,000 of Public Transit Fund funding from the Diesel-Electric Hybrid Articulated Bus Project for the purchase of 30 additional transit diesel buses in 2008.
6. That the purpose of the Rapid Transit Infrastructure Reserve be revised to: "to accumulate funds and subsequently expend on costs incurred on account of public transit infrastructure, including the operation and construction of rapid transit infrastructure, structures and facilities, development, and other related costs including bus purchases, technology, personnel, and land acquisition."
7. That the CAO be delegated the authority to finalize contribution and/or cost-sharing agreements and/or arrangements with the Federal and Provincial Governments for this project as outlined in the report, prior to project implementation; and
8. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report Summary

Key Issues:

- The estimated construction cost, in 2008 dollars, of Stage 1 of the Southwest Rapid Transit Corridor is $104 million. However, given the forecast escalation in construction prices, with immediate mobilization the cumulative escalated cost of the Southwest Rapid Transit Corridor – Stage 1 has been estimated at $138 million.

- Given immediate project mobilization, construction of the Southwest Rapid Transit Corridor could begin during the summer of 2009. With a summer of 2009 construction start, completion of Stage 1 would be expected by late 2011.

- The Southwest Rapid Transit Corridor provides an opportunity to stimulate higher density, residential and commercial development.

- Construction options for the Southwest Rapid Transit Corridor were studied with scalability, convertibility to LRT, and active transportation in mind. Three separate options were considered for the City's first rapid transit corridor. These included the SW Transit Corridor – Stage 1, SW Transit Corridor - Stage 1(Truncated), and SW Transit Corridor Stage 1 & Stage 2.

Implications of the Recommendation(s):

General Implications

() None
(x) For the organization overall and/or for other departments
( ) For the community and/or organizations external to the City

( ) Involves a multi-year contract
Comment(s): Several City departments have been involved in determining the impact of the Rapid Transit Corridor including research concerning infrastructure needs, development potential, and innovative financing opportunities.

Policy Implications

( ) No
(X) Yes

Comment(s): Application of debt financing for the construction of Stage 1 of the Southwestern Transit Corridor will represent a deviation from recent practice.

Regulatory Implications

(X) None
( ) Eliminates or reduces regulatory impact
( ) Proposes regulatory impact
Comment(s):

Environmental Implications

() No
(x) Yes
Comment(s): The environmental impact of a Rapid Transit Corridor will be favourable resulting from additional use of public transit instead of private vehicles or other means of travel.

Human Resources Implications

() No
(x) Yes
Comment(s): Additional bus operators will be required in 2012 to help with growth in ridership resulting from construction of the Rapid Transit Corridor. Furthermore, additional project management staff will be required to assist with project delivery.

Financial Implications

( ) Within approved current and/or capital budget
(X) Current and/or capital budget adjustment required
Comment(s): There will be a requirement for additional capital and operating funding for the construction and operation of the Southwest Rapid Transit Corridor.

Report

REASON FOR THE REPORT:

Council approval is required for new capital projects, for approval of borrowing authority, and for approval of expenditures prior to budget adoption as a first charge. Approval is also required for transferring surpluses from one capital account to another.

HISTORY:

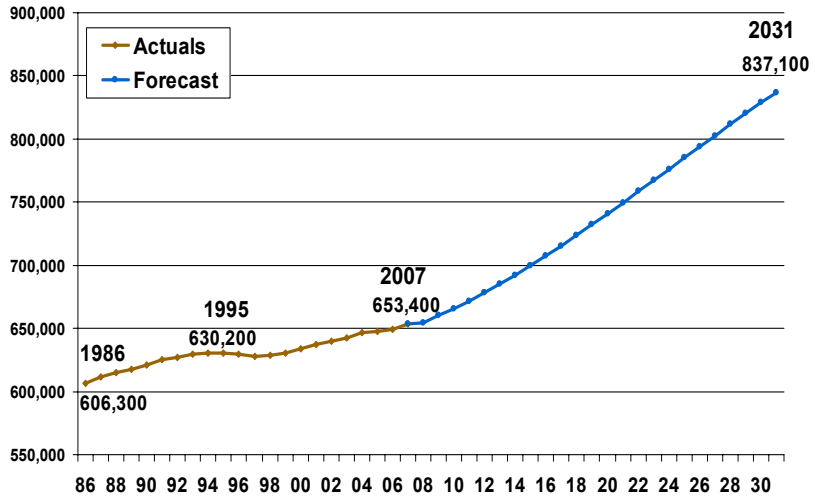
On February 26, 2008 the Federal Budget announced up to $500 million in the 2007-2008 fiscal year to be paid into a third-party trust, allocated on a provincial-territorial per capita basis, for public transit infrastructure. It is expected that this will amount to $17.5 million for Winnipeg. The beneficiaries of the trust will have the flexibility to draw down the funding as they require over the next two years. The trust may be used for specific projects of capital infrastructure such as rapid transit, rail, transit buses, and high occupancy vehicle and bicycle lanes.

Cancellation of the Diesel-Electric Hybrid Articulated Bus contract has freed approximately $10.5 million of Public Transit Capital Trust and Public Transit Fund capital funding. In addition, the 2008 Transit Operating Budget includes an initial contribution of $2.75 million to the Rapid Transit Infrastructure Reserve that could be accessed for the construction of the Southwest Rapid Transit Corridor.

DISCUSSION:

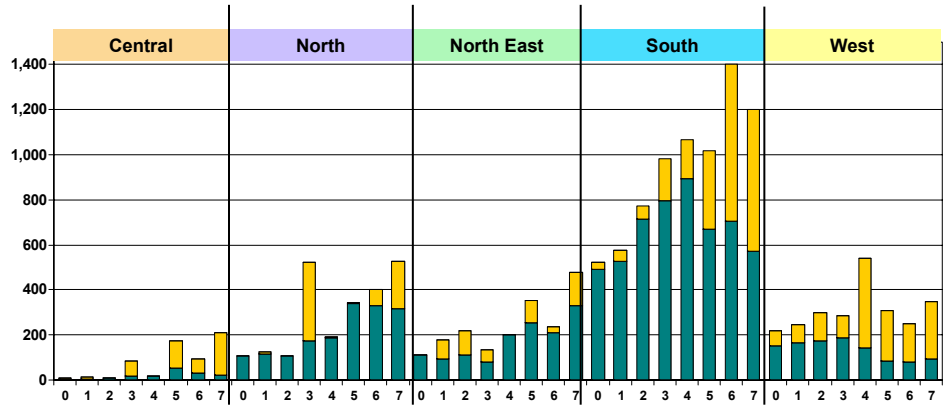
Winnipeg's needs have evolved from a traditional mode of on-street transit in mixed traffic suitable for a medium sized City with modest population growth. As noted below, with increasing population growth there will be a greater need for an expanded Transit system that will provide faster, more reliable and environmentally friendly service to various areas of the City.

Conference Board of Canada's 2007 Long Term Population Forecast



One of the areas in Winnipeg undergoing dramatic change and population growth is the southwest quadrant of the City. With planned development in Waverley West, increasing attendance at the University of Manitoba with over 30,000 students commuting on a regular basis, the need to provide transportation options to the south-end represents a priority.

Winnipeg Housing Starts by Area, 2000 - 2007



Source: CMHC – Residential Construction Digest

In this regard, three options were considered as set out in Appendix 1. Option 1 represents the first stage of the project which will provide a 3.6 km rapid transit corridor from Queen Elizabeth Way to Pembina and Jubilee. As planned, Stage 2 could add 6.0 km to the corridor and would run from Pembina and Jubilee to Bison Drive. Once developed, Stage 1 will have the capacity to be converted to LRT in the future.

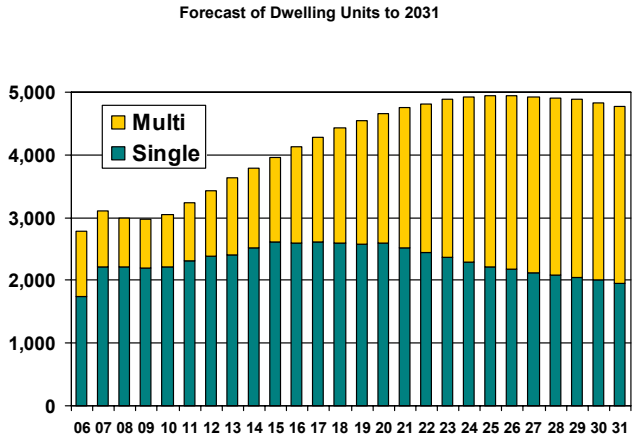
Southwest Rapid Transit Corridor – Stage 1: Queen Elizabeth Way to Jubilee

Overview

Stage 1 provides the City with a unique opportunity to introduce rapid transit in a densely populated area characterized by high levels of traffic congestion. Because of high density, many of the main arteries are experiencing high traffic volumes and traffic delays. With rapid transit, it is expected that Stage 1 will reduce the transit travel times to/from downtown by 8 to 10 minutes during rush hour and increase the reliability of transit service in the area. It is also expected that ridership will increase by 10% to 20% along the Southwest Rapid Transit Corridor, as a result of improvements in transit speeds and schedule reliability.

With the completion of Stage 1 of the Southwest Rapid Transit Corridor, rapid transit routes would operate between the downtown and the southwest part of the city using a network of transit priority measures to improve transit speeds and reliability. The priority measures include the existing Graham Transit Mall and diamond lanes on Main Street, the new rapid transit corridor between Queen Elizabeth Way and Pembina and Jubilee, and recently implemented queue jumps and traffic signal improvements on Pembina Highway. Buses will operate from the downtown terminal at the University of Winnipeg via the Graham Transit Mall, Main Street diamond lanes, and the new corridor to Pembina and Jubilee, and then operate on-street on Pembina to various destinations in southwest Winnipeg including the University of Manitoba, residential neighborhoods, and industrial/commercial areas. On the corridor, rapid transit stations will be built near Harkness and Stradbrook, at Osborne, and along the Fort Rouge Yards. A combination of express and local routes will provide a comprehensive route network for travel to, from, and within the southwest part of the city. Passenger fares for rapid transit service would be the same as those charged for the city-wide service.

One of the exciting aspects of the project relates to probable economic activity around the first stage including new apartment and condo units planned for the various hubs or stations for customer boarding. The Planning, Property, and Development Department indicate that in addition to expected residential development along the rapid transit corridor, commercial development is anticipated in these same areas. Demand in this respect is shown below, illustrating anticipated growth in multi-family units over the next number of years.



Construction of the Southwest Rapid Transit Corridor

Public Works, Dillon Consulting Limited, and Corporate Finance estimate that Stage 1 of this project will cost $138 million given construction commencement in the summer of 2009. To achieve this aggressive timetable, Winnipeg Transit requires Council approval in October, and then would complete detailed design and issue tenders in an expedited manner to reduce the impact of construction inflation. Completion of construction is estimated in late 2011. A project schedule for Stage 1 of the Southwest Rapid Transit Corridor is presented on page 8.

Development of Commercial and Apartment/Condo Units

Indications from Planning, Property and Development are that the Southwest Rapid Transit Corridor provides a unique opportunity to stimulate higher density, residential and commercial development integrated with a transit-oriented transportation system. As noted above housing projections point to an increase in demand for multiple-family development. Development opportunities around the Southwest Rapid Transit Corridor could help satisfy this demand.

The Southwest Rapid Transit Corridor would provide an efficient means of transportation for people in the area looking to access the Downtown, the University of Manitoba, and other destinations along the corridor. Further economic stimulus could be provided through the development of retail and commercial space within, and around, the higher-density residential clusters integrated with the corridor. The Southwest Rapid Transit Corridor would also help to increase the competitiveness of

the Downtown by providing an alternative to increasing parking rates, reducing traffic congestion, and efficiently connecting the Downtown with more suburban areas of the city. This corridor development initiative is entirely in keeping with Plan Winnipeg's Policy direction to invest strategically in new infrastructure, promote alternative transportation and provide an economic stimulus through a higher mixed use development.

The alignment and proposed stations for the Southwest Rapid Transit Corridor are presented on the page 9.

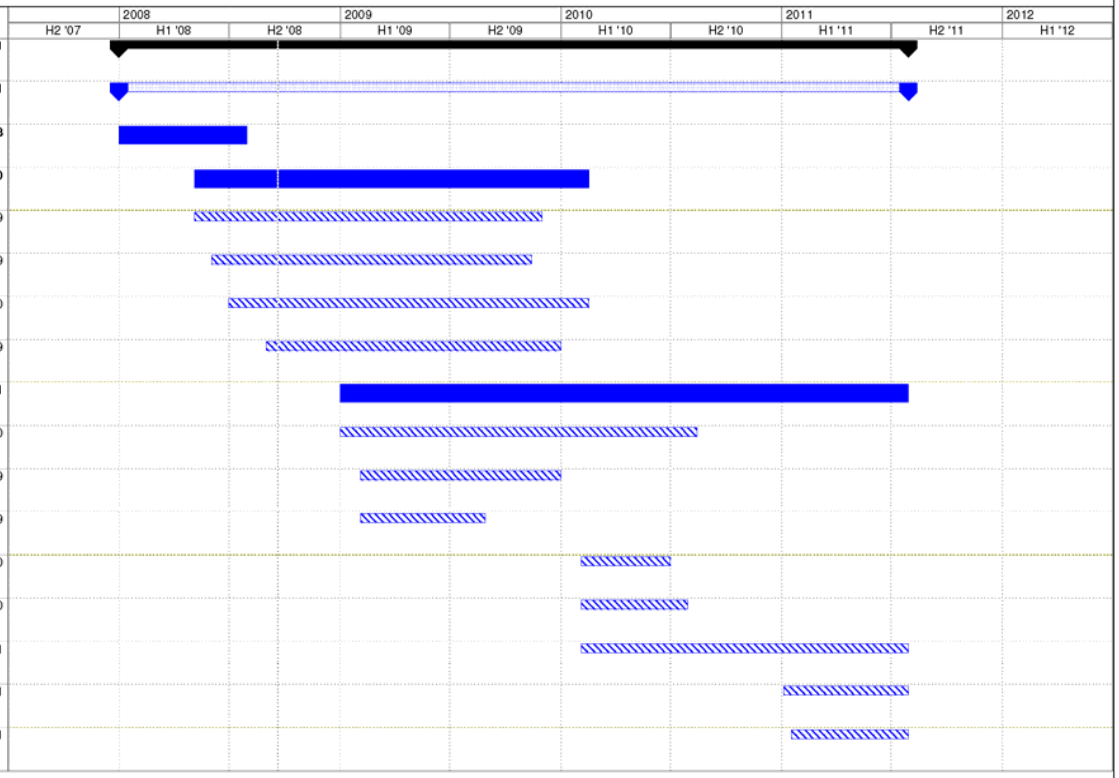
Land Acquisition

Several private holdings adjacent to the proposed corridor have been identified as critical properties and Planning, Property and Development will engage property owners to acquire said properties through traditional negotiations or, using the expropriation provisions afforded in the Charter. This process has been set out in a further report from Planning, Property and Development.

Bus Rapid Transit Project
Queen Elizabeth Way to Jubilee

Preliminary Schedule
Project 1 - Stage 1

ID	Task Name	Start	Finish
1	**Project 1**	**Tue 1/1/08**	**Fri 7/29/11**
2	**Stage 1**	**Tue 1/1/08**	**Fri 7/29/11**
3	**Part I: Pre-Design**	**Tue 1/1/08**	**Wed 7/30/08**
8	**Part II: Design**	**Mon 5/5/08**	**Mon 2/15/10**
9	a) Structures	Mon 5/5/08	Mon 11/30/09
10	b) Roadways	Mon 6/2/08	Fri 11/13/09
11	c) Stations	Tue 7/1/08	Mon 2/15/10
12	d) Landscaping	Mon 9/1/08	Thu 12/31/09
13	**Part III: Construction**	**Thu 1/1/09**	**Fri 7/29/11**
14	a) CNR Underpass	Thu 1/1/09	Fri 8/13/10
15	b) Storm Sewer Pump Station	Wed 2/4/09	Thu 12/31/09
16	c) Donald/Harkness Street Reconstructions	Wed 2/4/09	Fri 8/28/09
17	d) Corridor to Queen Elizabeth Way	Wed 2/3/10	Wed 6/30/10
18	e) Fort Rouge Yards Grading	Wed 2/3/10	Thu 7/29/10
19	f) Osborne Street Overpass and Connecting Roads	Wed 2/3/10	Fri 7/29/11
20	g) Fort Rouge Yards Paving	Tue 1/4/11	Fri 7/29/11
21	h) Stations	Mon 1/17/11	Fri 7/29/11

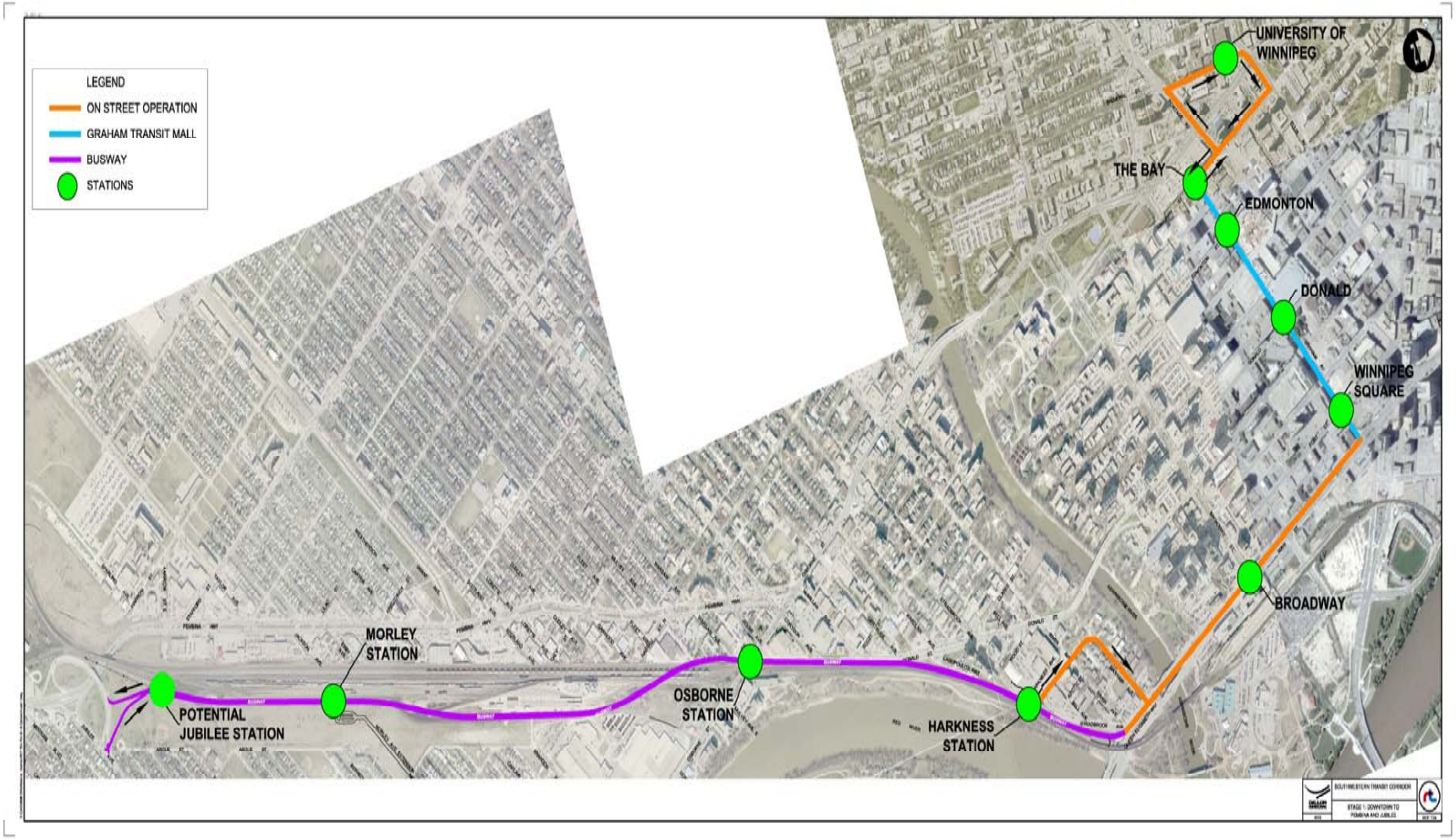


Date: Fri 9/19/08

Summary Task Sub- Task

Page 1

Southwestern Transit Corridor – Stage 1 Construction Schedule


LEGEND
ON STREET OPERATION
GRAHAM TRANSIT MALL
BUSWAY
STATIONS
UNIVERSITY OF WINNIPEG
THE BAY
EDMONTON
DONALD
WINNIPEG SQUARE
BROADWAY
HARKNESS STATION
OSBORNE STATION
MORLEY STATION
POTENTIAL JUBILEE STATION

Financial Analysis

The following information has been prepared summarizing significant information relevant to the financial aspects of the project.

Capital - Construction Budget

Structures, roadworks, landscaping, engineering and site servicing	$74,433,000
Railworks and utilities	$9,600,000
Property, administration and taxes	$19,328,970
Construction inflation	$34,638,030
	$138,000,000

Anticipated payment schedule

2009	$67,000,000
2010	$19,000,000
2011	$52,000,000
	$138,000,000

The estimated construction cost of the Southwest Rapid Transit Corridor (Stage 1) as provided by the Public Works department and Dillon Consulting, is $104 million in 2008 dollars. Based on a 2009 construction start, and completion in 2011, Corporate Finance estimates that the total cost, after allowing for inflation and escalating construction costs, will be $138 million.

Basis of Payment

Total construction costs	**$138,000,000**
Less: Grants and other	
2008 Federal Transit Trust	$17,500,000
Amounts previously designated to the Diesel-Electric Hybrid Articulated Bus project	$10,500,000
Province of Manitoba Infrastructure Grant	$17,500,000
City of Winnipeg Rapid Transit Infrastructure Reserve	$2,750,000
	$48,250,000
Anticipated Debt Financing	**$89,750,000**

This project will be financed by all three levels of government, with the Federal Government's contribution being $28 million, including $17.5 million from the 2008 Federal Transit Trust, plus $10.5 million previously allocated to the Diesel-Electric Hybrid Articulated Bus project ($9.4 million from the Public Transit Capital Trust Fund and $1.1 million from the Public Transit Fund).

It should be noted that in addition to the $138 million Winnipeg Transit is proposing to purchase 10 additional buses with a cost of $4,242,000 in 2012 to provide for the increased demand on the Southwest Rapid Transit Corridor. The proposed purchase will need to be added to the 2012 Capital Budget and has been included in the cash flows for purpose of determining total cost of acquisition.

Anticipated Operating Results

Operating estimates were initially generated by a consultant in 2003 and were updated recently by Transit. Transit has forecast the incremental revenues and expenses relating to the operation for 2012. Detailed financial information was also prepared for a 30 year period which includes inflation factors and bus replacement costs. A summary of this cash flow analysis follows.

	2012 (first year of operations)
Incremental passenger revenues	$1,020,000
Incremental expenses	
Corridor and LD Pumping Station Maintenance	$21,000
Station maintenance	$250,000
Incremental Operating Costs	$1,219,000
Additional Bus Maintenance Costs	$59,000
	$1,549,000
Net annual incremental operating costs before interest and amortization	**($529,000)**
Shared:	
Province of Manitoba	($264,500)
City of Winnipeg	($264,500)
	($529,000)

Passenger Revenue

Winnipeg Transit expects to increase ridership by 10% to 20% along the Southwest Rapid Transit Corridor resulting in a net increase in passenger revenue of $1,020,000 annually.

Maintenance Costs

New annual operating costs will be incurred to maintain the 3.6 km roadway between Queen Elizabeth Way & Stradbrook and Pembina & Jubilee. This includes pavement maintenance, street cleaning, snow clearing, snow hauling, sanding and salting, and street lighting. The City's Public Works Department would carry out this work. Based on current City of Winnipeg unit costs to undertake such work, Public Works estimates an average annual incremental cost of $190,000 in 2012 dollars, with projected initial cash flows for these activities that are $21,000 in 2012, and then increase annually by $21,000 plus inflation for the life of the asset.

Station Maintenance Costs

New annual operating costs will be incurred to maintain the four rapid transit stations on Stage 1. The work includes shelter maintenance and repair, shelter cleaning, shelter heating costs, platform maintenance, and streetscaping maintenance. The City's Transit Department would carry out this work. Based on current unit costs to undertake such work, the estimated annual incremental cost is $250,000 in 2012 dollars.

Pull Trip Operating Efficiencies

The Southwest Rapid Transit Corridor will be directly connected to Fort Rouge Garage, the main operating centre for Winnipeg Transit. At present, all buses that pull out of the garage at the beginning of runs or pull in to the garage at the end of runs must use deadhead routings on the regular street system. When the Stage 1 project is completed, all buses pulling to/from many route terminals will use the busway for the deadhead routings. The higher speeds of busway operation will reduce the running time for pull trips and will result in annual savings of $266,000 in 2012 dollars.

Bus Operations Costs

The route network in southwest Winnipeg will be re-configured when the Southwest Rapid Transit Corridor (Stage 1) is built. While the faster operating speeds on the busway will result in some efficiencies, higher levels of service will be required to be operated to accommodate anticipated ridership growth. The forecasted annual incremental costs for expanded bus operations are $1,485,000 in 2012 dollars. For the Southwest Rapid Transit Corridor (Stage 1) service, 15 bus operators will be required to be added to the staff establishment, and 10 buses will be required to be added to the fleet.

The Province of Manitoba has agreed to finance 50% of the net operating costs of the rapid transit system, through the existing 50/50 Transit Funding Agreement.

Financing

The City will need to debt finance $89,750,000 of the Southwest Rapid Transit Corridor – Stage1 project. Thirty-year sinking fund debentures will be issued, with timing dependent upon cash flow requirements and market conditions. Interest payments as well as contributions to the sinking fund will be required. For estimate purposes, an interest rate of 6.5% per annum and a sinking fund levy of 1.64% have been utilized.

Reserve

In the 2008 budget process, Council approved the formation of a Rapid Transit Infrastructure Reserve whose main purpose was to accumulate funds and expend them on future costs incurred on account of public transit infrastructure including the construction of rapid transit corridors contemplated in the future. In 2008, the City transferred $2,750,000 to this reserve and has budgeted future transfers to the reserve. In 2009, $2,750,000 will be withdrawn to help fund Stage 1 construction.

In addition to the existing annual operating contribution of $2,750,000 to the Rapid Transit Infrastructure Reserve, operating contributions from city sources of $1,500,000 annually will be required to offset the costs of constructing and operating Stage 1 of the Southwest Rapid Transit Corridor.

Financial Impact Statement

Date: October 6, 2008

Project Name:

Southwest Rapid Transit Corridor - Stage 1 (in thousands of dollars)

First Year of Program 2009

	2009	2010	2011	2012	2013	2014 and Beyond
Capital						
Capital Expenditures Required	$ 67,000	$ 19,000	$ 52,000	$ -	$ -	$ -
Less: Existing Budgeted Costs	-	-	-	-	-	-
Additional Capital Budget Required	$ 67,000	$ 19,000	$ 52,000	$ -	$ -	$ -
Funding Sources:						
Debt - Internal	$ -	$ -	$ -	$ -	$ -	$ -
Debt - External	31,875	14,625	43,250	-	-	
Grants (Enter Description Here)	-	-	-	-	-	-
Reserves, Equity, Surplus	2,750	-	-	-	-	-
Other - Federal Government	17,500	-	-	-	-	-
Other - Provincial Government	4,375	4,375	8,750	-	-	-
Other - Transfer from other Authorized Projects	10,500	-	-	-	-	-
Total Funding	$ 67,000	$ 19,000	$ 52,000	$ -	$ -	$ -
Total Additional Capital Budget Required	$ 138,000					
Total Additional Debt Required	$ 89,750					
Current Expenditures/Revenues						
Direct Costs	$ 1,036	$ 3,070	$ 5,191	$ 13,097	$ 8,910	$ 273,550
Less: Incremental Revenue/Recovery	738	293	865	1,062	1,040	39,388
Net Cost/(Benefit)	$ 298	$ 2,777	$ 4,326	$ 12,035	$ 7,870	$ 234,162
Less: Provincial Operating Contributions	149	1,127	$ 1,782	$ 4,003	$ 4,132	$ 118,187
Less: Existing Budget Amounts	149	1,650	2,544	6,657	2,750	75,761
Net Budget Adjustment Required	$ -	$ -	$ -	$ 1,375	$ 988	$ 40,212

Additional Comments: Procurement of additional capital funding for the construction of the Southwest Rapid Transit Corridor Stage 1 will be required. Above analysis assumes sinking fund debt issued at 6.5% for 30 years and aligning the borrowing with construction cash flows. Purchase of additional 10 buses in 2012 and 2032 are included in current expenditures as direct costs assuming that funding of these buses will be through the Bus Replacement Reserve or Transit Infrastructure Reserve, however, the cost of the initial bus purchases in 2012 and the replacement in 2032 are not included in the capital costs shown above. Existing budget amounts have not yet been approved by Council and is the available funding from the Transit Infrastructure Reserve, assuming the current contribution level to this reserve of $2.75 million is maintained until 2041. By increasing the Transfer to the Rapid Transit Infrastructure Reserve by $1.5 million to $4.25 million annually beginning in 2009, there will be sufficient funding to cover the City's incremental operating costs and debt financing costs.

original signed by Rick Wilson
Manager of Finance & Administration

IN PREPARING THIS REPORT THERE WAS:

Internal Consultation With and Concurrence By:

Planning, Property and Development
Public Works
Corporate Finance
Water and Waste
Legal Services

External Consultation With:
Province of Manitoba
Steer Davies Gleave Consulting
Dillon Consulting Limited

THIS REPORT SUBMITTED BY:

Department:	Transit
Prepared by:	Transit
	Corporate Finance
	Property Planning and Development
	Public Works
	Water and Waste

Appendix 1: Southwest Rapid Transit Corridor Options

Construction options for the Southwest Rapid Transit Corridor were studied with scalability, convertibility to LRT, and active transportation in mind. Three separate options were considered for the City's first rapid transit corridor. These included the SW Transit Corridor – Stage 1, SW Transit Corridor - Stage 1(Truncated), and SW Transit Corridor Stage 1 & 2. Each option has been designed to enable conversion to LRT and to permit expansion of the Corridor at a later date with minimal throw away of previously constructed Transit infrastructure. Detailed discussion of each option follows, and the alignment of each alternative is depicted at the end of this appendix.

Option #1: Southwest Rapid Transit Corridor - Stage 1 (Queen Elizabeth Way to Jubilee)

Stage 1 of the Southwest Rapid Transit Corridor contemplates a dedicated transit thoroughfare between Queen Elizabeth Way and the Jubilee Avenue overpass. This project would include a bridge over Osborne Street and a tunnel under the CNR Fort Rouge rail yards. Construction of the Southwest Rapid Transit Corridor would also include the provision for active transportation pathways and conversion to Light Rail Transit in the future.

Detailed design of Stage 1 of the Southwest Rapid Corridor (Downtown to Jubilee) is underway and it is possible for construction to commence on this project during the summer of 2009 with immediate mobilization. Provided that construction of a BRT corridor does commence during the summer of 2009, Stage 1 of the SW Transit Corridor could be completed and in service by late 2011. The estimated cost of this construction option in 2008 dollars, including land acquisition costs, is $104 million. Depending upon the timing and structure of construction tender awards, escalation could have significant cost implications on the project. Again, with immediate project mobilization, and project delivery by late 2011, the forecast cumulative cash flows, including escalation, for Stage 1 of the SW Transit Corridor are $138 million.

The affordability of the Southwest Rapid Transit Corridor – Stage 1 is substantially improved with the establishment of a tri-party funding agreement whereby the federal contribution would consume the full $17.5 million available via the recent 2008 Federal Transit Trust announcement, and an additional $10.5 million of Federal funding from the cancellation of the Diesel-Electric Hybrid Articulated Bus contract. In total, this could account for a $28 million contribution from the federal level. With these sources considered, and given a 2011 project delivery date, the total financing required from the City and Provincial sources is estimated at $110 million for this option.

A significant advantage of constructing Stage 1 of the Southwest Rapid Transit Corridor is that it could provide an additional impetus for substantial development along the CNR Fort Rouge Yards. In addition, Stage 1 offers direct connectivity to the Fort Rouge Transit Base, thereby providing significant operational advantages in terms of fleet dispatch and response.

Option #2: SW Transit Corridor - Stage 1 (Truncated) (Queen Elizabeth Way to Warsaw)

A truncated version of Stage 1 of the Southwest Rapid Transit Corridor contemplates a dedicated transit thoroughfare between Queen Elizabeth Way and Pembina Highway at Warsaw Avenue. This project would include a bridge over Osborne Street and terminates north of the CNR Fort Rouge rail yards, thus eliminating the need for tunnel construction. Similar to the full Stage 1 option, this option would include the provision for an active transportation pathway and conversion to Light Rail Transit in the future.

A limited investigation into the truncated version of Stage 1 of the Southwest Rapid Corridor (Queen Elizabeth Way to Pembina and Warsaw) was undertaken, and this option does appear to be a viable alternative to the full Stage 1 Southwest Rapid Transit Corridor (Queen Elizabeth Way to Jubilee). Although the truncated version of Stage 1 offers lower construction costs than Stage 1, and would by-pass mixed traffic along Donald Street and the Corydon/Osborne/Pembina interchange, the potential for high density development along the eastern edge of the CNR Fort Rouge Yards is reduced. In addition, advantages in terms of fleet dispatch and response would not be realized with this alternative, and the improvements in reliability and travel time for transit would be less than those achieved with the development of the entire length of Stage 1.

As with the full version of Stage 1 of the Southwest Rapid Corridor, approximately $28 million could be directed to this project from existing sources of federal funding with the City and Province committing to share the outstanding financing costs of the project.

Also, similar to Stage 1, any delay of construction beyond 2009 could have significant cost implications on this project option as escalation becomes a factor in later years.

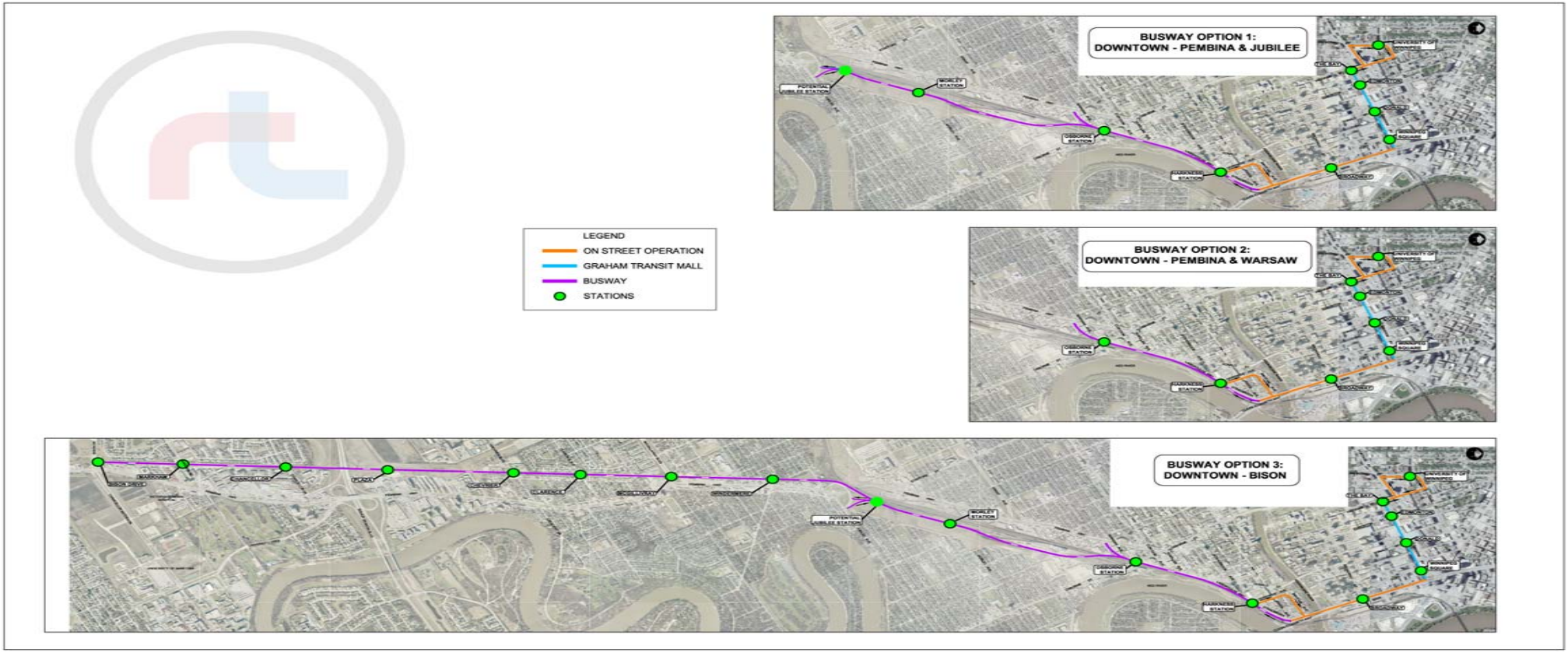
Option #3: Southwest Rapid Transit Corridor - Stage 1 & 2 (Queen Elizabeth Way to Bison Drive)

Stage 1 & 2 of the Southwest Rapid Transit Corridor contemplates a dedicated transit thoroughfare between Queen Elizabeth Way and Bison Drive. This project would include a tunnel under the CNR Fort Rouge rail yards, and three separate bridges to provide passage over Osborne Street, Pembina Highway, and Bishop Grandin Boulevard. Construction of the Southwest Rapid Transit Corridor, Stage 1 & 2, would also include the provision for an active transportation pathway and conversion to Light Rail Transit in the future.

Detailed design, while currently underway for Stage 1 of the project, has not yet been completed for Stage 2. Consequently, there is a lesser degree of cost certainty for the Stage 2 portion of the project between Jubilee and Bison. However, construction of the complete Southwest Rapid Corridor option could still commence during the summer of 2009 with immediate mobilization. Provided that construction of a BRT corridor does commence during the summer of 2009, it is expected that Stage 1 & 2 of the SW Transit Corridor could be completed and in service by late 2012. The estimated cost of this construction option in 2008 dollars, including land acquisition, is $241million. However, depending upon the timing and structure of construction tender awards, escalation could have significant cost implications on the project. With immediate project mobilization, and project delivery by late 2012, the forecast cumulative cash flow, including escalation, for Stage 1 & 2 of the SW Transit Corridor is $327 million.

The affordability of the Southwest Rapid Transit Corridor – Stage 1 & 2 could also be substantially improved with the establishment of a tri-party funding agreement whereby the federal contribution could consume the full $28 million available from existing federal sources. With these sources considered, and given a 2012 project delivery date, the total financing required from City and Provincial sources is estimated at $299 million. Securing additional federal funding in order to establish the federal government's status as a full 1/3 partner on the project would improve the affordability of this option further.

A significant advantage of constructing Stage 1 & 2 of the Southwest Rapid Transit Corridor is that it could provide an impetus for substantial development along the Transit Stations along its reach, including the CNR Fort Rouge Yards. In addition, similar to Stage 1 only, Stage 1 & 2 offers direct connectivity to the Fort Rouge Transit Base, thereby providing significant operational advantages in terms of fleet dispatch and response.


BUSWAY OPTION 1:
DOWNTOWN - PEMBINA & JUBILEE
BUSWAY OPTION 2:
DOWNTOWN - PEMBINA & WARSAW
BUSWAY OPTION 3:
DOWNTOWN - BISON
LEGEND
ON STREET OPERATION
GRAHAM TRANSIT MALL
BUSWAY
STATIONS