TITLE: PLANNING FOR GROWTH SOUTHWEST WASTEWATER SERVICIN BORROWING BY-LAW NO. 7338	G City of BRANDON
MEETING DATE: December 12, 2022	Page 1 of 3
DIVISION: Development Services	ATTACHMENTS: A. Land Use Planning Maps B. Economic Impact Analysis C. Southwest Wastewater Project
PRESENTERS:	APPROVALS:
Ryan Nickel, Director of Planning	Ron Bowles, City Manager
Jenn Coey, Manager of Strategic Infrastructure	
Tyler Phillips, Project Engineer	

PURPOSE:

The "Planning for Growth" session is the first in a series of events aimed to improve understanding of how, where, and when we grow our community. The event will be followed by a second Council session in early January on "Paying for Growth"; an open house for all residents in mid-January; and the public hearing on the Southwest Wastewater Borrowing By-law in late January.

LAND USE PLANNING:

The City of Brandon is planning for population growth and to be 63,000 to 65,000 people within 30 years. This growth is expected to occur in both our established areas (areas already built up within existing infrastructure) and emerging areas (new areas at the edge of the City requiring infrastructure). Growing in both emerging and established areas enables opportunities for increased types of both residential and commercial uses to meet market demands (Attachment A-1).

Over the past ten years, the City of Brandon has been a prairie leader in growing our existing built up areas, seeing approximately 30% of all new residential units constructed in established areas and 70% in emerging areas. The City is planning to continue this growth pattern as we enable development within our existing neighborhoods with a focus on our busiest streets and our downtown core, while facilitating planned and orderly growth around the edges of our community.

Prioritizing of growth in emerging areas is beneficial to ensure a cost-effective use of public funds spent on new infrastructure. Through Council direction and planning over the last 10+ years the City has prioritized development in our south growth area. The City is planning for 75% of our

emerging area residential growth and 60% of our emerging area commercial development to occur in the south growth area (Attachment A-2). Considerations when prioritizing the south growth area included landowner/developer interest, amount of potential developable land and mix of land uses.

The City has approved multiple land use and infrastructure Secondary Plans within the south growth area and developers have proceeded with more detailed Neighborhood Planning and in some instances have started construction. Unfortunately, almost all the land within the south growth area has servicing limitations and the City is nearing or at the point in most areas where buildings cannot be constructed without wastewater upgrades being completed.

Attachment A-3 identifies the long term south growth area land use vision, including lands currently within the City to accommodate approximately 30 year growth and potential lands for future urban growth to the south of the City to accommodate approximately 50 year growth. To promote connectivity, the proposed future urban boundary is the existing highway extension to the east of 18th Street and the future planned highway extension to the west of 18th Street.

ECONOMIC IMPACTS:

Decisions on how, where, and when we grow our community have many direct and indirect social, economic and environmental impacts. As part of analyzing the Southwest Wastewater project Administration commissioned Praxis Consulting Ltd. to complete an Economic Impact Assessment of the proposed 500,000 sq. ft. regional retail development area to the west of 18th Street (Attachment B). The economic analysis was undertaken to understand the broader financial impacts of the regional retail development on the community beyond the collection of development charges. Key municipal takeaways from the assessment include:

Local Employment: 1052 annual employment positions at full buildout with a labor income of 39 million

Local Gross Domestic Product: Increase of local annual economic activity of 71 million annually

Municipal Tax Revenues: Increase of municipal revenues by 2 million annually at full build-out

Demand Considerations: Another regional retail hub in Brandon is necessary to meet the demand for larger scale commercial space, and the development would provide a variety of economic benefits to Brandon. If timing of retail growth is not strategically managed, however, there is the potential to negatively impact other retail activity; specifically, it has been calculated that retail sales demand would increase by \$48 million by 2027, which is below the forecasted supply for the new commercial development area of \$73 million.

INFRASTRUCTURE PLANNING:

The infrastructure plan for growth includes short, medium, and long term investments that will progressively improve infrastructure to service the growth area as development proceeds. As noted earlier, wastewater in the southwest area is at capacity. Wastewater improvements, including the lift stations and forcemain, is the initial phase of a larger wastewater plan that will require longer term improvements to the downstream wastewater network and future pre-treatment facility upgrades.

Two lift stations and associated forcemains are required. The first phase will enable residential to be constructed and phase two will enable both commercial development and future residential lots (Attachment C).

Other off-site infrastructure improvements to service the south growth area include water improvements (e.g. extension of watermain along Patricia Avenue), road improvements (upgrading Patricia avenue, signals at Patricia and 18th Street), and land drainage improvements (e.g. southeast drainage outflow project).

Phasing and constructing infrastructure improvements at the "right time" is necessary to align infrastructure with growth demands while not overbuilding infrastructure.

- Attachment A-1: 30 Year Growth Projections



Total Population 63,000

Total Residential **7,636 Units**

Total Commercial **2,516,967 Sq. Ft.**

Total Industrial **908,724 Sq. Ft.**

- Attachment A-2: Emerging Area Growth Strategy



Designated Lands in City Potential Expansion Lands (30-50 years) Expansion Direction (50+ years)

West Residential: 5% Non-Residential 5%

- Attachment A-3: South Brandon Growth -



City of Brandon – New Regional Retail & Commercial Development Economic Impact Assessment



December 8, 2022

Commissioned by: City of Brandon

Prepared by: PRAXIS CONSULTING LTD. Suite 170 - 2 Research Dr. Regina, SK S4S 7H9

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EXECUTIVE SUMMARY

Introduction

The City of Brandon is investigating the economic impact of a new regional retail and commercial development on the Brandon economy. The City has limited development charge reserves to fund growth infrastructure and has already committed to servicing residential areas (based on previous approvals). The regional retail node is part of larger neighborhood plan with approximately 500,000 square feet of retail development. The purpose of this analysis is to inform City Council on the economic impact of a new regional retail centre.

Summary of Results

The results below include direct, indirect, and induced impacts of development construction and operations for Manitoba, Brandon, and the rest of Manitoba outside of Brandon (ROP). All impacts are considered relative to a base case: no new development. Results are cumulative for construction and annual for operating impacts and are expressed in 2022 dollars.

Direct impact is the total initial expenditure. Indirect impact is the secondary impact that includes interindustry transactions: purchases of inputs from supporting industries. Induced impact is the additional impact from changes in household spending as industries add labour in response to higher levels of demand for output.

Gross output measures total expenditures on local goods and services as well as payments to labour and business profits. Gross domestic product (GDP) measures net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP excludes the value of intermediate goods and services used in production. Direct, indirect, and induced employment impacts are measured in positions. Labour income includes wages, salaries, and employer contributions to pensions and benefit packages.

Table 1: Provincial Impacts

Provincial Impacts: Construction and Operations	Gross Output (\$M)	Gross Domestic Product (\$M)	Employment (Positions)	Labour Income (\$M)
Construction (Cumulative)	181.0	88.8	870	48.1
Operations (Annual at Full Build Out)	138.1	88.0	1,199	45.7

Table 2: Brandon Region Impacts

Regional Impacts: Construction and Operations	Gross Output (\$M)	Gross Domestic Product (\$M)	Employment (Positions)	Labour Income (\$M)
Construction (Cumulative)	111.0	52.0	517	29.4
Operations (Annual at Full Build Out)	111.0	71.3	1,052	38.6

Table 3: Government Revenue Impacts

Government Revenues (\$M)	Federal (Manitoba Portion)	Provincial (Manitoba Only)	Municipal (Brandon Only)
Construction (Cumulative)	14.3	9.0	2.3
Operations (Annual at Full Build Out)	16.4	15.5	3.2

Key Takeaways

The development will have a positive impact on the Brandon economy after retail demand rises to meet the supply after 2030. Demand was calculated using the latest population forecast for the city (as determined by Praxis in March 2022) and the per capita retail sales (Manitoba average of \$17,576). Please see table 11 for confirmation of additional demand.

Over the course of the construction period (five years), the development will add \$111 million to local gross economic activity \$52 million to local GDP, create or maintain 517 jobs locally, and add \$25.6 million to government revenues (\$14.3 million federal, \$9 million provincial, and \$2.3 million municipal).

Once operational and at full build out, the development will add \$111 million to local gross economic activity annually, \$71.3 million to local GDP annually, create or maintain 1,052 jobs locally, and add \$35.1 million to government revenues (\$16.4 million federal, \$15.5 million provincial, and \$3.2 million municipal).

Revenues will accrue to the City on the schedule in the table below. Assumptions include a linear increase in constructed square footage of 300,000 for the first year (anchor tenant) and 50,000 per year for the remaining four years. Retail operations start in year two and is proportional to the square footage constructed. Municipal revenues from construction and operations were assumed to include taxes and levies, licenses and permits, sale of services, and other including fines, and returns on investments. Further detail of government revenue by type is available in Tables 12 and 13.

Year	Construction Square Footage ('000s)	Municipal Revenues from Construction (\$)	Municipal Revenues from Operations (\$)
2023	300	1,384,824	-
2024	50	230,804	2,214,859
2025	50	230,804	2,531,268
2026	50	230,804	2,847,676
2027	50	230,804	3,164,084
Total	500	\$ 2,308,039	\$ 10,757,887

Table 4: Municipal Revenue Impacts by Year - 2023 to 2027

INTRODUCTION

The City of Brandon is investigating the economic impact of a new regional retail and commercial development on the Brandon economy. The City has limited development charge reserves to fund growth infrastructure and has already committed to servicing residential areas (based on previous approvals). The purpose of this analysis is to inform City Council on the timing to invest in the appropriate infrastructure for servicing new commercial development.

The regional retail node is part of larger neighborhood plan with approximately 500,000 square feet (sqft) of retail development featuring one large anchor tenant (300,000 sqft), and 50,000 sqft per year for an additional four years. The anchor store would be constructed first and smaller commercial units and restaurants would fill in over a five year time frame.

METHODOLOGY

This analysis presents results based on standard methodologies for estimating economic contributions for sub-national geographies.

Economic Model Descriptions

To estimate the impact of the development, Praxis' Manitoba Economic Model was employed which uses the latest provincial input-output tables available. Input-output analysis is a form of macroeconomic evaluation based on the interdependencies between different economic sectors or industries. This method is commonly used for estimating the impacts of positive or negative economic shocks and analyzing the ripple effects throughout an economy. The Manitoba Model contains 35 industries and 66 commodities. It is based on a standardized method published by Statistics Canada and yields results like Statistics Canada's inter-provincial model and the Conference Board of Canada's STEAM Model. The Model description and definitions are available in Appendix A.

In addition to the provincial model, there are several satellite modules. One relevant module to this project is the fiscal module. This module provides a more thorough representation of the impact of a project on government revenues. Typical economic impact models will only provide results in terms of indirect taxes. Praxis' economic impact model extends this to include personal income taxes, corporate and unincorporated business taxes, as well as resource revenues, and excise taxes. The fiscal module is updated annually upon the release of the federal and provincial government budgets.

A separate economic impact model was developed to represent the economy of the Brandon region. The Brandon Economic Model is square in dimension with 25 industries and was developed using a regional share of the 2018 provincial economy (the latest available). The Brandon Economic Model is used to estimate regional output by industry, assess regional trade flows and leakages a community hierarchy, and is re-balanced to ensure model cohesiveness. A detailed discussion on the development of sub-provincial input-output models is available in Appendix B.

Assumptions and Conversion to Economic Model Inputs

Construction impacts were calculated as a demand shock to the input-output model's final demand category of construction for \$86 million (excluding land costs). Construction costs were based on \$215 per square foot which is the high end (assuming high inflation continues) of supermarket and big box stores construction costs in Table 5, below:

Table 5: Estimation of Construction Costs

	Construction Costs - Retail and Shops
Strip Plaza	\$110 to \$170 /ft2
Supermarket	\$160 to \$215 /ft2
Big Box Store	\$160 to \$215 /ft2
Enclosed Mall	\$210 to \$285 /ft2
Source: https://actimationas.com/building.costs.por.square.foot.in.capada.altus.group.stati	stics/

Source: https://estimationgs.com/building-costs-per-square-foot-in-canada-altus-group-statistics/

Construction is assumed to take place over five years. Capital outlays were also adjusted downward using model default import and inventory withdrawal leakages. At full build out, operation impacts were estimated by first determining the square footage per employee for the development, as shown in Table 6:

Table 6: Estimation of Square Footage Per Employee

Sq	uare Footage of Floor Space per Retail Employee
Association of Bay Area Governments (ABAG) Non-Residential Buildings	s Analysis 508
US Energy Information Administration	889
Montgomery County – Round 7.0 Estimating Number of Employees in a	Building 400
Average	599
Source:	120511 pdf

http://analytics.mtc.ca.gov/foswiki/pub/Main/Documents/NonResidentialAnalysis 120511.pdf https://www.eia.gov/consumption/commercial/data/2012/bc/cfm/b2.php https://www.mwcog.org/file.aspx?&A=v0SA9I%2BV005%2F%2Bgsoo02QiYnCTJWpX7sZJJ0CY5cWjyI%3D

At an average of 599 sqft per retail employee, the 500,000 sqft regional retail node should host 835 employees. Industry averages of annual output per employee (\$87,692 for retail trade in Manitoba) and for the industry (\$73.2 million) were used to convert the impact of these 835 retail employees into economic output. This economic output figure was used as a retail trade output shock to the models.

DETAILED RESULTS

The results below are direct, indirect, and induced impacts of the development. This includes capital expenditures, and retail output for Manitoba, the Brandon Region, and the rest of the province (ROP) outside of Brandon. All impacts are considered relative to a hypothetical base case: no development. Construction results are cumulative for the construction period (ten years) and annual for operating impacts. The results are expressed in 2022 dollars.

Gross output measures total expenditures on local goods and services as well as payments to labour and business profits. Gross output is the total value of goods and services produced by an industry. It includes intermediate inputs that are foreign- and domestically-produced goods and services used by an industry in the production of its gross output. Value added is the difference between gross output and intermediate inputs and represents the value of labour and capital used in producing gross output. The sum of value added across all industries is equal to gross domestic product for the economy.

Gross domestic product (GDP) measures net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP excludes the value of intermediate goods and services used in production. Labour income includes wages, salaries, and employer contributions to pensions and benefit packages and is included in GDP. Economic model results are shown in the tables below.

Results – Construction

Table 7: Development Construction Economic Impacts: Manitoba, Brandon, and ROP (Cumulative)

Construction (Cumulative) Economic Impacts	Brandon Region		
Gross Output (\$M)			
Direct	107.1	79.0	28.1
Indirect	29.5	14.8	14.7
Induced	44.4	17.2	27.2
Total Gross Output	181.0	111.0	70.0
Gross Domestic Product (\$M)			
Direct	44.0	32.4	11.5
Indirect	17.2	8.8	8.4
Induced	27.6	10.8	16.9
Total Gross Domestic Product	88.8	52.0	36.8
Employment (Positions)			
Direct	449	331	118
Indirect	156	79	77
Induced	265	106	158
Total Employment	870	517	353
Labour Income (\$M)			
Direct	28.2	20.8	7.4
Indirect	8.1	4.1	4.1
Induced	11.8	4.6	7.2
Total Labour Income	48.1	29.4	18.7

Results – Operations at Full Build Out

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Facility Operation Economic Impacts	Manitoba	Brandon Region	ROP
Gross Output (\$M)			
Direct	73.2	73.2	0.0
Indirect	22.7	15.2	7.5
Induced	42.2	22.6	19.6
Total Gross Output	138.1	111.0	27.1
Gross Domestic Product (\$M)			
Direct	47.7	47.7	0.0
Indirect	14.0	9.4	4.6
Induced	26.2	14.1	12.1
Total Gross Domestic Product	88.0	71.3	16.7
Employment (Positions)			
Direct	835	835	0
Indirect	113	78	35
Induced	251	140	112
Total Employment	1,199	1,052	147
Labour Income (\$M)			
Direct	28.7	28.7	0.0
Indirect	5.8	3.9	1.9
Induced	11.2	6.0	5.2
Total Labour Income	45.7	38.6	7.1

IMPACTS BY INDUSTRY

Impacts of the development on the local economy are pervasive and widespread. Tables 9 and 10 provide the total construction and operational impacts (sum of direct, indirect, and induced) by industry. For the construction phase, direct impacts are recorded in the construction industry, with indirect impacts prominent in Finance, Insurance, Real Estate and Rental and Leasing, and Professional, Scientific and Technical Services industries. In the case of operations, the bulk of direct activity occurs within the Retail Trade industry itself but limited further impacts (indirect) occur within Finance, Insurance, and Real Estate and Administrative and Support, Waste Management and Remediation Services, and Professional Services reflecting the high proportion of specialized services required for the development's operation. In both cases, induced impacts, which represent the additional impacts of consumer spending of wages earned, is concentrated heavily within the retail trade and service industries.

Impacts by Industry – Construction – Cumulative

Industry	Gross Output	GDP at Basic	Employment	Labour Income
Crop and Animal Draduction	(\$IVI)	Prices (\$IVI)	(Positions)	(\$171)
	0.5	0.2	2	0.0
	0.0	0.0	0	0.0
Fishing, Hunting and Trapping	0.0	0.0	0	0.0
Support Activities for Agriculture	0.0	0.0	0	0.0
Mining and Oil and Gas Extraction	1 5	1.0	2	0.2
Utilities	0.9	0.8	2	0.3
Construction	79.5	32.6	333	20.9
Manufacturing	2.3	0.8	7	0.5
Wholesale Trade	1.6	1.0	8	0.5
Retail Trade	4.7	3.0	53	1.8
Transportation and Warehousing	1.5	0.7	6	0.4
Information and Cultural Industries	1.2	0.8	5	0.3
Finance, Insurance, Real Estate and				
Rental and Leasing	8.9	5.9	16	1.3
Professional, Scientific and Technical	2.0	2.4	26	
Services	3.8	2.4	26	1.4
Management and Remediation				
Services	0.8	0.5	9	0.3
Educational Services	0.1	0.0	1	0.0
Health Care and Social Assistance	0.4	0.3	3	0.1
Arts, Entertainment and Recreation	0.2	0.1	2	0.1
Accommodation and Food Services	1.5	0.7	24	0.5
Other Services (Except Public				
Administration)	0.4	0.3	6	0.2
Operating, Office, Cafeteria and	0.0		0	0.0
Laboratory Supplies	0.0	0.0	0	0.0
and Promotion	0.0	0.0	0	0.0
Transportation Margins	0.0	0.0	0	0.0
Non-Profit Institutions Serving			-	
Households	0.2	0.1	3	0.1
Government Sector	0.9	0.6	7	0.5
Total	111.0	52.0	517	29.4

Table 9: Impacts by Industry – Construction Phase – Local (Cumulative)

Impacts by Industry – Operations – Single Year at Full Build Out

Industry	Gross Output	GDP at Basic	Employment	Labour Income
	(\$M)	Prices (\$M)	(Positions)	(\$M)
Crop and Animal Production	0.3	0.1	1	0.0
Forestry and Logging	0.0	0.0	0	0.0
Fishing, Hunting and Trapping	0.0	0.0	0	0.0
Support Activities for Agriculture				
and forestry	0.0	0.0	0	0.0
Mining and Oil and Gas Extraction	0.3	0.2	0	0.0
Utilities	1.3	1.2	3	0.4
Construction	1.0	0.4	4	0.3
Manufacturing	0.9	0.3	3	0.2
Wholesale Trade	0.9	0.6	5	0.3
Retail Trade	78.0	50.8	890	30.6
Transportation and Warehousing	1.8	0.8	7	0.4
Information and Cultural Industries	2.3	1.4	8	0.6
Finance, Insurance, Real Estate and				
Rental and Leasing	14.5	9.8	27	2.1
Professional, Scientific and Technical	2 5	1.0	17	0.0
Administrative and Support Waste	2.5	1.0	17	0.9
Management and Remediation				
Services	1.8	1.0	20	0.7
Educational Services	0.1	0.1	2	0.0
Health Care and Social Assistance	0.6	0.4	4	0.2
Arts, Entertainment and Recreation	0.3	0.2	3	0.1
Accommodation and Food Services	2.4	1.1	37	0.8
Other Services (Except Public				
Administration)	0.5	0.3	6	0.2
Operating, Office, Cafeteria and				
Laboratory Supplies	0.0	0.0	0	0.0
and Promotion	0.0	0.0	0	0.0
Transportation Margins	0.0	0.0	0	0.0
Non-Profit Institutions Serving	0.0	0.0	0	0.0
Households	0.3	0.2	4	0.2
Government Sector	1.2	0.8	10	0.6
Total	111.0	71.3	1052	38.6

DEMAND CONSIDERATIONS

Further analysis was undertaken to determine whether the new development would cannibalize any existing retail or commercial activity in Brandon. Using the latest population forecast for the city (as determined by Praxis in March 2022) and the per capita retail sales (Manitoba average of \$17,576), it was determined that retail sales would increase by \$48 million by 2027, full operational build out. This is below the forecasted supply for the new development at \$73.2 million for the same year. Without significant in-shopping from communities that comprise the wider Brandon market area, there remains some risk that the development may cannibalize existing Brandon retail activity, especially in the early years of the development.

Year	Brandon Population Actual and Forecast	Estimated Brandon Retail Sales (\$M)	Incremental Retail Sales From 2022 (\$M)
2021	51,313	902	N/A
2022	51,885	912	N/A
2023	52,447	922	10
2024	52,999	932	20
2025	53,544	942	29
2026	54,083	951	39
2027	54,619	961	48
2028	55,143	970	57
2029	55,655	979	66
2030	56,153	988	75
2031	56,638	996	84
2032	57,110	1,004	92

Table 11: Estimated Retail Demand	- Brandon – 2021 to 2032
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Sources: Praxis Consulting, Statistics Canada 2021 Census of Canada, Table 20-10-0008-01

FISCAL IMPACTS

An expansion in economic activity is expected to generate incremental government revenues. The Manitoba Economic Impact Model's fiscal module is based on the latest provincial and federal budgets and estimates government revenues as follows:

- Provincial personal income tax is calculated by using the provincial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial corporate tax rate to incremental corporate profits before taxes.
- Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits.
- Federal and Provincial sales taxes collected are calculated using a ratio of government sales and excise tax revenues to retail industry output.
- Local/municipal government fiscal impacts are based on the stable ratio of Brandon municipal revenues to regional GDP and the breakdown of City of Brandon revenues by component part.

Estimated government revenues are for direct, indirect, and induced impacts and do not represent taxes paid solely by the development. Estimates are not adjusted for any changes to equalization entitlements.

Government Revenue Impacts: Direct, Indirect, and Induced - Construction (Cumulative)	Personal Income Tax (PIT)	Corporate Income Tax	Unincorporated Business Income Taxes	Sales and Excise Taxes	Total Revenue
Federal (\$M)	10.13	0.90	2.64	0.61	14.28
Provincial (\$M)	5.50	0.72	1.90	0.92	9.04
Municipal (\$M)	Taxes and Levies	Licenses and Permits	Sales of Services	Other*	
	1.55	0.04	0.26	0.46	2.31
Total	17.17	1.66	4.80	1.99	25.63

Table 12: Government Fiscal Impacts – Construction (Cumulative)

*Fines, sales of goods, concessions, franchises, fees, penalties, returns on investments

Table 13: Government Fiscal Impacts – Operations (Single Year at Full Build Out)

Government Revenue Impacts: Direct, Indirect, and Induced - Operating (Single Year and On- going)	Personal Income Tax (PIT)	Corporate Income Tax	Unincorporated Business Income Taxes	Sales and Excise Taxes	Total Revenue
Federal (\$M)	7.69	1.24	1.90	5.62	16.45
Provincial (\$M)	4.70	0.99	1.37	8.44	15.51
Municipal (\$M)	Taxes and Levies	Licenses and Permits	Sales of Services	Other*	
	2.12	0.06	0.35	0.63	3.16
Total	14.51	2.30	3.62	14.69	35.12

*Fines, sales of goods, concessions, franchises, fees, penalties, returns on investments

Timing of Municipal Revenues

Municipal revenues will begin accruing to the City immediately upon initiation of construction in the form of permits and fees. Assumptions include a linear increase in constructed square footage of 300,000 for the first year (anchor tenant) and 50,000 per year for the remaining four years, retail operations start in year two and increase proportionately to the square footage constructed. Revenues will accrue to the City on the schedule in the table below:

Year	Construction Square	Municipal Revenues from	Municipal Revenues from
	Footage (1000s)	Construction (\$)	Operations (\$)
2023	300	1,384,824	-
2024	50	230,804	2,214,859
2025	50	230,804	2,531,268
2026	50	230,804	2,847,676
2027	50	230,804	3,164,084
Total	500	\$ 2,308,039	\$ 10,757,887

Table 14: Municipal Revenue Impacts by Year - 2023 to 2027

SUMMARY OF FINDINGS

The retail development is expected to begin construction in 2023 with one large anchor tenant (300,000 sqft) and continue expanding at a rate of 50,000 sqft per year for an additional four years. It is estimated that the development will have a positive impact on the Brandon economy after retail demand rises to meet the supply after 2030. This demand was calculated using the latest population forecast for the city (as determined by Praxis in March 2022) and the per capita retail sales in Manitoba at an average of \$17,576. Supply was estimated based on the size of the development (500,000 sqft at full build out) yielding an expected 835 employees, and an industry average for annual output per employee (\$87,692 for retail trade in Manitoba).

Over the course of the construction period (five years), the development will add \$111 million to local gross economic activity \$52 million to local GDP, create or maintain 517 jobs locally, and add \$25.6 million to government revenues (\$14.3 million federal, \$9 million provincial, and \$2.3 million municipal).

Once operational and at full build out, the development will add \$111 million to local gross economic activity annually, \$71.3 million to local GDP annually, create or maintain 1,052 jobs locally, and add \$35.1 million to government revenues (\$16.4 million federal, \$15.5 million provincial, and \$3.2 million municipal).

Municipal revenues are expected to total approximately \$2.31 million from construction and, assuming retail operations begin in year two, approximately \$10.8 million from operations during the construction period from 2023 to 2027.

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APPENDIX A: DEFINITIONS AND MODEL DESCRIPTION

Employment: measured in positions.

Final Demand: sum of personal expenditure, government purchases of goods and services, business and government investment, and net exports.

GDP at factor cost: measure of net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP at factor cost excludes the value of intermediate goods and services used in production.

GDP at market prices: GDP at factor cost plus indirect taxes less subsidies.

Gross Output: total expenditures on local goods and services as well as payments to labour and business profits. Gross output includes double counting because it includes the value of inputs used in production rather than net value added alone.

Direct Impact: total project expenditure, usually construction or operating outlays.

Indirect Impact: the secondary impact that includes inter-industry transactions, purchases of inputs from supporting industries.

Induced Impact: the additional impact from changes in household spending as industries modify labour input requirements in response to altered levels of demand for output.

Industry outputs are calculated as $(I-D(I-\mu-\alpha-\beta)B)^{-1}D((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)Xd+(I-\mu)Xr)=X$

Where:

I = an identity matrix of industry-by-industry dimension.

D = a matrix of coefficients representing commodity output proportions.

B= a matrix of coefficients representing commodity input proportions (technical coefficients) by industry.

 μ = a diagonal matrix whose elements represent the ratio of imports to use.

 α = a diagonal matrix whose elements represent the ratio of government production to use.

 β = a diagonal matrix whose elements represent the ratio of inventory withdrawals to use.

e* = final demand categories of consumption, government purchases of goods and services, business and government investment, and inventory additions.

Xd = final demand category of domestic exports.

Xr = final demand category of re-exports.

Employment is calculated as a fixed number of positions per dollar of industry output.

APPENDIX B: DEVELOPING COMMUNITY LEVEL INPUT OUTPUT MODELS

The latest available provincial input-output tables at the S-Level from Statistics Canada were used as the starting point. The table represents 25 industries and 18 components of final demand (based on the 2016 S-level aggregation, the latest available). The tables were converted into industry-by-industry space.

In a square input-output table, each industry in the table can be represented as a column. For example industry 1 can be represented as follows:

z11 z12 . . z125 w1 X1

zij = purchases by industry i of products from industry j. The transactions matrix consists of z11 to z2525 comprise the transactions matrix of 625 (25 x 25) elements.

W1 = value added or gross domestic product component of industry 1's output which includes wages, salaries, supplementary labour income, unincorporated business profits, incorporate income profits, other income, and depreciation.

X1 = industry 1's total output, which equals W1 plus the sum of z11 to z25.

To create sub-provincial models, four challenges must be overcome:

- Allocation of provincial gross output by community/region;
- Estimation of technical coefficients by industry at a community/regional level;
- Estimation of components of gross domestic product by industry at a community/regional level; and
- Allocation of provincial final demand output by community/region.

Census data on labour force by industry will be used to allocate gross output by industry for the region/community. Regional gross output for industry i is estimated:

XRi = Labour ForceRi/Labour ForceSki x XSki

Where:

XRi = regional gross output for industry i
Labour ForceRi = regional labour force for industry i
Labour ForceSki = provincial labour force for industry i
XSki = provincial gross output for industry i

To estimate items in each regional transaction matrix (zij) it will be assumed in all cases that the provincial input structure will apply to regional industries. The components of the regional transaction matrix are estimated:

zRij = zSKij/XSki x XRi

Where: zRij = an element of the regional transactions matrix. zSKij = the corresponding element of the provincial transactions matrix.

The same methodology is used for estimating the components of GDP.

WRi = WSki/XSki x XRi

Where:

WRi = regional value added or gross domestic product component of industry i's output WSki = provincial value added or gross domestic product component of industry i's output

The components of final demand are estimated as follows. Personal expenditures are based on a per capita allocation of provincial spending.

PERi = PESki/PopSk x PopR

Where: PERi = Regional personal expenditure on industry i's output PESki = Provincial personal expenditure on industry i's output PopSk = Provincial population PopR = Regional population

Gross capital formation (GFCF) or investment by industry is estimated applying the regional share industry to total provincial gross capital formation for each industry. The same approach is used to estimate exports (Xd), imports (M), and inventory changes by industry (VPC).

GFCFRi = XRi/XSki x GFCFSki

XdRi = XRi/XSki x XdSki

MRi = XRi/XSki x MSki

VPCRi = XRi/XSki x VPCSki

Where:

GFCFRi = Regional investment spending on industry i's output. GFCFSki = Provincial investment spending on industry i's output XdRi = Regional exports of industry i's output XdSki = Provincial exports of industry i's output MRi = Regional imports of industry i's output MSki = Provincial imports of industry i's output VPCRi = Regional inventory changes of industry i's output VPCSki = Provincial inventory changes of industry i's output

Regional public administration employment is used to allocate provincial government current expenditures by region.

GCERi = PAER/PAESk x GCESki

Where:

GCERi = Regional government current expenditures on industry i's output PAER = Regional public administration labour force PAESk = Provincial public administration labour force GCESki = Provincial government current expenditures on industry i's output

It is also necessary to adjust for leakages for intra-provincial imported factors of production. These are estimated residually: If the sum of the use (both Final Demand and Inter-industry sales) of industry i's output is less than Xi then, intra-provincial exports are used to balance. Similarly, if use is greater than Xi intra-provincial imports are used the balance.

Intra-provincial exports/imports and exports due to outshopping are estimated by calculating the marginal propensity to out-shop (the ratio of major community per capita retail sales to provincial per capita retail sales and multiplying by PE.) Imports and exports are adjusted by this amount.

The estimation of intra-provincial imports into a region/community and incorporation of intra-provincial imports into the region/community model's leakages will constrain local multipliers to values not exceeding provincial level multipliers.

Developing Community/Regional Impact Models

Industry outputs in response to a shock in final demand are calculated as $(I-(I-\mu-\alpha-\beta)A)-1((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)Xd+(I-\mu)Xr)=X$

Where:

I = an identity matrix of industry-by-industry dimension

A = a matrix of technical coefficients representing inter-industry purchases (zij) divided by own industry gross output Xi

 μ = a diagonal matrix whose elements represent the ratio of imports to use

 α = a diagonal matrix whose elements represent the ratio of government production to use

 β = a diagonal matrix whose elements represent the ratio of inventory withdrawals to use

e* = final demand categories of consumption, government purchases of goods and services, business and government investment, and inventory additions
Xd = final demand category of domestic exports

Xr = final demand category of re-exports

Employment is calculated as a fixed number of positions per dollar of industry output. GDP components are calculated based on a fixed ratio of Wi to industry output.

