UCS2016-0136
ATTACHMENT 2

Financial Model Review

The City of Calgary

Waste & Recycling Services

2016 February 24

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1 Executive Summary

1.1 Introduction

In August 2015, Stack'd Consulting Inc. was engaged by The City of Calgary, Waste & Recycling Services (WRS) to perform a financial review as outlined in RFP # 15-1547.[1] The purpose of this engagement is to perform financial model review, cost of service study, and develop a new funding and rate model to support the 2019-2022 business plan and budget cycle, which:

i. Supports long-term funding and operational sustainability (i.e. 10-year horizon);

ii. Supports desired waste diversion, customer service, and operating performance expectations; and,

iii. Determines appropriate financial management principles.

1.2 Analysis and Key Findings

The scope of analysis to-date has focused on three key areas: (1); develop an understanding of WRS' current operations and financial model through a current state assessment; (2); complete an external municipal scan to identify leading practices, and (3); develop a future WRS Financial Model.

1.2.1 Current State

Waste & Recycling Services operates an integrated waste management system that provides a range of waste management services including collection, processing, and disposal of waste, recycling, and organic materials. A suite of waste management services are provided to the Single-Family, Multi-Family, and Non-Residential (spanning Construction & Demolition (C&D) and Industrial, Commercial, and Institutional (ICI) sectors). These services span from direct collection, to community-based drop-off and clean-up programs, to both active and closed landfill and waste management facility activities.

A current state financial review was conducted with specific analysis completed to identify the sources and uses of funds within WRS. A high-level summary of current sources vs. uses of funds is illustrated in Figure 1.

[1] The City of Calgary, "Request for Proposals For Municipal Waste Management Financial Model Review Consulting Services", Issued June 12, 2015

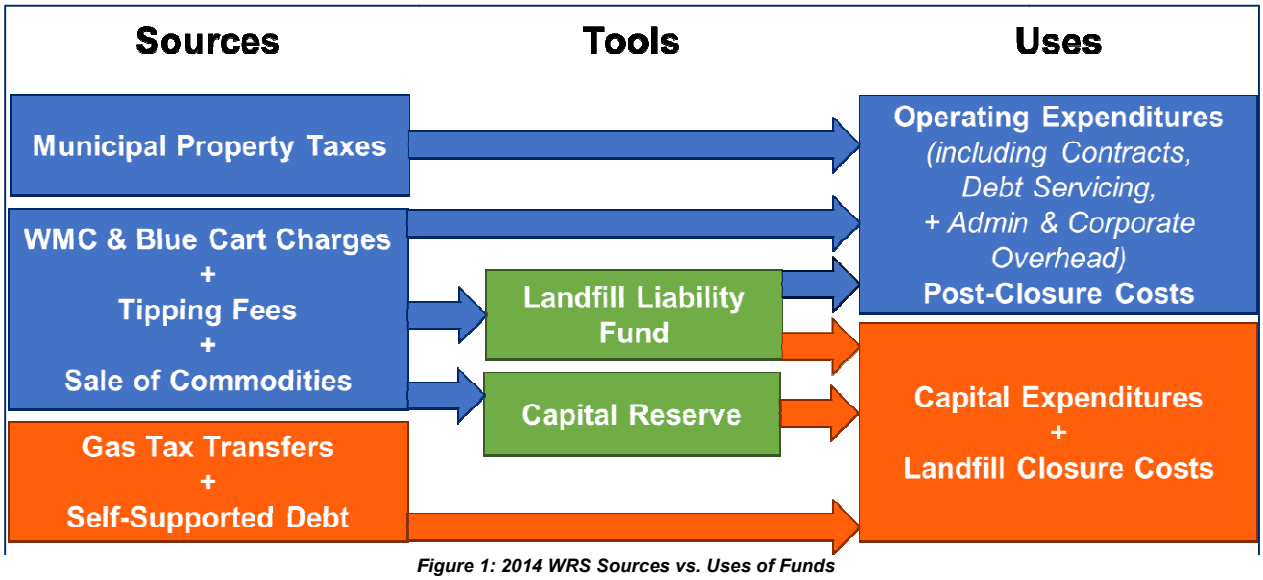

Figure 1: 2014 WRS Sources vs. Uses of Funds

A comprehensive understanding of the flow of funds through WRS was developed and resulted in the following key findings:

i. The Waste Management Charge, which is collected from current Black Cart Collection customers (both residential and non-residential) is utilized for multiple operational uses;

ii. Property taxes currently contribute to collection and processing costs only; they do not contribute to disposal costs nor reserve contributions;

iii. The Blue Cart Program is currently financially self-sustaining;

iv. There is current cross-customer subsidization as a result of how funds are currently deployed;

v. Waste & Recycling Services manages a single reserve which has both operational sustainment and capital infrastructure funding purposes; and,

vi. Landfill liability funds are held in a separate reserve.

From a capital perspective, WRS currently utilizes approximately $199.5M in fixed assets to deliver its services. Historically this capital was funded through the usage of three sources: Gas Tax Funds (GTF), self-supported debt, and revenue/reserves. Current plans for future funding of capital (WRIIP[2]) utilize the same three sources. Future plans outline large capital expenditures in the next few years and as a result, debt usage is expected to increase to fund the expenditure. The implications of this on required rates will be further explored in subsequent phases of this project.

1.2.2 External Municipal Scan and Leading Practices

An external scan was conducted on eight municipalities which were selected to represent the full spectrum of financial models; from those primarily reliant on municipal property taxes to a fully privatized, for-profit utility model that is providing services on behalf of the municipality. These include:

[2] The City of Calgary, Waste & Recycling Services, "Waste & Recycling Services Infrastructure Investment Plan (WRIIP) 2015-2024", February 2014

- Region of Peel
- City of Edmonton
- City of Toronto
- Metro Vancouver
- City of Vancouver
- Seattle Public Utilities (SPU)
- City of San Francisco (Recology)
- Aquatera Utilities Inc. (Grande Prairie)

While a number of key findings were identified, an overarching trend emerged that while, historically, municipalities have often funded waste management services from municipal property taxes and general infrastructure grants, there is an increasing trend towards financial self-sustainability. The primary drivers of this include:

- By nature of the discrete utility services they provide, municipal waste management organizations can achieve the ability to become self-reliant through their own funding mechanisms (and therefore not be subject to the risks from being reliant on funding outside of their control), including full-cost accounting for services that includes collection, disposal fees, municipal overhead, and future liabilities;
- The introduction of user fees is appropriate, as customers can tangibly see and value the specific services they receive (and in some cases can choose to pay for either higher or lower service levels); and,
- Increases in customer equity levels can be achieved by adhering to user pay principles (i.e. those who incur the cost pay for the service) to avoid cross subsidization.

1.2.3 Future WRS Financial Model

To support the eventual selection of a preferred financial model the following objectives were developed:

i. Achieves Financial & Operational Sustainability;
ii. Supports Waste Diversion & Customer Service Levels;
iii. Is Purposeful & Transparent; and,
iv. Supports Customer Equity.

Based on the objectives established above, a range of potential financial model alternatives was identified as depicted in Figure 2.

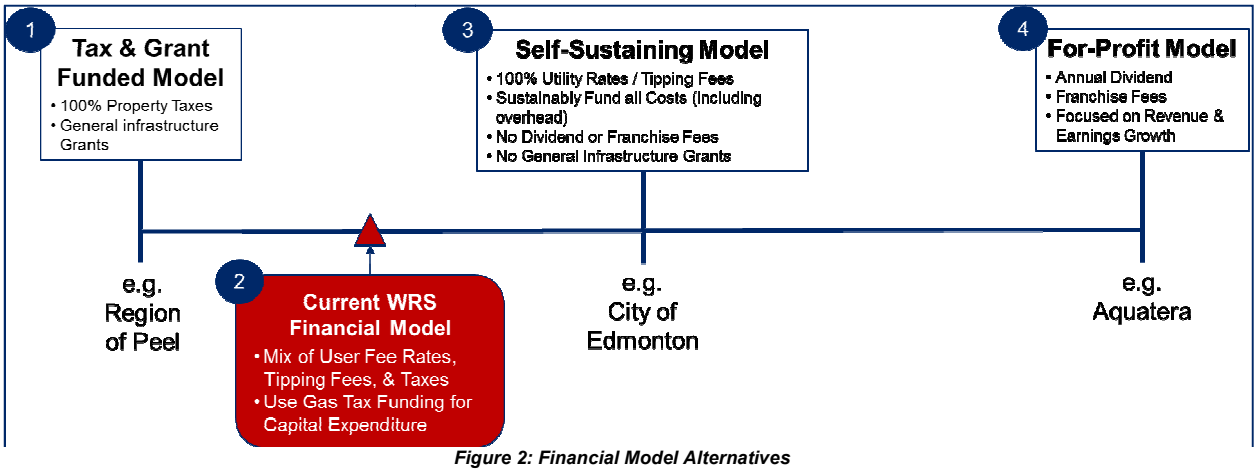

Figure 2: Financial Model Alternatives

An evaluation of each type of financial model alternative was conducted to determine which best supports the established financial model objectives. The results are shown in Table 1.

Financial Model Objectives	1: Tax & Grant Funded Model	2: Current WRS Financial Model	3. Self-Sustaining Model	4. For-Profit Model
1. Achieves Financial & Operational Sustainability	Weak Support	Medium / Weak Support	Strong Support	Strong Support
2. Supports Waste Diversion & Customer Service Levels	Weak Support	Medium Support	Strong Support	Strong Support
3. Is Purposeful & Transparent	Medium / Weak Support	Weak Support	Strong Support	Medium / Strong Support
4. Supports Customer Equity	Medium / Weak Support	Medium Support	Strong Support	Medium / Strong Support

Table 1: Evaluation of Financial models

As a result of the analysis and evaluation, it is proposed that WRS transition to a Self-Sustaining Model for the 2019-2022 business cycle. The primary reasons why this model provides advantages over the current financial model include:

- It enables an ability to plan for and consistently fund ongoing operational, capital, and landfill liability requirements through establishing a purposeful and transparent model which directly links sources of funds vs. corresponding uses;
- By virtue of improved transparency of sources vs. uses of funds, it is easier to communicate to customers and manage from a cost-efficiency perspective; and
- It can support higher levels of waste diversion performance given incentive-pricing (e.g. variable pay for usage) strategies. Additionally, the implementation of variable user rates supports "user-pay" principles wherein the largest waste generators pay for their respective usage.

Given that the current financial model significantly relies on both municipal property taxes (approximately $40 million per year) and Gas Tax Funding (approximately $16.8 million per year), WRS may require a phased transition before it can achieve a Self-Sustaining Model.

Given the recommendation for WRS to be financially self-sustaining, an updated, high-level representation of WRS sources vs. uses of funds was developed as outlined in Figure 3. Key changes vs. the current financial model include:

i. Property taxes are eliminated as a funding source;

ii. Updated User Fee Rate and Tipping Fee revenues are primarily used to sustainably fund ongoing operating expenditures, landfill liability requirements, and cash-financed capital expenditures; and

iii. The extent of Gas Tax Transfers will be further evaluated as an ongoing source of funding for capital expenditures.

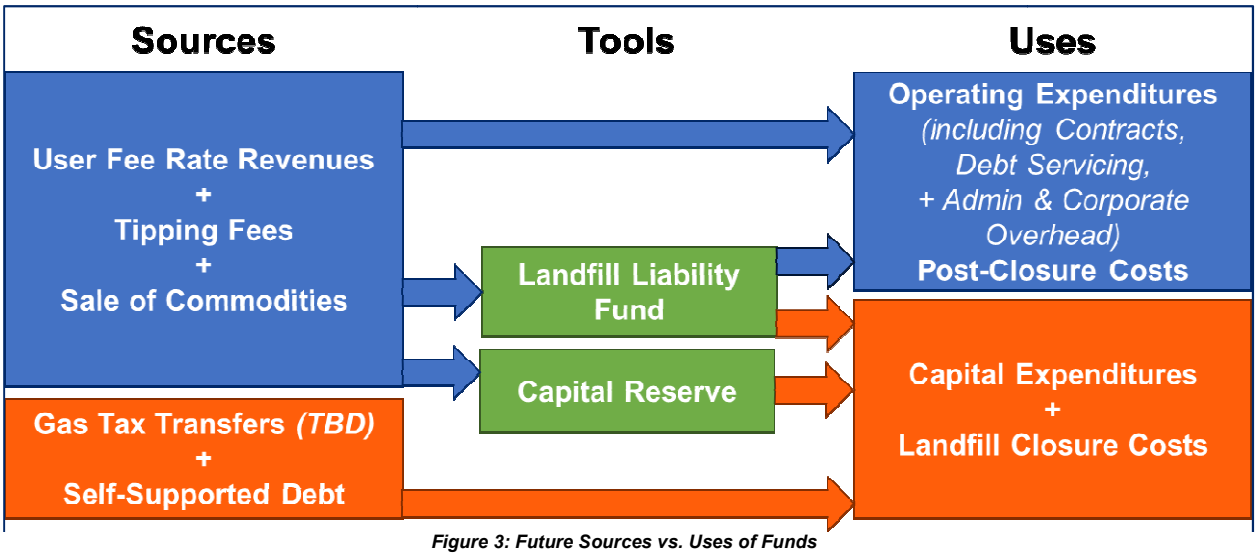

Figure 3: Future Sources vs. Uses of Funds

2 Waste & Recycling Services Current State

2.1 Overview

WRS operates an integrated waste management system that provides a range of waste management services including collection, processing, and disposal of waste, recycling, and organic materials. A suite of waste management services are provided to the Single-Family, Multi-Family, and Non-Residential (spanning Construction and Demolition (C&D) and Industrial, Commercial, and Institutional (ICI) sectors). These services span from direct collection, to community-based drop-off and clean-up programs, to both active and closed landfill and waste management facility activities.

2.1.1 Key Mandate

Within The City of Calgary there are key high level strategic priorities and bylaws that provide WRS the mandate and approvals to operate and define its operations:

i. **"Waste and Recycling Bylaw" (20M2001)**[3]: Bylaw outlining the authorities and mandate for WRS to operate, including high level scope of services for customers and applicable rate and fee schedules.

ii. **Waste Diversion Strategy**[4]: Based on the original 80/20 by 2020 waste diversion strategy approved by Council (UE2007-35), this goal to divert materials away from landfills has guided, and will continue to guide, the creation and implementation of WRS programs. The most recent update has established a revised target of 70 per cent waste diversion by 2025. A more measured program implementation plan has delayed the achievement of the 70 per cent diversion target by five years, which is now reflected in the new targets. The remaining 10 per cent (of the 80 per cent) was to be achieved through the implementation of waste-to-energy technology. Waste-to-energy represents a significant investment and a detailed strategy and implementation plan is required.

[3] Bylaw Number 20M2001, Being a Bylaw of The City of Calgary to Regulate and Manage Waste. As amended by Bylaws, most recent including 69M2014 and 70M2014 effective 2015 January, 01.
[4] UCS2015-0835 Waste Diversion Target Update, 20 November 2015.

2.2 Financial Review of WRS

A high level financial review of WRS was completed with the purpose of developing a clear understanding of its current financial situation, financial management practices, and key financial risks.

2.2.1 Current Sources vs. Uses of Funds

Outlined in Figure 4 is a depiction of the current sources of funds and their usage.

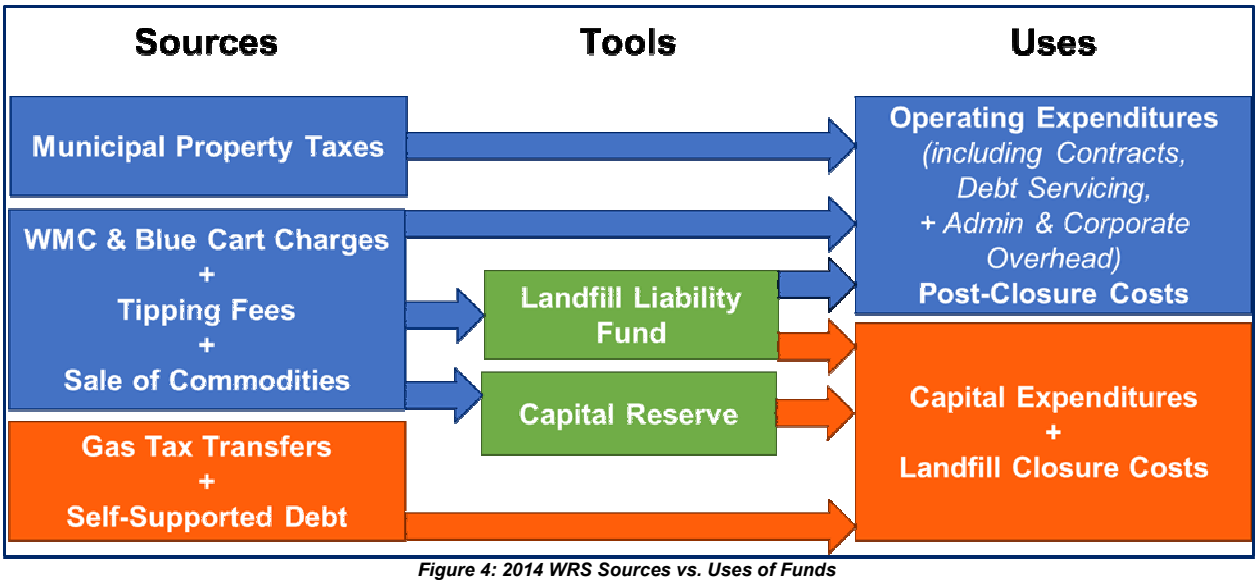

Figure 4: 2014 WRS Sources vs. Uses of Funds

The key findings from the analysis of sources vs. uses of funds include:

i. The Waste Management Charge, which is collected from current Black Cart Collection customers, is used to cover financial gaps in both operating and capital budgets across WRS.

ii. Municipal property taxes currently contribute to collection and processing costs only; they do not contribute to disposal costs or reserve contributions. Specific services which municipal property taxes support include:

- Black Cart Residential Collection;
- Condominium Collection;
- Community Recycling Depots; and
- Green Cart Pilot.

iii. The Blue Cart Program is currently financially self-sustaining, as its fully-loaded costs are currently covered by the Blue Cart Recycling Fee and commodity sales net of commodity fees.

iv. There is current customer subsidization as a result of how funds are currently deployed:

- All Single-Family Residential customers now receive the same level of service (i.e. weekly Black Cart collection with the same 240 Litre cart), but through

municipal taxation higher-valued properties effectively subsidize those with lower-valued properties;

- Condominium owners pay municipal property taxes, but not all receive waste management and recycling services from WRS. Instead, many condominiums choose to employ private haulers;

v. Waste & Recycling Services manages a single reserve which has both operational sustainment and capital infrastructure funding purposes:

- Reserves serve four purposes: Sustainment, Diversion, Landfill, and Facilities & Equipment / Self-Supported;
- Funding of reserves is contributed from Landfill Tipping Fees, Blue Cart Recycling Fees, Waste Management Fees, and Investment Income. Reserves are not funded by municipal property taxes.

vi. Landfill liability funds are held in a separate reserve:

- Typically Landfill Tipping Fees fund the landfill closure and post closure reserve;
- The liability has been historically funded on an annual basis.

2.2.2 Current Capital Situation

2.2.2.1 Current Capital Snapshot

WRS currently employs approximately $199.5 million in fixed assets to deliver services to customers as outlined in Table 2.

Item	Amount ($, million)
Fixed Assets	$199.5 M
Accumulated Depreciation	($56.5) M
Uncompleted Capital Projects	$40.7 M
Total Physical Assets	**$183.6 M**

Table 2: WRS 2014 Capital Highlights

The majority of fixed assets are for 'engineered structures' which are comprised of physical buildings, processing facilities, and other related structures owned and operated by WRS. The approximate breakdown of the fixed assets by asset type, based on TCA classification, is outlined in Figure 5.

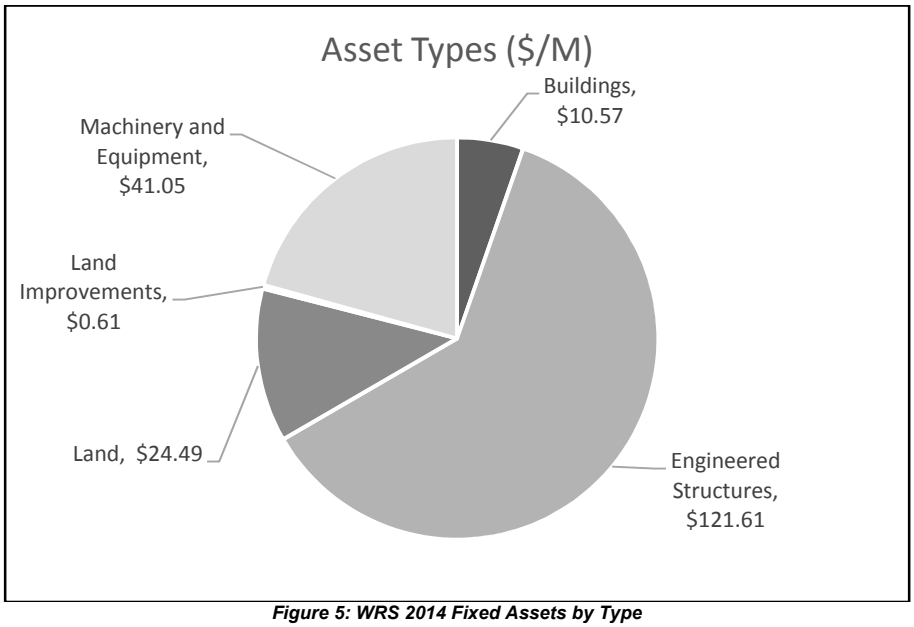

Figure 5: WRS 2014 Fixed Assets by Type

2.2.2.2 Historical Capital Funding Sources

Historically, WRS has utilized three sources of funding to finance the purchase of capital. These include:

i. **Gas Tax Fund (GTF) Grants**: Federal grant program that allows for funds to be utilized for waste management capital in addition to a number of other capital related items. It is noted that this funding source can be also used by certain other tax-supported municipal departments within The City.

ii. **Self-Supported Debt**: Debt that is taken on by WRS and whose principal and interest payments are covered by the revenues earned by WRS operations (i.e. tipping fees, customers rates and fees),

iii. **Revenue / Reserves**: Reserves consist of operating surpluses from previous years and annual, purposeful capital reserve contributions.

The uses of funds for the previous three years are outlined in Figure 6.

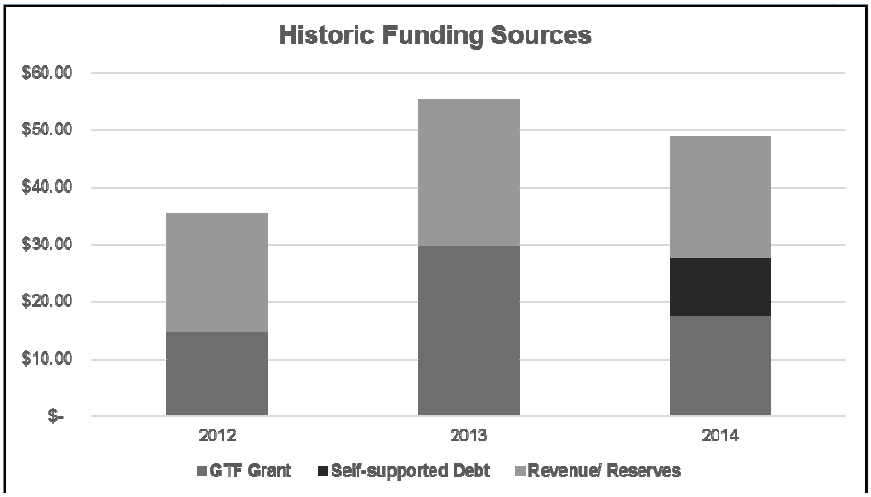

Figure 6: Historical WRS Capital Funding Sources

The following key observations have been noted:

i. Gas Tax Funding (GTF) Grants are significantly relied upon for funding capital infrastructure for each of the Diversion, Landfill, and Facilities & Equipment Infrastructure Programs.
    - Although $20.1 million was used in 2014, the normally expected average for this funding was noted to be approximately $16.8 million per year.

ii. Self-Supported Debt has historically been utilized for large-scale projects only (e.g. organics facility).

iii. Revenue / Reserves have been the largest source of capital funding (approximately $20+ million per year),

iv. Annual expenditures have historically been between 65-70% of budget.

2.2.2.3 Planned Future Sources of Capital Funding

Current plans for future funding of capital (WRIIP) utilize the same three sources: GTF grant, self-supported debt, and revenue / reserves. This is outlined in Figure 7.

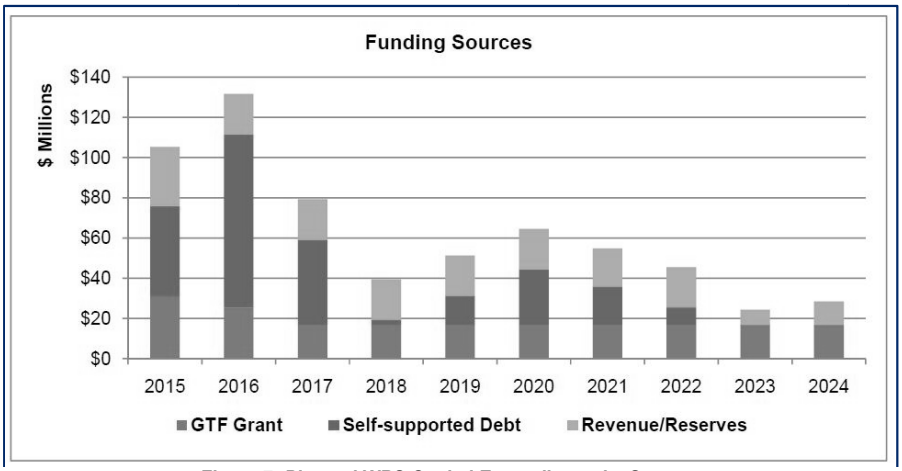

Figure 7: Planned WRS Capital Expenditures by Source

The following total funds from 2015-2024 per capital funding source are identified:

- Gas Tax Transfers: $191 million
- Self-Supported Debt: $246 million
- Revenue / Reserves: $187 million
- **Total: $624 million**

It is noted that the planned usage of debt is forecasted to increase significantly in the near future as large scale capital projects are undertaken. This use of debt levels off in future years.

2.2.2.4 Capital Planning

In 2014, WRS developed its first 10-year capital plan (WRIIP), which includes capital projects funded to 2019. It is focused on prioritized infrastructure program, investment drivers, and planned sources for capital funding. It is noted that the WRS Management Team holds regular reviews to monitor progress vs. annual plan and can make appropriate updates. WRS's historical capital spend efficiency was noted at between 65–70 per cent between the years 2012–2014.

3 Future WRS Financial Model Objectives

A key objective of this project is to develop a new financial model which will best support WRS for the 2019-2022 business cycle. The purpose of this section is to develop a concept for this financial model.

3.1 Future Financial Model Objectives

To select a preferred future financial model, considerations were made in regard to specific WRS objectives, observations from the external research, risks identified from a review of the current financial model, and leading practices. Within this sub-section, the following content was developed:

i. Desired objectives for the 2019-2022 WRS Financial Model;

ii. Both a description and evaluation of alternative future financial models; and

iii. Potential future financial model concepts for the 2019-2022 business cycle.

The purpose of developing future financial model objectives is to both identify the priority outcomes and characteristics it will need to achieve and to serve as a basis for evaluating and selecting a preferred alternative. The final set of prioritized, recommended future financial model objectives are detailed in Table 3.

Financial Model Objectives	Description
Achieves Financial & Operational Sustainability	• Reliably funds ongoing operational costs, required capital investments (i.e. WRIIP), and landfill liability obligations • Manages customer growth variability • Achieves revenue stability • Addresses downward pressure on Landfill Tipping Fees due to competition / price elasticity constraints • Mitigates challenges with increased diversion on waste revenue generating tonnes • Is flexible and adaptable to changes within WRS' operating environment
Supports Waste Diversion & Customer Service Levels	• Funds programs required for waste diversion *(both new and future programs)* • Supports targeted customer service levels
Is Purposeful & Transparent	• Supports ease of communications to impacted stakeholders • Creates clear understanding of sources vs. uses of funds • Rates and fees are justifiable, fair, and stable
Supports Customer Equity	• No unintentional cross-customer subsidizations • Supports principle of "user pay" *(variable rates)*

Table 3: Financial Model Objectives

The highest priority objective which the future Financial Model needs to achieve is ***financial and operational sustainability***. This specifically means that all required, forward-looking operational, capital, and landfill closure / post-closure costs can be consistently and reliably funded. This is important given the changing nature of WRS' business and the continual growth in residential customers.

4 External Municipal Scan and Leading Practices

To support the project's objectives, an external scan of select municipal waste management organizations was completed. Observations were made from both their financial models and governance structures. This section provides a high-level summary of the key observations from this review.

4.1 External Municipal Scan

This section provides an overview of which municipalities were chosen, why they were selected, how their financial models span a 'financial model continuum", and key findings to date.

4.1.1 Overview of Jurisdictions

The following eight municipalities were identified to include in the external scan, to provide a range of alternative funding and governance models to be compared to The City of Calgary. The municipalities are listed in Table 4, along with a summary of the rationale for their selection. The primary objective was to select municipalities that represent the full spectrum of financial models; from those primarily reliant on municipal property taxes to a fully privatized, for-profit model that is providing services on behalf of the municipality.

Municipality	Selection Rationale
Region of Peel	• Property tax financial model • Currently implementing cart-based collections (tag-a-bag for excess volumes)
City of Edmonton	• Self-supporting publicly-stated utility (user fees plus tipping fees) • Highly progressive fiscal policies and reporting • Comparable Alberta-based waste management organization • Previous Cost of Service – lessons learned & allocation techniques
City of Toronto	• Self-supporting publicly-stated utility (user fees plus tipping fees) • Established user pay (i.e. pay as you throw) waste collection program • Understand challenge and techniques to fund landfill disposal & closure/post closure
Metro Vancouver	• Self-supporting public utility financed by tipping fees (garbage only) • Implemented & funded waste-to-energy program • Management of landfill tipping fee / price elasticity constraints
City of Vancouver	• Self-supporting publicly-stated utility (user fees plus tipping fees) • Receives significant tipping fees from regional customers • Established user pay waste collection program • Additional flat rate fees on annual property taxes
Seattle Public Utilities (SPU)	• Public utility model • Established user pay program
City of San Francisco	• Services contracted out to a private company, Recology (legislated not a franchise) • High rate of waste diversion • Recology operates on a for-profit basis
Aquatera Utilities Inc. *(Grande Prairie)*	• Wholly-owned municipal controlled corporation "public utility" with combined waste management, water, wastewater, and storm water services • For-profit organization that pays annual dividends and franchise fees to its municipal owners • Focused on cash flow performance and business development objectives

Table 4: External Scan Jurisdictions

4.1.2 Key External Scan Findings

Historically, municipalities have often funded waste management services from municipal property taxes. Recently there is an increasing trend towards more self-supported financial models. Rationale for the shift away from the property tax model includes:

- This trend is partially due to increased competition for publically available funds from varying departments and services;
- By nature of the discrete services they provide, municipal waste management organizations can achieve the ability to become self-reliant through their own funding mechanisms (and therefore not be subject to the risks from being reliant on funding outside of their control), including full-cost accounting for services that includes collection, disposal fees, municipal overhead, and future liabilities;
- The introduction of user fees is appropriate as customers can tangibly see and value the specific services they receive (and in some cases can choose to pay for either higher or lower service levels). In addition, user fees can be built to incent customers to divert waste and participate in diversion programs, ultimately contributing to the achievement of waste diversion goals; and
- Increases in customer equity levels can be achieved by adhering to user pay principles to avoid cross subsidization.

In making this transition, it was also noted that focused efforts be taken to plan for and communicate how the new financial model will be implemented. Moving from the municipal tax base to utility user fees creates the public's expectation that there will be an equal reduction in property taxes. How a municipality chooses to approach this, evaluate the impact to both solid waste customers and municipal tax payers, and communicate the implications of adjusting the financial model requires holistic decision-making and transparent, public communications.

Key findings from the waste management financial model review are outlined below by jurisdiction. These illustrate how communities are located along the financial model continuum depicted in Figure 8 in Section 4.2.

i. **Region of Peel**: Continues to use property taxes as its primary source of funding. They are challenged to secure sufficient funding from municipal property taxes given current tax funding constraints and limits to annual increases. For comparison, it was perceived that their Water and Wastewater Utility (also provided by the Region of Peel) is better enabled to justify higher utility rate increases than the Waste Management department can.

   They are also not able to implement user pay approaches to provide service equity to all customers. For current services (and levels), municipal property taxes provides a relatively stable source of funding (but are limited in funding growth and new capital requirements).

ii. **City of Edmonton**: Operates a self-supported 'public utility' that is funded primarily by utility fees with a smaller portion tipping fees and 'non-rate' revenues (i.e. sale of commodities to the market). This revenue breakdown creates a stable funding source that has established customer equity. The City initiated this move towards a public utility (and away from previous reliance on municipal tax funding) in 2009. To move towards this system Edmonton performed a comprehensive public consultation to demonstrate this new funding approach and obtain citizen input for the desired rate structure design.

In addition to being a relatively stable funding system, Edmonton has rigorous financial performance measures that are monitored through annual reporting and a full set of financial statements (including balance sheet updates and cash flows). Finally, the Waste Management Branch has established a "Utility Fiscal Policy"[5] which clearly states its financial management goals, practices, and performance measures.

From a governance perspective, The City of Edmonton is unique in that it has acquired the services of a Utility Advisor. The Advisor role was created in 2009 given the mandate for both the Waste Management Branch and Drainage Services Branch to function as 'public utilities'. The Advisor's role is to provide The City with an independent and expert advisor for strategic utility issues such as business planning, budgeting, rate applications, and financial management practices. As such, the Advisor reports into (and is budgeted by) the Utilities Committee, which is comprised of four members of The City's elected Council.

iii. **City of Toronto**: Is a self-supported utility that transitioned from municipal property taxes to primarily utility fees in 2008. Complementary funding is provided by industry stewardship funding, tipping fees, and recycling revenue. Toronto uses a user pay approach and is in the process of developing a new waste strategy that will set the direction for the next 30-50 years. Currently, waste diversion activities are paid for through quantity-based disposal related utility fees. However, a property tax rebate is still provided to residential customers as a means of further incentivizing waste diversion behaviours. Additionally, it was noted that plans exist to help fund the 10-year capital plan for a long-term waste management facility with federal infrastructure subsidies.

   In Toronto's case, they opted to implement a property tax rebate upon implementation of the solid waste utility user fee. This was done to: (1); assist volume-based, incentive pricing for waste diversion, and (2): to best meet customer equity objectives (as decreasing the tax base would have also benefitted non solid waste customers, like the ICI sector). It should be noted that Toronto is currently planning to reduce and ultimately remove this 'back-end' rebate program.

iv. **Metro Vancouver:** Relies on tipping fees from their disposal facilities to fund their program. They have ambitious goals to divert waste from disposal and do not control the processing facilities that accept the diverted waste. The cost to own and operate their facilities will continue to rise as the volume of waste for disposal decreases, thus creating a funding gap. This creates future financial challenges which Metro Vancouver is starting to address. Some of these changes include transferring public education and outreach expenditures to be paid for through property taxes. As the diversion rates continue to increase, Metro Vancouver is considering a two tiered financial model that could include per household utility fees to partially fund for solid waste management operations.

v. **City of Vancouver:** Is a self-supported utility that receives revenue from a split of residential utility fees and tipping fees along with a smaller portion from industry stewardship funding for curbside residential recycling. The Vancouver landfill and transfer station are part of Metro Vancouver regional disposal infrastructure. Net revenues go to solid waste reserves (capital and liability) as well as the City's general revenue account. It was noted that landfill revenues now significantly exceed its operational costs, which allows them to effectively subsidize other parts of its waste management services. However, this

[5] The City of Edmonton, "WASTE MANAGEMENT UTILITY FISCAL POLICY", Policy # C558A, Adopted by City Council September 23, 2014

revenue source is expected to change once the landfill closes in 2040. Vancouver is subject to regional decisions related to disposal management and infrastructure. A user pay system was established in 2009 and aligns with utility fees.

vi. **Seattle Public Utilities (SPU), City of Seattle:** Is a self-supported "public utility" that provides solid waste services to residential and commercial customers. It is funded primarily by utility fees aligned with user pay principles along with tipping fees for disposal and processing. User fees also cover municipal tax requirements, which are transferred to The City of Seattle to help fund additional city clean-up initiatives. SPU also issues franchises to private sector waste haulers for collection from customers on the City's behalf. Changes to the system require contract amendments. City staff provide detailed analysis on financial and system performance to inform system updates and rate adjustments.

SPU also utilizes a Customer Review Panel[6]. Their role on this panel, per Council Resolution 31429, has been advisory. Since its establishment in 2013, it has deliberated with and advised the Utility's executive team. It has sought to provide a customer perspective to the Utility's work in their strategic and business planning efforts. The Panel includes nine members which provide a broad range of experience and views. Two of the members have worked for years as public utility professionals. The remaining seven members have experience ranging from construction management, small business, finance, environmental economics, medicine, facilities management, and managing non-profit agencies providing programs for low-income communities and youth.

vii. **City of San Francisco (Recology)**: Uses a 100% user fee based system to fund their zero waste program. Utility fees are collected from residences and businesses as billed by their external hauler and cover all expenditures related to collection, processing, transport, disposal, and education and policy initiatives. Four percent of annual revenues are paid back to the City and County to cover administrative costs for education programs and policy development. Accountability is built in through annual reporting, and rates are set every five years. Recology is annually audited by The City as a means to ensure costs are appropriate and a profit level of 9.45% is maintained. Ultimately, The City of San Francisco maintains control over approval of rate changes.

viii. **Aquatera Utilities Inc**. **(Grande Prairie)**: Aquatera is a wholly-owned municipal controlled corporation. It is owned by The City of Grande Prairie, the County of Grande Prairie, and the Town of Sexsmith. It is set up as a for-profit organization, as it provides both annual dividends and franchise fee payments to its municipal owners. Key financial management objectives include management of its capital structure (based on agreements with its capital lenders) and free cash flow. Aquatera has also targeted having utility rates in the bottom third of Alberta (based on internal efficiencies) and is pursuing non-regulatory business development opportunities (e.g. with the commercial sector) to help support targeted cash flow objectives.

[6] Seattle Public Utilities Customer Review Panel, Letter to Seattle Mayor in regard to SPU 2015-2020 Strategic Plan, June 10, 2014

4.2 Municipal Waste Management Financial Model Continuum

Having conducted a review of each financial model, a continuum was developed which depicts the extent to which each municipal organization relies on public funding (i.e. taxes and grants). Types of financial models was identified from those who are primarily reliant on municipal property taxes to more for-profit models. This financial model continuum is shown in Figure 8.

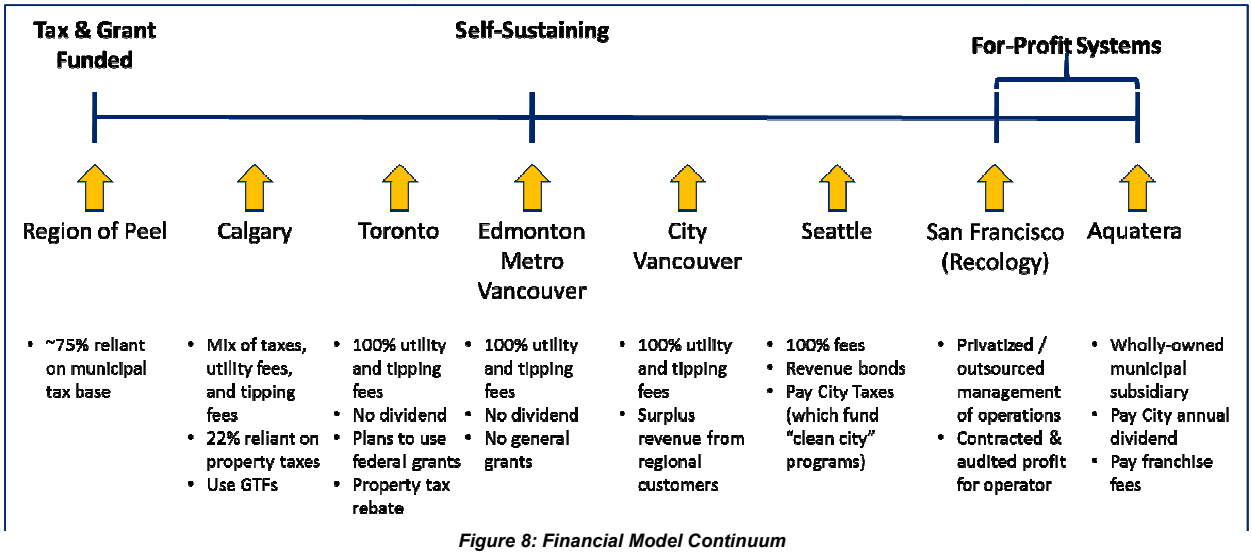

Figure 8: Financial Model Continuum

Each type of financial model provides different advantages and disadvantages as well bringing some inherent risks. The broad types are detailed below, followed by a brief description of where each municipality sits on the spectrum.

i. **Tax & Grant Funded Model:**
   - Rely primarily on municipal tax base (i.e. eliminate user fees) for operational funding
   - Continue to rely significantly on gas tax transfers for capital infrastructure expenditures
   - **Example:** *Region of Peel.*

ii. **Self-Sustaining Model:**
   - Eliminate municipal tax base funding support and instead rely 100% on both user fees and tipping fees
   - Sustainably fund all applicable, required costs and future obligations
   - Eliminate reliance on gas tax transfers for funding capital infrastructure expenditures
   - Do not feature a dividend payment nor franchise fee requirements
   - **Example:** *City of Edmonton.*

iii. **For-Profit Model:**
   - Eliminate all reliance on both municipal property taxes and gas tax transfers
   - Support an annual dividend payment back to The City
   - Support franchise fee payments to The City
   - Typically encouraged to pursue revenue-generating business opportunities

- Can feature an independent board to provide additional industry expertise and oversight
- **Example**: *Aquatera Utilities Inc.*

Figure 9 illustrates the various funding sources for the municipalities that were scanned. It shows that their funding sources can consist of user fees, industry stewardship funding, property taxes and other revenue sources (i.e. marketable commodities such as recyclables, tipping fees and energy sales). The chart is also arranged along a continuum where property tax reliant models shift towards user fee models.

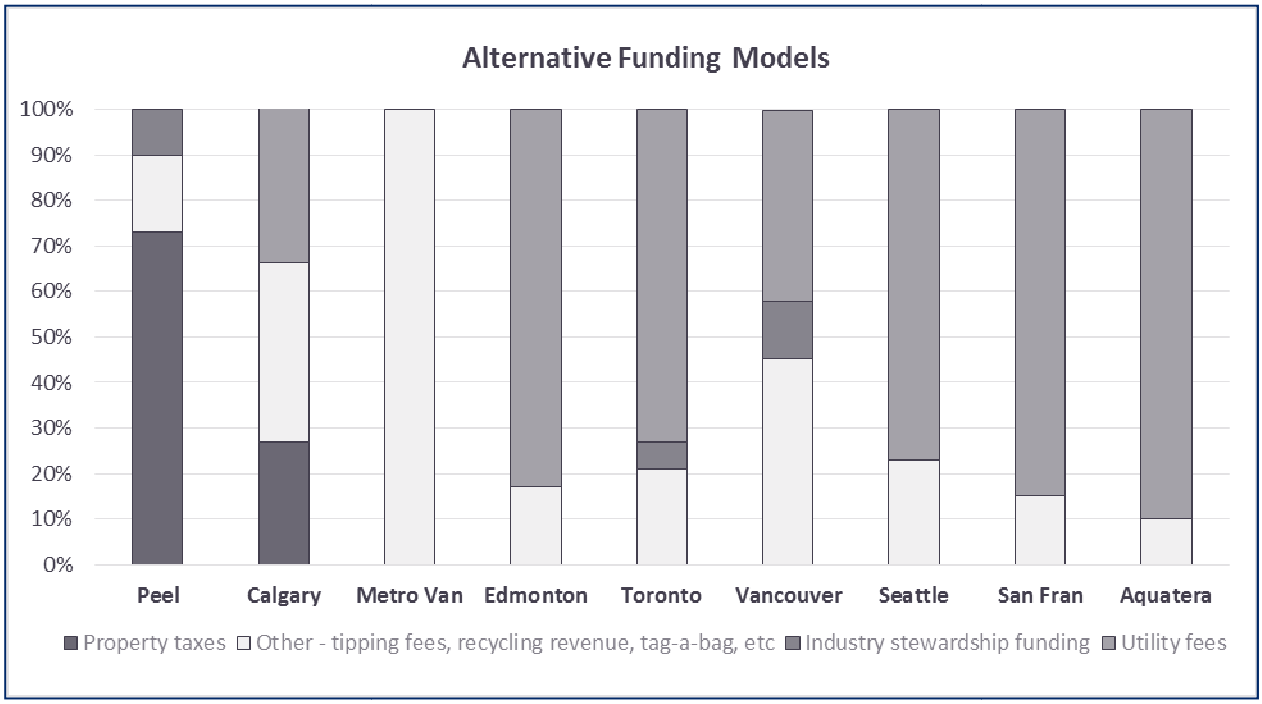

Figure 9: Alternative Funding Models

5 Financial Model Alternatives

Based on the objectives established above, types of Financial Models were identified. These types were developed primarily from reviewing a continuum of different financial models identified during the external research. They represent different funding solutions based on the extent to which each relies on public funding (i.e. municipal taxes, provincial infrastructure grants, and federal infrastructure grants).

A simplified version of these alternatives, and the current WRS Financial Model, are illustrated in Figure 10.

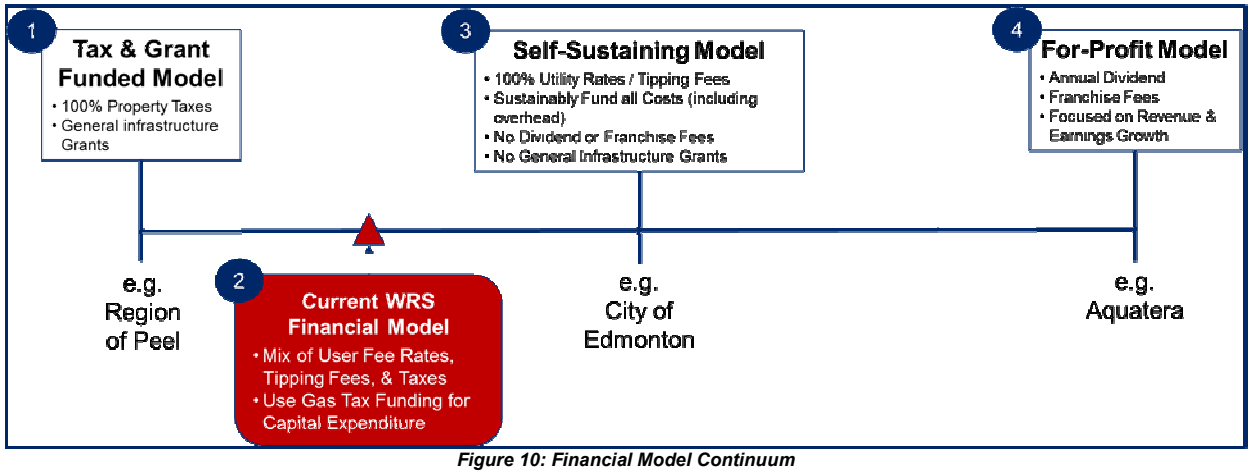

Figure 10: Financial Model Continuum

Although there are several other potential points along the financial model continuum (based on the extent to which self-sustainable funding is provided), the four types provided a basis for evaluation and propose a future Model to target. Below are more detailed descriptions of each point on the continuum.

5.1.1 Tax & Grant Funded Model:

i. A municipality is primarily reliant on the general municipal tax base to pay for waste management services (i.e. no user fees):
   - Tax base calculation is based on the value of the property and not the services provided (i.e. higher property value homes pay more as a percentage of total tax for solid waste services than other lower-valued households which receive the same service levels).

ii. Can draw upon general infrastructure grants (e.g. Federal Gas Tax Transfers, Provincial Municipal Sustainability Initiative (MSI), etc.) to support capital expenditures.

iii. The department administering waste management services competes with other departments for general tax base funds. Resource allocation in this model risks taking away from the necessary allocation of resources needed for sustainable waste management services.

iv. It is typically viewed that the annual budget setting for municipal tax funding is completed within a competitive environment which often leads to limited funding vs. mandated service levels. Without the ability to distinguish and justify how continued customer

growth drives costs for its utility services or the need for capital investments to address regulatory obligations, growth, or re-investment purposes, it is generally felt that the amount of municipal tax funds causes fiscally constrained positions.

v. Supports cross-subsidization whereby (e.g. commercial customers pay property taxes but may not receive collection services and thereby subsidize residential collection).

5.1.2 Self-Sustaining Model:

i. A municipality is exactly self-supporting (i.e. financially sustainable) with revenue and reserves covering fully-loaded and forward-looking operating, capital, and landfill liability costs.

ii. The utility is able to set user rates at a level that ensures it can fund the waste management system and services provided now and into the future.

iii. The utility manages both its income statement and balance sheets, with explicit policies and performance measures established to guide revenue generation and capital financing activities.

iv. There is a high degree of transparency in regard to sources versus use of funds, operating costs and efficiency metrics, and the extent of services (and service levels) provided.

5.1.3 For-Profit Model:

i. The municipality typically receives a rate-of-return (or dividend payment) for services provided.

ii. The municipality can implement a franchise fee payment to reflect the “right of way” to provide services to its regulatory customers.

iii. An independent board – representing a range of industry knowledge and experience – can be established to assist in providing governance rigour and oversight.

iv. The entity is often encouraged to pursue ‘non-regulatory’ revenue-generating business opportunities (as a means of further growing the annual dividend payment).

6 Financial Model Evaluation

With the types of financial models identified, an evaluation was completed based on how well each supported the priority future Financial Model objectives. The evaluation for each type is provided within each of the following sub-sections.

6.1.1.1 Tax & Grant Funded Model

The evaluation of the Tax & Grant Funded Model is detailed in Table 5,

Financial Model Objectives	Comments	Evaluation
Achieves Financial & Operational Sustainability	• Funding constrained to annual tax rate budgeting process and decisions • Challenged to fund new customer growth • Waste management services "grouped in" with all other tax-supported municipal services • Inflexible / not easily adaptable to changing business environment	**Weak Support**
Supports Waste Diversion & Customer Service Levels	• Subject to tax funding provided • Inability to provide "incentive pricing" strategies (e.g. variable rates) • Limited influence on waste diversion, as there is no link between customer behaviours vs. their costs	**Weak Support**
Is Purposeful & Transparent	• No link between costs of service and what end users pay • Challenged to create desired behaviour changes • Easy to communicate to constituents	**Medium / Weak Support**
Supports Customer Equity	• Substantial cross-subsidizations both between and within customer classes *(e.g. commercial sector typically subsidizes residential sector and higher-valued households subsidize lower-valued households)* • Customers don't pay based on their extent of usage of the waste management system	**Medium / Weak Support**

Table 5: Tax and Grant Supported Model

From Table 5, the Tax & Grant Funded Model is challenged for each of the priority future Financial model objectives. Funding for annual operating funds is constrained within the municipality's overall tax rate budgeting processes, wherein waste management activities are combined with all other tax-supported municipal programs. This results in challenges to fund future customer growth within the business cycle. In addition, waste diversion programs will be limited to the available funding received from municipal tax support and cannot benefit from leading incentive-pricing strategies. Finally, due to reliance on municipal property taxes, customers do not see a link between costs to provide services and what they actually pay for. To this end, this financial model results in substantial cross-subsidizations between customer classes, as:

i. The commercial sector, which contributes property taxes paid to The City of Calgary, effectively subsidizes the residential sector which currently receives waste collection services; and,

ii. Residential properties with higher values effectively subsidize lower-valued residential properties.

6.1.1.2 Current WRS Financial Model

The evaluation of the current WRS Financial Model is detailed in Table 6.

Financial Model Objectives	Evaluative Comments	Evaluation
Achieves Financial & Operational Sustainability	• Funding for residential Black Cart Program and Community-based Programs constrained to annual tax rate budgeting process and decisions • Challenged to fund customer growth variability • Funding for landfill-specific costs is forecasted to be at risk in 2019 • Limited funding mechanisms available to offset reductions to waste disposal revenues (due to forecasted reductions to waste volumes) • Significant use of Gas Tax Transfers – but interest for these funds has been expressed from other tax-supported departments within The City	**Medium / Weak Support**
Supports Waste Diversion & Customer Service Levels	• Blue Cart diversion costs are fully-funded • Plans to introduce Green Cart user rates • Limited incentive pricing mechanisms to encourage waste diversion *(but variable pricing program now being developed)*	**Medium Support**
Is Purposeful & Transparent	• Blue Cart Program is directly funded by user revenues • Purpose of Waste Management Charge not clear to stakeholders • As-Is sources versus uses of funds not clear nor transparent	**Weak Support**
Supports Customer Equity	• Cross-subsidizations exist both between and within customer classes for Black Cart Collection, Waste Management Charge, and Community Programs • Further cross-subsidizations are forecasted for Green Cart Program • Blue Cart program is user-pay	**Medium Support**

Table 6: Current Waste and Recycling Services Model

From Table 6, the current financial model is particularly challenged in how it funds customer growth (as it is limited by municipal tax support and its inherent budgeting constraints). Further, it is forecasted that it will not be able to fund all required landfill-specific costs in 2019 given forecasted reductions in waste volumes and the introduction of landfill bans. In addition, the current financial model is challenged by a lack of purpose and transparency. Besides the Blue Cart Program, it is not well established how different programs are funded. Lastly, it is acknowledged that the purpose of the current Waste Management Charge is not well understood.

6.1.1.3 Self-Sustaining Model

The evaluation of the Self-Sustaining Model is detailed in Table 7.

Financial Model Objectives	Evaluative Comments	Evaluation
Achieves Financial & Operational Sustainability	• Provides direct ability to plan for and obtain ongoing, consistent funding for operating, capital, and landfill liability requirements • Annual contributions to capital reserve savings (for the purposes of future cash-financed capital expenditures) can be better planned and achieved • Not subject to property tax budgeting process or reliability of general infrastructure grants • User rates can be established for each new customer and address their fully-allocated costs, thereby addressing customer growth variability • Downward pressure on landfill tipping fee revenues can be mitigated through implementation of fully-loaded user fees and (potentially) a purposeful waste diversion charge	**Strong Support**
Supports Waste Diversion & Customer Service Levels	• User rates can enable "incentive pricing" strategies (e.g. variable rates) • Can set rates / fees to correspond to market demand / customer willingness-to-pay • Customers are better enabled to select and pay for their preferred level of service (e.g. variable rates)	**Strong Support**
Is Purposeful & Transparent	• Can establish a straight-forward linkage between sources vs. uses of funds • Can easily communicate to constituents what their rates pay for	**Strong Support**
Supports Customer Equity	• Implementation of focused and purposeful user rates enables "user-pay" principles • No reliance on municipal property taxes and inherent cross-subsidizations	**Strong Support**

Table 7: Self-Sustaining Model

From Table 7, the Self-Sustaining Model is expected to strongly support each of the priority future Financial Model objectives. Moving to a model which is 100% reliant on user and tipping fees enables an ability to plan for and consistently fund ongoing operational, capital, and landfill liability requirements. It can do this by establishing a purposeful and transparent model which directly links sources of funds vs. corresponding uses. By establishing such a transparent model, it is easier to communicate to customers and manage from a cost-efficiency perspective. Additionally, it can support higher levels of waste diversion performance given incentive-pricing (e.g. variable pay for usage) strategies. Lastly, the implementation of variable user rates supports "user-pay" principles wherein the largest waste generators pay for their respective usage.

6.1.1.4 For-Profit Model

The evaluation of the For-Profit Model is detailed in Table 8.

Financial Model Objectives	Evaluative Comments	Evaluation
Achieves Financial & Operational Sustainability	• Provides direct ability to plan for and obtain ongoing, consistent funding for operating, capital, and landfill liability requirements • Annual contributions to capital reserve savings (for the purposes of future cash-financed capital expenditures) can be better planned and achieved • Not subject to property tax budgeting process or reliability of general infrastructure grants • User rates can be established for each new customer and address their fully-allocated costs, thereby addressing customer growth variability • Downward pressure on landfill tipping fee revenues can be mitigated through implementation of fully-loaded user fees and (potentially) a purposeful waste diversion charge	**Strong Support**
Supports Waste Diversion & Customer Service Levels	• User rates can enable "incentive pricing" strategies (e.g. variable rates) • Can set rates / fees to correspond to market demand / customer willingness-to-pay • Customers are better enabled to select and pay for their preferred level of service (e.g. variable rates)	**Strong Support**
Is Purposeful & Transparent	• Straight-forward linkage between sources vs. uses of funds • Can easily communicate to constituents what their rates pay for • Risk in justifying implementation of dividend, as it may be seen as counter to objectives of providing services at "lowest possible costs"	**Medium / Strong Support**
Supports Customer Equity	• Implementation of user rates enables "user-pay" principles • Risk that dividend may be viewed as "City shifting money between pockets" unless a clear case can be made that it is generated from "non-regulated" customers (e.g. commercial, regional, etc.) • No reliance on municipal property taxes and inherent cross-subsidizations	**Medium / Strong Support**

Table 8: For-Profit Model

From Table 8, the For-Profit Model can also strongly support the future Financial Model objectives. However, it may be challenging given that WRS is presently not self-supported. Moving directly from a tax-subsidized model to a profit-based model may be difficult given the lack of a compelling reason to start introducing an annual dividend payment back to The City. Although there are several other examples of municipal waste management organizations which do pay an annual dividend, these are easier to implement wherein one of the following drivers is present:

i. City Council has established an objective to expect a return or profit from its waste management business;

ii. There are significant non-residential customers (which represent the waste management organization's non-regulated portion of the business) upon which a dividend can be justified; and/or,

iii. The waste management organization is already operating at a self-sustainable model and establishing an annual dividend is a sign of effective financial management and reflective of the investment and risk assumed by The City.

7 Recommended Future Financial Model

Based on the evaluations performed for each type of financial model alternatives, the analysis supports WRS transition to a Self-Sustaining Financial Model for the 2019-2022 business cycle. The summary evaluation for this model is provided below for convenience in Table 9.

Financial Model Objectives	1: Tax & Grant Funded Model	2: Current WRS Financial Model	3. Self-Sustaining Model	4. For-Profit Model
Achieves Financial & Operational Sustainability	Weak Support	Medium / Weak Support	Strong Support	Strong Support
Supports Waste Diversion & Customer Service Levels	Weak Support	Medium Support	Strong Support	Strong Support
Is Purposeful & Transparent	Medium / Weak Support	Weak Support	Strong Support	Medium / Strong Support
Supports Customer Equity	Medium / Weak Support	Medium Support	Strong Support	Medium / Strong Support

Table 9: Evaluation of Financial Models

The detailed analysis indicates that the Self-Sustaining Model is the most aligned to each of the identified Financial Model Objectives. The primary reasons why this model provides advantages over WRS' current financial model include:

- It enables an ability to plan for and consistently fund ongoing operational, capital, and landfill liability requirements through establishing a purposeful and transparent model which directly links sources of funds vs. corresponding uses;
- By virtue of improved transparency of sources vs. uses of funds, it is easier to communicate to customers and manage from a cost-efficiency perspective; and
- It can support higher levels of waste diversion performance given incentive-pricing (e.g. variable pay for usage) strategies. Additionally, the implementation of variable user rates supports "user-pay" principles wherein the largest waste generators pay for their respective usage.

It is acknowledged that, by leveraging municipal property taxes, the current financial model may be perceived as having other advantages over a user fee funding model. Proponents of the municipal property tax funding model typically note that: low-income customers are subsidized by those who can afford to pay more (through owners of higher-valued properties paying more taxes than owners of lower-valued properties); or municipal property taxes are appropriate for funding municipal programs focused on achieving overall "community good" (which, through ensuring desired environmental outcomes, WRS certainly does). However, both of these potential counter-arguments are mitigated by the following:

i. With respect to supporting low-income customers, a superior strategy is to utilize purposeful low-income rate assistance programs. Such programs can properly validate the needs of the low-income applicants and provide purposeful subsidies to reflect these needs. It is acknowledge that The City of Calgary has already established a Property Tax Assistance Program which provides rebates for waste and recycling services.

ii. Although WRS certainly does provide select "Community Programs" which benefit the community as a whole (e.g. Hazardous Household Waste, Emergency / Disaster Response, etc.), the vast majority of its programs are focused on providing tangible utility services to specific customer classes. As such, there is a direct link between the costs of its programs, the end-users which incur these costs, and the value these end-users receive through using these programs. As such, the establishment of user rates is a more effective method of funding these costs.

Given that the current financial model significantly relies on both municipal property taxes (approximately $40 million per year) and gas tax transfers (approximately $16.8 million per year), WRS may need to move towards this targeted model in phases. Further investigation into a Self-sustaining model will need to be completed. The investigation will include review alternative funding scenarios based on varying degrees of reliance on Gas Tax Funding. This evaluation will be completed in the subsequent project phase.

Given the recommendation to move towards financial self-sustainability, it is necessary to develop a new Financial Model which prescribes how funding will be obtained from the various waste management services to be provided. An updated, high-level representation of WRS sources vs. uses of funds for a proposed Self-Sustaining Financial Model is provided in Figure 11.

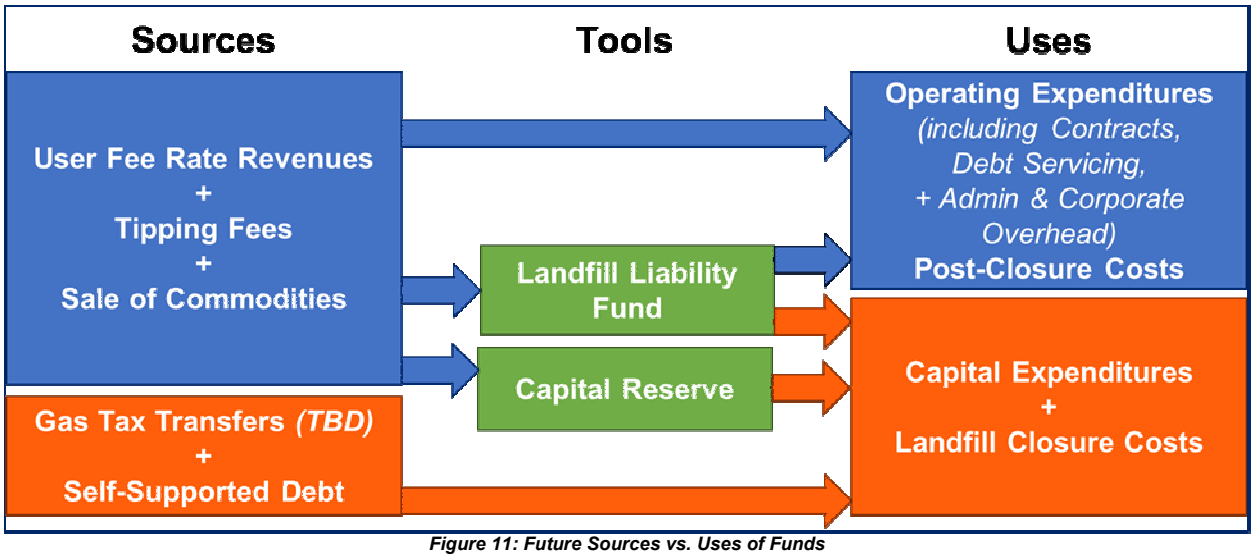

Figure 11: Future Sources vs. Uses of Funds

From Figure 11, it is proposed that municipal property tax funding be effectively replaced by user fee rate revenues as a means to fund all required operational costs. It is further proposed that future capital expenditure reliance on Gas Tax Funding be evaluated for potential replacement with an appropriate mix of capital reserve contributions and new debt issuance. The extent to which WRS and the proposed Self-Sustaining Financial Model could forego planned reliance on Gas Tax Funding will be further investigated in the subsequent cost of service and integrated rates modeling phases of work.