Agenda – Council – November 16, 2016

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – November 7, 2016

Item No. 3 Investigation of Functional Design Options along Marion Street between Lagimodiere Boulevard and Youville Street

STANDING COMMITTEE RECOMMENDATION:

On November 9, 2016, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submitted the following to Council:

1. That the results of the design study for widening and grade separation of Marion Street between Lagimodiere Boulevard and Youville Street be received as information.

2. That the Public Service be directed to investigate and report back on more affordable functional design options to improve transportation deficiencies along Marion Street between Lagimodiere Boulevard and Youville Street that do not include a grade separation or widening.

3. That the more affordable options to be investigated by the Public Service include the use of a public consultation process, improvements to the accommodation of pedestrian and cyclists as well as improvements to safety and traffic operation at key intersections; while minimizing land requirements.

4. 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 – November 7, 2016

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On November 9, 2016, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On November 7, 2016, 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.

The Standing Policy Committee on Infrastructure Renewal and Public Works received submissions in opposition to the matter from the following:

- Marty Gold, submitted a communication.
- Matthew Bingham, submitted a communication dated October 21, 2016.

On September 19, 2016, the Standing Policy Committee on Infrastructure Renewal and Public Works laid over the matter for 60 days.

The Standing Policy Committee on Infrastructure Renewal and Public Works received submissions in opposition to the matter from the following:

- Marty Gold, submitted a presentation.
- Christine Trickey, submitted a presentation.
- Sandra Dupuis, submitted a petition, purporting to contain the signatures of 3712 area residents. The submission is on file in the City Clerk's Office.
- Sandra Dupuis, submitted survey results from The Seine River Bonivital Residents Association Resident/Business Survey. The submission is on file in the City Clerk's Office.
- Sandra Dupuis, submitted a petition, purporting to contact the signatures of 218 area residents. The submission is on file in the City Clerk's Office under file SC-4.

ADMINISTRATIVE REPORT

Title: Investigation of Functional Design Options along Marion Street between Lagimodiere Boulevard and Youville Street

Critical Path: Standing Policy Committee on Infrastructure Renewal and Public Works – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
L. Escobar, P. Eng., PTOE	L.P. Deane, P. Eng.	M. Ruta	D. McNeil

EXECUTIVE SUMMARY

This report responds to the direction given to the Public Service, which was to conduct a functional study that included both a widening and grade separation of Marion Street at the CPR Emerson rail line crossing. The study concluded that Option 2 is the most suitable alignment that meets the requirements of the study.

The Class 4 Estimate for Option 2 is $566 million, with an expected level of accuracy of -30% to +60%. Assuming participation of other levels of government under existing funding programs, the City's share of the project cost is estimated at $278 million. It is also assumed that the City's share would be funded by the issuance of debt.

The Public Service is not recommending moving forward with Option 2, due to affordability concerns. Moving forward with Option 2 would require annual debt serving of $20 million per year; and this funding would require new revenue that would have to be included in future operating budgets. Also, the amount of debt required for Option 2 would exceed the maximum debt limits of the Council-approved Debt Strategy.

The Public Service is recommending that a study be conducted to investigate and report back on lesser cost alternatives that do not include a grade separation or widening and are more affordable to the City, and fit within the existing Council-approved Debt Strategy. The smaller scale study will include a public consultation process that will gather information related to rehabilitation and/or reconstruction of the existing 4-lane roadway, more modest intersection improvements at the intersection of Marion and Archibald streets, and realignment of Marion Street to connect with Dugald Road.

Although eliminating the requirements for grade separation and widening will reduce both the cost and risk associated with the proposed alignment, it should also be noted that the benefits of the project will also be reduced by the reduction of project scope. Changes of this nature would result in less efficient movement of people, goods and services. However, users of the facility and the community may be willing to accept a reduction to level of service with an acceptable level of safety in exchange for a facility that is more affordable and less intrusive to the community.

While a significant amount of design work is already in place and can be used, the additional study is estimated to cost $200,000 to complete, and take up to an additional year to complete. Due to schedule and efficiency, this work is proposed to be added to the contract with the current consultant.

RECOMMENDATIONS

1. That the results of the design study for widening and grade separation of Marion Street between Lagimodiere Boulevard and Youville Street be received as information.

2. That the Public Service be directed to investigate and report back on more affordable functional design options to improve transportation deficiencies along Marion Street between Lagimodiere Boulevard and Youville Street that do not include a grade separation or widening.

3. That the more affordable options to be investigated by the Public Service include the use of a public consultation process, improvements to the accommodation of pedestrian and cyclists as well as improvements to safety and traffic operation at key intersections; while minimizing land requirements.

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

REASON FOR THE REPORT

On July 18, 2012, Council adopted the Standing Policy Committee on Infrastructure Renewal and Public Works' recommendation to direct the Public Service to engage a consultant engineer for the purposes of conducting a "Marion Street Widening/Grade Separation and Improvements Functional Design".

IMPLICATIONS OF THE RECOMMENDATIONS

Approval of these recommendations would reduce the planned scope and cost of a study such as the one shown in Figure 2 of this report; by removing the grade separation and widening from the scope of the study. The scope proposed in the recommendations would also reduce the land requirements for the proposed improvements and lessen the impact on the surrounding community.

The scope of work for the construction of a project such as the one depicted in Figure 2 in this report would require annual debt serving of $20 million per year, and this level of funding would require new revenue.

These recommendations will reduce the anticipated benefits of the original scope for the study, which includes improved traffic flow for commuters and improved safety at the CPR Emerson railway crossing. The deletion of the underpass may impact the priority of the project with other levels of government.

The additional recommended study is expected to identify, through a public consultation process and technical input from the existing steering committee—which represents Public Works, Planning Property & Development, Winnipeg Transit and Water & Waste departments, lesser cost alternatives that are more affordable to the City, have a lesser impact on property acquisition and fit within the existing Council-approved Debt Strategy.

The smaller scale project is likely to include rehabilitation and or reconstruction of existing roadways, improvements for pedestrian and cycling activity, more modest improvements at the

intersection of Marion and Archibald streets and realignment of Marion Street to connect with Dugald Road.

HISTORY

Plans for grade separation between Marion Street and the CPR Emerson railway line began in 1974. A revised plan for grade separation and widening of Marion, which was done in 1984, included extending Goulet Street over the Seine River and establishing a modified "clover leaf" at the intersection of Marion Street and Archibald Street. This plan, which is still in place, has resulted in the Public Service securing a number of properties along Goulet Street.

On November 16, 2011, Council adopted the Transportation Master Plan (TMP), which recommended that a functional design study be conducted to review the alignment for a widening and grade separation of Marion Street, which would in turn replace the 1984 plan. The TMP indicated that a review of this alignment was needed due to new and expanded residential and industrial development in eastern Winnipeg, such as the Public Markets lands, Warman Road lands, Transcona West, Sage Creek, St. Boniface Industrial park. These changes in land use have resulted in regular congestion along Marion Street, in particular where it intersects Archibald Street and Lagimodiere Boulevard.

On July 18, 2012, Council adopted the Standing Policy Committee on Infrastructure Renewal and Public Works' recommendation to direct the Public Service to engage a consultant engineer for the purposes of conducting a "Marion Street Widening/Grade Separation and Improvements Functional Design".

On July 18, 2012, Council authorized a First Charge on the 2013 Capital Budget and directed the Public Service to conduct a functional design study to investigate the widening and grade separation of Marion Street.

On September 9, 2013 the Acting Director of Public Works awarded a contract to MMM Group Ltd. in the amount of $955,555.00 for the Functional Design Study and Public Consultation for the Marion Street Widening and Grade Separation in accordance with RFP NO. 495-2013, which was a public bid solicitation.

A functional design study was conducted between the Spring of 2014 and Winter of 2015. The study concluded that, of five functional design options presented to the public, Option 2 would be the recommended alignment.

On March 25, 2015, Council adopted the recommendation of EPC to include this project as part of the list of priorities for the Building Canada Fund.

DISCUSSION

This report responds to the direction given to the Public Service to conduct a functional study that included road widening and grade separation at the CPR Emerson railway crossing and at the intersection of Marion and Archibald streets.

The study area is shown in Figure 1, and the study included a number of goals, in particular:

- It should be integrated with adjacent land use.
- It should support active, accessible and healthy lifestyle options.

- It should support safe, efficient and equitable movement of people, goods and services.
- It should support the principles of effective asset management.

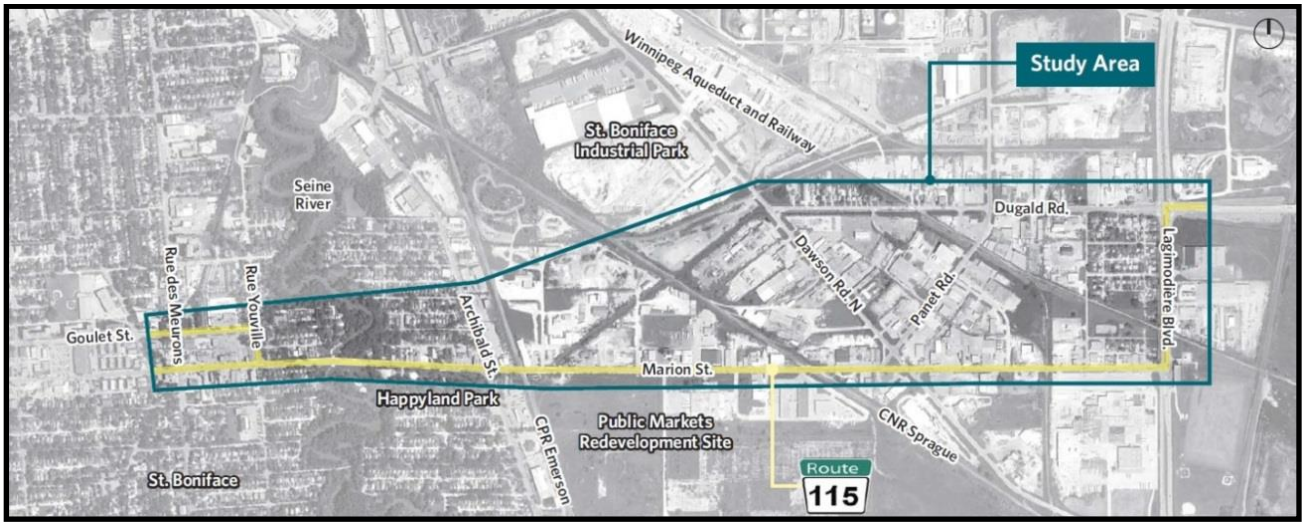
In addition to the use of social media and the City's website, the consultant team developed and carried out a Public Consultation Plan based on best practices for public consultation as outlined by the International Association for Public Participation (IAP2). This strategy included:

- Stakeholder Identification and Analysis
- Two Open Houses (June 2014 & April 2015)
- Six Landowner meetings
- Collection/analysis of Open Houses feedback
- Two Newsletters
- 11 Stakeholder meetings
- Two Online Surveys
- Newspaper ads

Five alternatives, which were shown to the public on June 2014 as part of the first Open House, were subsequently evaluated based on the following criteria:

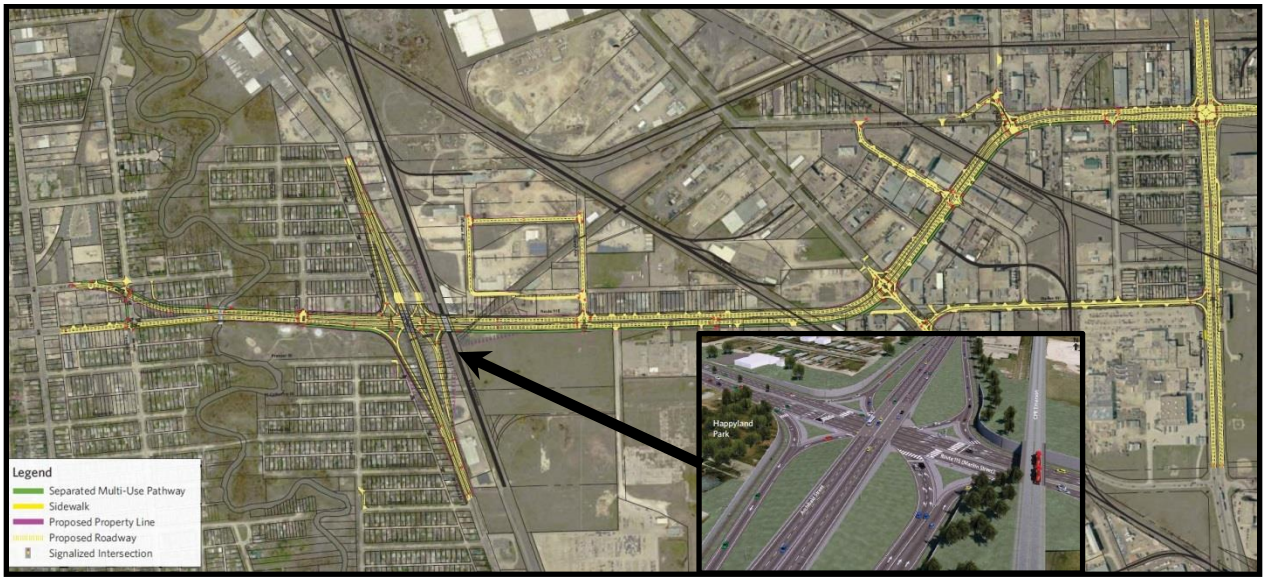
- Safety
- Property Acquisition
- Traffic Performance
- Area Impacts
- Transit Services
- Pedestrian and Cyclists
- Cost
- Ease of Construction/Staging
- Design Suitability
- Scenic Qualities

Figure 1 – Study Area



The evaluation of the five options presented to the public yielded Option 2 shown in Figure 2 as the alignment that best met the evaluation criteria. Option 2 was presented to the public at an Open House in April 2015. This option includes, amongst other things, an improvement to the alignment between Marion Street and Goulet Street, an underpass at CNR Emerson, a Single Point Diamond Interchange at Marion Street & Archibald Street, realignment of Marion Street towards Panet Road, modifications to nearby roads to support the operation at Marion Street & Lagimodiere Boulevard, improved pedestrian facilities, and a new cycling facility along Panet/Marion.

Figure 2 - Recommended Alignment



Option 2 features one additional traffic lane per direction along Marion Street, separate cycling and pedestrian facilities, and the use of Panet Road to connect Marion Street to Dugald Road. This alignment addresses the current traffic congestion experienced on Lagimodiere Boulevard

caused by the traffic signals located on Lagimodiere Boulevard between Dugald Road and Marion Street. The functional design also features a compact, single point urban interchange at the intersection of Marion Street and Archibald Street as a result of lowering Marion Street so that grade separation can be achieved between Marion Street and the CPR Emerson railway line.

Prior to the second Open House on April 2015, the project team conducted 11 stakeholder meetings as well as six additional meetings with affected property owners. As a result of these meetings, the project team met with entities such as Save Our Seine, Norwood Grove BIZ, Fire-Paramedic Services, and 67 of 141 affected property owners. Information gathered through these meetings was used to adjust, where possible, the proposed alignment that was to be presented to the public in the second Open House.

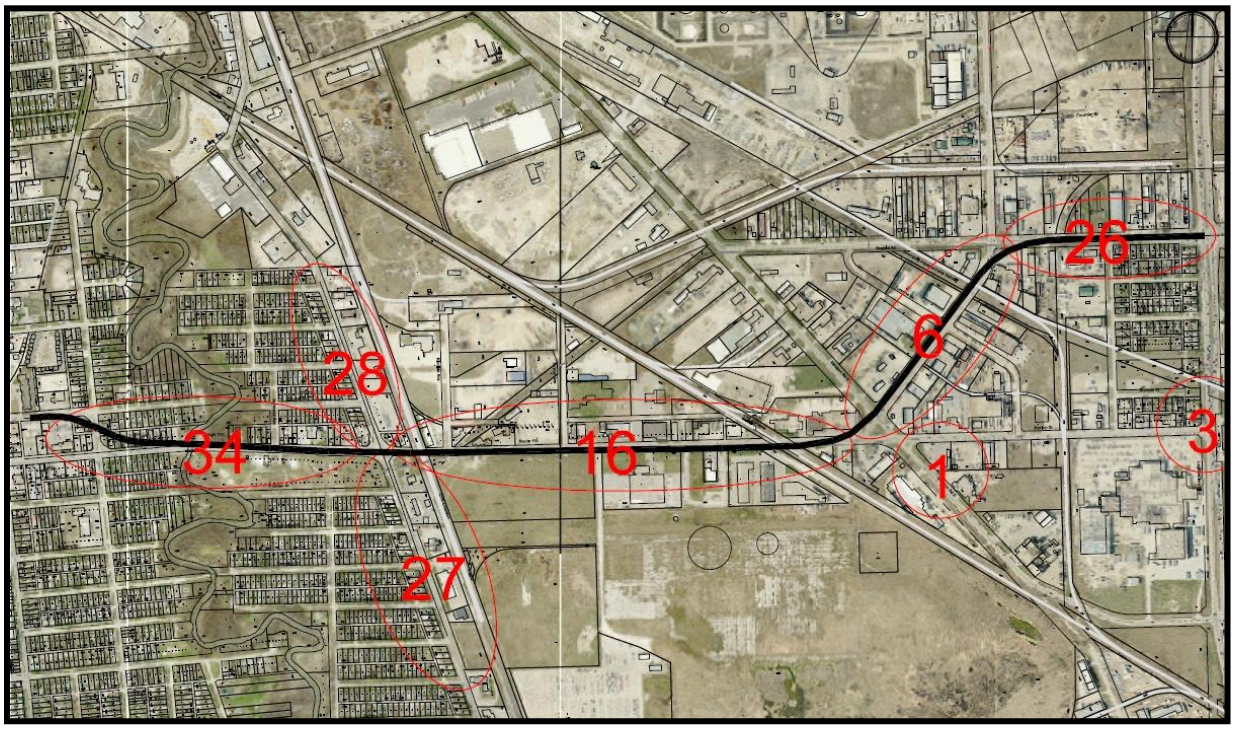
The consultant developed a Class 4 Estimate for the construction of this recommended alignment using 2015 dollars. The Public Service took this information and conducted a "Basis of Estimate" to incorporate costs not normally included in a consultant's cost estimate such as the cost of borrowing, construction inflation, subsequent technical studies, etc. The current cost estimate assumes a start of construction year of 2019 and a duration of four years for construction. This resulted in a Class 4 Estimate of $566M.

This Class 4 Estimate is subject to a variance of –30% to +60%. Actual construction could be affected by unknowns or delays of scheduling associated with negotiations with the railway, negotiations associated with land acquisitions, land drainage work as a result of the introduction of grade separation at the railway crossing and the intersection of Marion and Archibald streets to name a few.

The consultant was also tasked with identifying properties that might be affected, partially or as a whole, as a result of the recommended alignment. This yielded 141 properties that could be affected partially or as a whole as shown in Figure 3. As part of this study, the study team met with these property owners prior to the second Open House to explain the purpose of a functional design and to answer questions pertaining to their properties.

In particular, it was explained to property owners that this is a functional design study and there is no funding associated with subsequent levels of design or construction, and that it would be premature to assume construction was imminent.

Figure 3 – The number of properties that may be partially or totally affected by recommended alignment.



AFFORDABILITY

The Class 4 Estimate for Option 2 is $566 million, with an expected level of accuracy of -30% to +60%. A major assumption in this estimate is the commencement of construction in 2019, a four-year construction period, and construction inflation of 5%.

It should also be noted that with the land acquisition requirements, land drainage issues and utilities relocation issues created by the underpass and railway negotiations, this project as currently contemplated under Option 2 is a high-risk project. High-risk projects are less likely to be delivered on time and on budget than projects with lower risk profiles.

Assuming participation of other levels of government under existing funding programs, the City's expended share of the project cost would be approximately 50% of the total project costs, noting that land acquisition is an ineligible cost. Based on the current cost estimates, the City's expected share of the project cost is estimated at $278 million. It is also assumed that the City's share would be funded by the issuance of debt.

The Public Service is not recommending moving forward with Option 2 due to affordability concerns. Moving forward with this project would require annual debt serving of $20 million per year, and funding this would require new revenues that would have to be included in future budgets.

Further, Council has approved a Debt Strategy establishing self-imposed debt limits meant to ensure the City's current credit rating of AA, as defined by Standard and Poor's, is preserved. As at the date of this report, there is approximately $200 million of additional debt room left until the City reaches the self-imposed maximum limit under the Debt Strategy. As the amount of

debt required for this project is estimated at $278 million, approval of Option 2 would cause the City to exceed the maximum debt limits under the current Debt Strategy that has been approved by Council.

NEXT STEPS

Therefore, due to both affordability and project risk, the Public Service is not recommending pursuit of Option 2 at this time. Rather, the Public Service is recommending that additional study, which will include a public consultation process developed with the Office of Public Engagement be undertaken to identify lesser cost alternatives that are more affordable to the City, have a lesser impact on property acquisition, and fit within the existing Council-approved Debt Strategy.

The Public Service is recommending that a public consultation and design study be continued to investigate lower-cost alternatives that do not include a grade separation or widening. These alternatives would also reduce the land requirements of the project and impact on the surrounding community.

Current pavement condition of Marion Street between Lagimodiere Boulevard and Youville Street varies between good, fair and poor. The smaller scale options are likely to include a range of treatments that may include mill & fill and/or rehabilitation and/or reconstruction of existing roadways, enhancing the accommodation of pedestrians and/or adding the accommodation of separate cycling facilities, more modest intersection improvements at the intersection of Marion and Archibald streets and realignment of Marion Street to connect with Dugald Road.

It is also worthy to note that the smaller-scale options eliminate some of the major items that are contributing to the projects risk profile and therefore reduces project risk.

Funding for this additional work can be covered by existing surplus from the Marion St Widening and Grade Separation Project # 1803000313.

While a significant amount of design work is already in place and can be used, the additional study is estimated to cost $200,000 to complete, and take up to an additional year to complete. Due to schedule and efficiency, this work would be added to the contract with the current consultant and an over-expenditure request will be completed once this administrative report has been adopted by Council.

FINANCIAL IMPACT

Financial Impact Statement

Date: August 24, 2016

Project Name: **First Year of Program** **2016**

Functional Design for the Marion Street Widening and Grade Separation

	2016	2017	2018	2019	2020
Capital					
Capital Expenditures Required	$ 200,000	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	200,000	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs	$ -	$ -	$ -	$ -	$ -
Less: Incremental Revenue/Recovery	5,825	-	-	-	-
Net Cost/(Benefit)	$ (5,825)	$ -	$ -	$ -	$ -
Less: Existing Budget Amounts	(5,825)	-	-	-	-
Net Budget Adjustment Required	$ -	$ -	$ -	$ -	$ -

Additional Comments: An investigation on more affordable functional design options to improve transportation deficiencies along Marion Street between Lagimodiere Boulevard and Youville Street is estimated cost to $200,000.00 and will be funded by the 2013 Marion Street Widening / Grade Separation and Improvements - Rue Archibald to Lagimodiere Ave (Public Works Capital Project # 1803000313 - Marion St Wide/Grad Sep & Impr). Recoveries represent the Department Transportation Administration Overhead.

"Original signed by J. Ruby, CPA, CA"
J. Ruby, CPA, CA
Manager of Finance & Administration

CONSULTATION

In preparing this Report there was consultation with:

Corporate Finance, Infrastructure Planning
Planning Property & Development

OURWINNIPEG POLICY ALIGNMENT

A transportation system that is financially sustainable.

The recommendations within this report are consistent with the Key Strategic Goals and information contained in Table EX5-3 – Summary of Road Network Improvements in the TMP (page 63).

SUBMITTED BY

Department: Public Works
Division: Transportation
Prepared by: L. Escobar, P.Eng., PTOE, Manager of Transportation
Date: September 14, 2016

Attachment: Appendix A: Basis of Estimate Summary

Marion Street Underpass and Realignment

Project Cost for Budget Purposes -- Basis of Estimate March 10, 2016

		Class	4						
		Cost Escalation / Construction Inflation	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
		Base Year	Project Schedule						
		2015	2016	2017	2018	2019	2020	2021	Total
Construction Costs (by Major Components)		Costs (Millions)			Construction				
Earthworks and Pavement Removals		$8.90			$5.15	$5.41			$10.56
Marion		$17.87			$5.17	$5.43	$5.70	$5.99	$22.29
Archibald		$3.47				$1.05	$2.21	$1.16	$4.43
Lagimodiere		$7.12					$4.54	$4.77	$9.31
Other roads		$6.25				$1.90	$3.99	$2.09	$7.98
Seine River crossing		$5.74			$3.32	$3.49			$6.81
Detours		$7.50			$2.60	$3.65	$2.87		$9.12
Traffic Signals and Intersections		$4.45				$1.62	$2.27	$1.79	$5.68
Traffic Services		$1.50			$0.43	$0.46	$0.48	$0.50	$1.87
Roadside Protection & Noise Attenuation		$0.75					$0.48	$0.50	$0.98
Ramps		$3.01					$1.92	$2.02	$3.94
Bridge Structures		$18.04			$5.22	$5.48	$5.76	$6.04	$22.50
Retaining Walls		$35.24			$10.20	$10.71	$11.24	$11.80	$43.95
Additional Railway Works		$2.00			$0.35		$0.64	$1.61	$2.59
Land Drainage, Combined sewer, lift stn, water		$42.71			$29.66	$20.76			$50.43
Add additional for LStn & associated		$5.00					$6.38		$6.38
Active Transportation		$1.00					$1.28		$1.28
Transit Improvement		$1.00						$1.34	$1.34
Landscaping		$2.00						$2.68	$2.68
sub-total	**Construction**	**$173.53**	**$0.00**	**$0.00**	**$62.11**	**$59.96**	**$49.76**	**$42.30**	**$214.13**
Utility Costs									
Hydro - Power Distribution		$35.00			$24.31	$17.02			$41.33
Other Utilities (MTS, Gas, Teraspan)		$1.52			$1.76				$1.76
	sub-total	**$36.52**	**$0.00**	**$0.00**	**$26.07**	**$17.02**	**$0.00**	**$0.00**	**$43.09**
Engineering									
Combined Sewer / Land D Study		$1.00	$1.05						$1.05
Preliminary Design	1.5%	$3.15	$3.31						$3.31
Detailed Design	4.5%	$9.45		$10.42					$10.42
Contract Administration	7.5%	$15.75			$5.47	$5.74	$5.03	$3.17	$19.41
	sub-total	**$29.36**	**$4.36**	**$10.42**	**$5.47**	**$5.74**	**$5.03**	**$3.17**	**$34.19**
Ineligible									
Land Acquisition	*(ineligible)*	$51.58	$13.54	$42.65					$56.19
Land for LDS	*(ineligible)*	$5.00		$5.51					$5.51
Legal	*(ineligible)*	$1.00	$0.26	$0.83					$1.09
Staff for Land Acquisition	*(ineligible)*	$4.00	$1.05	$3.31					$4.36
	sub-total ineligible	**$61.58**	**$14.85**	**$52.30**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$67.15**
	Sub-Total Before C	**$301.00**	**$19.21**	**$62.72**	**$93.65**	**$82.72**	**$54.79**	**$45.46**	**$358.56**
Contingencies									
Construction	25%	$43.38			$15.53	$14.99	$12.44	$10.57	$53.53
Utilities	25%	$9.13			$6.52	$4.25			$10.77
Engineering	20%	$5.87	$0.87	$2.08	$1.09	$1.15	$1.01	$0.63	$6.84
Land Acquisition	37%	$19.09	$5.01	$15.78					$20.79
Geotechnical & Groundwater		$2.00	$2.10						$2.10
Seine River crossing- culverts		$10.00				$12.16			$12.16
Environmental (river, contaminated sites)	2.0%	$3.47			$1.24	$1.20	$1.00	$0.85	$4.28
Complexity - Railway, Traffic, Tight	4.0%	$6.94			$2.48	$2.40	$1.99	$1.69	$8.57
Unknown unknowns	5.0%	$11.97	$0.22	$0.52	$4.68	$4.14	$2.74	$2.27	$14.57
	sub-total	**$111.85**	**$8.20**	**$18.39**	**$31.55**	**$40.28**	**$19.17**	**$16.02**	**$133.61**

	Project Sub-total	$412.85	$27.41	$81.11	$125.20	$123.00	$73.96	$61.48	$492.16
Overhead / Admin Charges Interest	*(ineligible)*	$17.73	$1.08	$2.61	$6.16	$9.74	$12.57	$14.57	$46.71
Total Project Estimate		$430.58	$28.49	$83.71	$131.36	$132.74	$86.52	$76.05	$538.87
			5.3%	15.5%	24.4%	24.6%	16.1%	14.1%	100.0%
Construction delay -- start in 2019 5%		$21.53	$1.42	$4.19	$6.57	$6.64	$4.33	$3.80	$26.94
If 3 years needed to do the two studies and detailed design & land aq									
Total Project Estimate		$452.11	$29.91	$87.90	$137.93	$139.38	$90.85	$79.85	$565.81
Costs before contingencies		$318.7							$405.3
Total Contingencies		$133.4							$160.5
		Federal	$2.99	$5.74	$43.92	$43.21	$26.09	$21.76	$143.72
		Provincial	$2.99	$5.74	$43.92	$43.21	$26.09	$21.76	$143.72
		City	$2.99	$5.74	$43.92	$43.21	$26.09	$21.76	$143.72
		City Ineligible	$20.94	$70.69	$6.16	$9.74	$12.57	$14.57	$134.65
			$29.91	$87.90	$137.92	$139.37	$90.85	$79.85	$565.81
		City Total (Debt)	$23.93	$76.43	$50.08	$52.95	$38.66	$36.33	$278.37
		Grand Total	$29.91	$87.90	$137.92	$139.37	$90.85	$79.85	$565.81