

WASTE & RECYCLING SERVICES





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1. INTRODUCTION

In preparation for the 2019-2022 business plan and budget, Waste & Recycling Services (WRS) conducted a 2018 residential Collection Services Review. This review focuses on the single detached dwelling residential collection system, specifically for Black, Blue and Green Cart Programs. WRS commissioned several consultants with industry specific expertise. Tetra Tech Canada Inc. and Stack'd Consulting completed the strategic and analytical evaluations and HR Align Consulting completed the labour market analysis.

The 2018 scope of work included: strategic review; external scan; analysis of WRS' efficiency and effectiveness; performance measurement and benchmarking; labour survey; industry evaluation and cost comparison; and industry research including trend identification.

1.1 CURRENT RESIDENTIAL SERVICES AND LEVELS OF SERVICE

Operationally, WRS underwent significant change in 2017, with the city-wide implementation of the Green Cart Program, and the change to every-other-week black cart garbage collection. In the fall of 2018, the Green Cart Program started every-other-week winter collection.

BLACK CART COLLECTION

The Black Cart Program has every-other-week collection, Tuesday through Friday, of a 240 litre cart, plus excess bags outside the cart. WRS' Director can limit excess, if necessary, because of operational constraints from large volumes, to ensure all customers receive service. Service runs 52 weeks per year.

BLUE CART COLLECTION

The Blue Cart Program has weekly collection, Tuesday through Friday, of a 240 litre cart, without excess outside of cart. Service runs 52 weeks per year.

GREEN CART COLLECTION

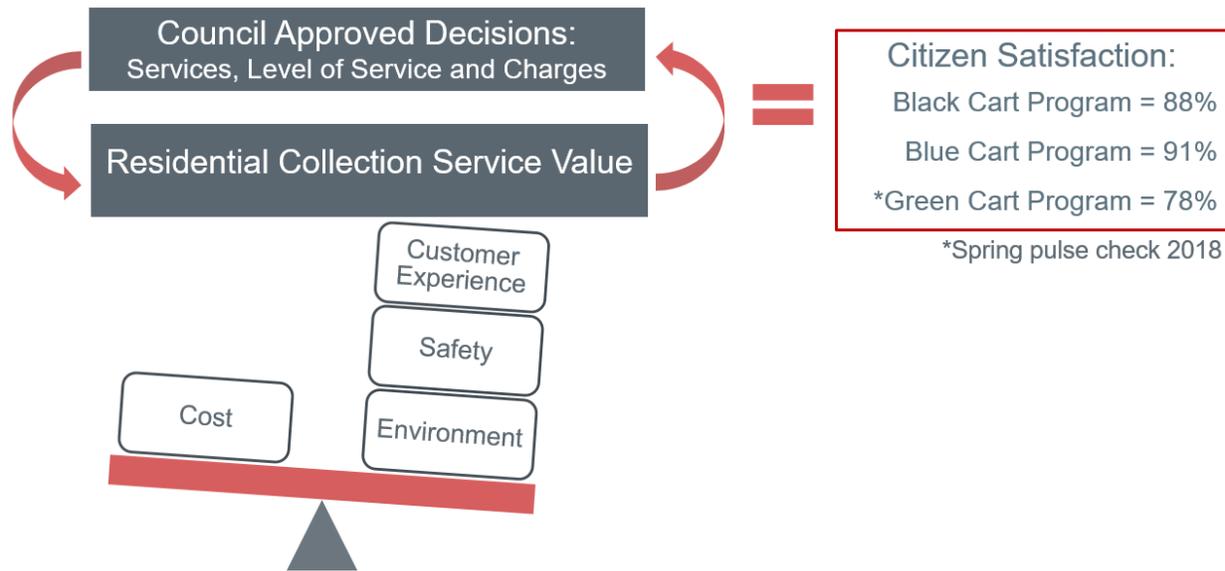
The Green Cart Program has weekly collection in the summer months, and every-other-week collection (November to March) in the winter months as of the fall of 2018. Collection occurs Tuesday through Friday, of a 240 litre cart, plus excess outside the cart in paper bags or bundled. WRS' Director can limit excess, if necessary, because of operational constraints from large volumes, to ensure all customers receive service. Service runs 52 weeks per year.

2. STRATEGIC REVIEW - OBJECTIVES

To standardize the evaluation of WRS' residential collection services, a set of service value objectives were developed. The following objectives define the residential collection service values: customer experience, safety, environment and costs. Considered together, the service value objectives support understanding of the overall performance of these services and how WRS makes life better for Calgarians every day.

Figure 1 below shows the service value objectives trade-off. It illustrates how residential collection service values and Council approved decisions regarding the service, service level and charges, impact the citizen satisfaction survey results for residential collection.

FIGURE 1: SERVICE VALUE OBJECTIVES AND CITIZEN SATISFACATION



These residential collection service value objectives are defined in Table 1. Further analysis within the 2018 Collection Services Review uses these service value objectives as their framework.

TABLE 1: SERVICE VALUE OBJECTIVES DEFINITIONS

Service Value Objectives	Definition
Customer Experience	<ul style="list-style-type: none"> Deliver consistent and reliable black, blue and green cart collection services. Respond to inquiries and resolve issues in a timely, accurate and courteous way.
Safety	<ul style="list-style-type: none"> Ensure public and worker safety while protecting public and private property.
Environment	<ul style="list-style-type: none"> Protect air, land and water. Facilitate waste diversion.
Cost	<ul style="list-style-type: none"> Provide safe; environmentally responsible; reliable and responsive customer experiences at the lowest possible cost.

Beyond these objectives, WRS' provision of residential collection services allows for the opportunity for Calgarians to receive additional value-added service. Examples include: WRS participating in emergency responses; WRS often returns to collect a cart, regardless of fault; or drivers as part of the wider

community who are able to call into 3-1-1 for issues beyond their own scope of work, as additional eyes and ears on the streets and back alleys of Calgary.

2.1 CUSTOMER SATISFACTION

The City of Calgary (The City) conducts an annual Citizen Satisfaction Survey to ask Calgarians how satisfied they are with City performance, programs, services, and overall quality of life in Calgary. Specifically included in the survey are questions asking citizens about the importance of and satisfaction with, residential garbage, recycling and green cart services. Table 2 shows the history of citizen satisfaction survey results.

TABLE 2: CITIZEN SATISFACTION SURVEY RESULTS FOR RESIDENTIAL COLLECTION PROGRAMS

Calgary Citizen Satisfaction Results	2010	2011	2012	2013	2014	2015	2016	2017	2018
Importance of Residential Garbage (Black cart) collection	99%	98%	99%	99%	99%	99%	99%	98%	98%
Satisfaction with Residential Garbage (black cart) collection	95%	93%	94%	95%	96%	97%	96%	91%	88%
Importance of Blue Cart Recycling	89%	92%	95%	94%	94%	95%	93%	93%	93%
Satisfaction with residential blue cart recycling	83%	84%	90%	90%	92%	92%	93%	93%	91%
Importance of Green Cart Service	N/A	*80%							
Satisfaction with Green Cart Service	N/A	*78%							

*THE 2018 SPRING PULSE SURVEY INCLUDED QUESTIONS REGARDING THE GREEN CART PROGRAM.

For The City, residential Black Cart and Blue Cart Programs continue to be a primary strength. WRS has consistently delivered high-quality services that are important to citizens. These results largely demonstrate increased satisfaction of residential cart-based programs as they mature over time.

3. PROJECT FRAMEWORK

Using the integrated service value objectives, the consultants completed several different types of analyses in order to perform a balanced review of WRS' overall collection performance in the delivery of residential black, blue and green cart services.

Included in the review was: an analysis of WRS' performance since 2014; a benchmarking analysis of residential collection to other municipalities; an industry strategic analysis; and a financial comparison of WRS to the private sector for a portion of The City's residential cart-based service. Combined, these evaluations allowed the consultants to draw conclusions and make recommendations on WRS service provision in consideration of a potential move to a mixed service provider model for a portion of The City's residential collection; potential cost savings; and associated risks for changes in service delivery models. Results from these evaluations are further discussed below.

Often finding comparable benchmarks for a distinct collection system is challenging as the likelihood of finding another municipality with the same residential services and level of service is low. As such, it is important for WRS to monitor its own performance over time. Given the timing of these service changes and this review it was challenging to gather full-year data of the new collection system as part of this evaluation, the consultants performed necessary data extrapolation to be used as a basis for analysis, as required.

4. CUSTOMER EXPERIENCE

Customer experience is the result of direct customer interaction. In 2018, WRS residential cart-based collection had over 40 million scheduled services to homes across Calgary. WRS strives to make these interactions reliable, responsive, timely, accurate and courteous.

WRS delivery of collection services allows for direct control of this objective. It allows The City to retain an in-depth understanding of residential collection operations issues and opportunities to shape customers' experiences. Additional benefits to public service delivery is that it maintains collection capabilities for emergency response situations and places city employees in the community to offer value-added services, as previously mentioned.

Reliability is measured through missed collections per scheduled service. WRS' performance is better than other municipalities who reported this performance metric. Further opportunities exist to improve data gathering for this performance measure by determining when collection has been missed by a driver, versus a 'missed collection' for other reasons. Examples of missed collections that are not driver error include: carts not set out on time, carts containing inappropriate materials, carts not used, incorrect cart spacing or emergency road closure. In these cases, collection was not possible, yet was recorded as a 'missed collection'.

WRS' response time for service requests is typically between one and two days and is consistent with other municipalities.

The consultant evaluation reported that consistent, reliable service is achieved through the driving workforce. Typically, drivers with longer tenures create a more consistent customer experience. WRS has a competitive advantage for providing collection services based on its ability to attract and retain qualified drivers throughout the cyclical labour markets in Alberta. The City's relationship with the Labour Union also positively impacts this evaluation.

The consultants noted that private companies may have risks of labour instability based on their inability to attract and retain drivers over the long-term, which can impact the reliability of the customer's

experience. However, if collection is completed reliably on the scheduled day of service, then citizens may not notice any change in service delivery model.

Municipalities can have conflicting pressures to limit user fee increases while still maintaining high quality service. If budgets are too stringent, then customer service may be impacted; however, the private sector may have a similar challenge between the conflicting objectives of profit and customer service.

5. SAFETY

A safe collection operation requires constant focus and attention. Safe operations are not only about the driver's safety, but about public safety and protection of public and private property. Benchmarking across Canada shows that safety performance is not consistently measured or managed. Safety performance measures are not always included in collection contracts, or if they are included, results are often not publicly reportable outside the contract for comparison purposes.

WRS delivery of collection operations allows for direct monitoring of impacts of safety choices in our community. To support safe services, The City applies stricter driver infringement rules than the Province of Alberta.

Industry research suggests that public collection drivers often experience better working conditions than the private sector. Enhanced truck ergonomic features support driver safety and safety equipment, such as 360 degree cameras, creating a safer environment for the public. The industry-wide move to automated collection has decreased the number and severity of injuries and claims for drivers. However, excess collected outside of carts still has an impact on driver safety, as this is where the majority of sprains and strains happen from lifting, slipping and falling.

6. ENVIRONMENT

Through The City's environmental management system (EnviroSystem), The City supports a culture focused on environmental outcomes. For WRS residential collection services this places emphasis on both greenhouse gas emissions and spills. WRS supports a culture of spill reporting, such that root cause analysis can be applied and future incidents avoided. Other municipalities have noted that it is difficult to get environmental performance reporting from contracted services unless explicitly included as a contract requirement.

WRS drivers facilitate diversion efforts for the Black, Blue and Green Cart Programs through their education and cart tagging efforts. Interactions with customers become opportunities to reinforce behaviour, using tags to help educate where behaviour can be changed.

The public sector is often more risk adverse in the adoption of new technology for vehicles. For residential collection, the private sector is adopting both Compressed Natural Gas (CNG) fueled trucks and electric trucks. Both types of vehicles produce fewer emissions than diesel vehicles. Investments in specific fleet is a significant operating and capital costs and as such, relevant and rigorous testing is

important. WRS is developing an alternative fuel strategy to further enhance environmental outcomes and potentially increase cost savings.

7. COSTS

Since the 2014 and 2015 Collection Services Review, WRS has had major changes to both its services and levels of service. Council decisions based on Administration recommendations on levels of service impacts collection costs. Examples include: continuing to collect excess garbage outside of black carts (more expensive), and switching to every-other-week winter collection for the Green Cart Program (less expensive).

WRS delivery of collection services provides Council with a degree of cost control through the approval of budgets and associated performance expectations. WRS residential black, blue and green cart collection services are operated on cost recovery basis.

The consultants' research concludes that a potential initial cost savings from privatizing collection services may be hard to maintain over the life of a multiple-year contract. Often aggressive bids are submitted to 'win the work', resulting in a first mover advantage over competitors. In the long run, these bids are often difficult to maintain and may pose an additional challenge of reduced competition for future bids.

Overall, WRS collection services costs per scheduled service have decreased across the current business cycle (Table 3). Since 2014 black and blue cart collection costs per scheduled service have decreased 3.5 per cent even with collective bargaining increases. If those increases were backed out the decrease in costs per scheduled service would be 8.8 per cent. If green cart costs for 2017 and 2018 were added to the calculations, cost per scheduled service would have decreased 6.5 per cent and adjusted for collective bargaining would have decreased 10.2 per cent.

TABLE 3: RESIDENTIAL COST PER SCHEDULED SERVICE

Residential cost per scheduled service	2014	2018	Percent Change 2018 vs 2014	Percent Change 2018 Adjusted Costs vs 2018
Black and Blue	\$1.40	\$1.35	-3.5%	-8.8%
Black, Blue and Green	\$1.40	\$1.31	-6.5%	-10.2%

7.1 EFFICIENCY AND EFFECTIVENESS

When comparing collection performance, it is important to remember that it can be impacted by program variables including: distance between stops; distances to processing and disposal sites; materials to be collected; material weight; excess allowed outside the cart; weather; topography; and traffic.

For overall residential collection performance one of the most useful proxies for efficient collection performance is households collected per truck per day, or households collected per truck per hour. This measure demonstrates the importance of efficiency of the main two cost drivers, vehicles and labour resources. WRS performance since the 2014 Collection Services Review is noted in Table 4. Going forward, benchmarking this efficiency may be more meaningful if changed to households collected per truck per hour. This would take out any bias in different collection systems days and hours of work between municipalities.

TABLE 4: HOUSEHOLDS COLLECTED PER TRUCK PER DAY

Residential Collection Efficiency	2014	2018
Black Cart Program	905	1050
Blue Cart Program	1225	1200
Green Cart Program	Not applicable	1050

In 2017, WRS had major changes to its operation with the addition of the Green Cart Program and the change to every-other-week collection for the Black Cart Program. Improvements in black cart collection efficiency is notable considering the 2017 change to every-other-week collection increased set out, with most carts set out every collection period, and unlimited excess still acceptable outside the black cart. Further efficiencies could be achieved in black cart collection if excess outside the cart were to be removed or limited.

7.2 LABOUR AND LABOUR MARKET EVALUATION

The industry scan completed by the consultants noted that generally in North America there is a shortage of qualified drivers for collection services. In the short-term, in Calgary the private sector would likely be able to find qualified drivers and pay them a lower rate than The City, which would create a cost savings. However, with a return to a strong economy there is a risk that private sector would have to increase the rate they pay drivers becoming more expensive or not able to get drivers over the life of a contract due to higher competition for qualified drivers across the province.

The consultants noted WRS has a competitive advantage for providing collection services based on its ability to attract and retain qualified drivers throughout cyclical labour markets. The consultants identified that offering an attractive total compensation package, trucks featuring ergonomic features for driver safety and a collaborative relationship with the Labour Unions support this advantage.

WRS hired an independent consultant that specializes in labour market evaluations, HR Align Consulting, to complete a salary survey of Class 3 drivers to gain an understanding of market conditions and commented on the likely range of fringe benefits. The consultant gathered publicly available 2018 market data related to Class 3 truck drivers. As is standard salary survey methodology, the consultant collected top job rates and calculated the median of all participants' data. The market median was then compared to The City's top rate (\$34.85). In short, the analysis compares the market's top step to The City's top step.

The salary reviewed 16 Alberta private sector organizations, 7 municipalities in Alberta; and results from the Alberta Government Wage and Salary Survey, which is completed every two years. The consultant noted that the Alberta Government Wage and Salary Survey is “unique and insightful as it incorporates a large number of smaller private sector employers (less than 10 employees) that do not typically participate in labour surveys”.

The review identified the “2018 median pay rate for comparable Alberta private sector Class 3 truck drivers as \$31.72 and \$31.75 for the public sector (low/high range of all private sector data is \$27.90-\$36.56) and public sector (\$28.30 – \$35.49). Standard industry methodology for estimating a job market competitive range is to calculate plus/minus five percent of the market median. Applying this methodology to private sector 2018 Alberta class 3 driver rates would result in a competitive range of \$30.13 to \$33.31.”

The survey “recognized that of the 16 private sector organizations surveyed, there were 16 distinct market rates collected”. The “median calculation (\$31.72) simply provides a centralized representation of all the data. The plus/minus five percent suggests: a) The market for truck drivers should not be viewed as one precise number, \$31.72 but rather a range; and b) If an Alberta business is paying \$30.13 to \$33.31, they are generally aligned with where the market data clusters.”

The consultant noted “that relative to the rest of Canada, Alberta has been a distinct labour market for 15-20 years. Today, most Alberta companies compare their pay exclusively with other Alberta employers”.

For reference purposes, WRS also asked the consultant to reviewed labour rates in Ontario and British Columbia (BC). “The data sample from Ontario and BC indicates rates average 8 per cent behind the Alberta market and 18 per cent behind The City of Calgary drivers. However, the consultant recommends that non-Alberta market data should be considered as contextual information only.”

The City’s “current pay rate for Waste & Recycling residential collection drivers is \$34.85. Therefore, The City of Calgary is approximately 10% above the market median and calculating that range using the plus/minus 5% methodology”.

Tetra Tech and Stack’d Consulting’s efficiency and effectiveness analysis revealed that WRS has produced cost efficiencies of 6.5% in combined labour for black and blue cart collection costs per scheduled service over the last five years, after adjustments for labour rate increases. As WRS does not directly control collective bargaining decisions, this demonstrates how WRS has more efficiently deployed manpower since 2014. Green cart has improved efficiency in all cost areas since rollout in mid-2017.

7.3 FLEET

Since 2014, WRS and Fleet Services have increased collaboration for vehicle procurement, maintenance, and driver training. Over that same time, fleet maintenance costs per scheduled service shows improvement across all three services and fleet leasing costs have remained consistent.

However, even with these improvements the consultants concluded that it is likely private companies would pay less for fleet due to a lower fleet labour rate, greater standardization of vehicles and lean operational practices.

The consultant's industry scan concluded that WRS Fleet Services has competitive purchasing power for vehicle procurement, with the possible exception of one large multi-national service provider. In the purchase of fleet, The City likely has lower borrowing rates for capital purchases. It should be noted that vehicle costs are impacted by United States (US) dollar exchange rates, as all chassis come from the US. Vehicle costs are also impacted by choices of ergonomic and safety features.

Between 2014 and 2018, fuel and oil costs per scheduled service improved. This is likely attributed to differences in market prices and not to overall efficiency. In future, the potential use of Compressed Natural Gas (CNG) vehicles could produce saving in fuel costs and greenhouse gas emissions. But, CNG vehicles will add to the purchase cost and will require new, more expensive fueling stations.

Several improvements have been implemented since 2014, such as adjustments to inspection and maintenance schedules to allow for most work to occur after hours and during the weekends. This coordination allows WRS to lower our vehicle spare ratio from 24 per cent in 2014 to 16.5 per cent in 2018. Typically, jurisdictions have reported spare vehicle ratios between 10 and 25 per cent. It has been observed that contracts with the private sector often require a minimum of 10 per cent spare vehicle ratio.

WRS is updating collection routes using a waste collection industry specific software, Route Smart™. The first routes have been rolled out and updates based on actual use are under development. Use of industry specific software gives WRS the ability to operate routes based on industry best practices. This should allow WRS to be as efficient as large private waste haulers. However, the consultants noted that WRS has not implemented turn-by-turn technology in trucks, which gives the driver a specific route to follow to complete the necessary number of households. This technology would likely add a further level of efficiency to operations.

Initiatives currently underway include the implementation of software that improves asset lifecycle analytics and truck lifecycle prediction; on-going efforts to improve pre-trip inspections; and a WRS alternative fuel strategy.

Previously WRS has specified vehicles that are interchangeable between garbage, recycling and food and yard waste collection. It was thought that allowing vehicles to move from one area to another, as required, was the most efficient fleet strategy. Experience with this model has shown that this is not necessarily the case. In 2018, the fleet acquisition strategy was adjusted with the ordering of 'fit for purpose' vehicles, specifically for blue cart collection.

7.4 CONTRACT MANAGEMENT

Currently WRS does not have any contract management costs with public service delivery. Moving to private collection through an alternative model will add costs for: procurement; contract management; oversight; quality control; and 3-1-1 service request coordination. The consultants estimated that 8 additional full time positions would be required to contract out one-third of residential collection.

One time transition costs per contract period are estimated at \$600,000 every 7 to 8 years, based on contract length. It was estimated by the Toronto Environmental Alliance study of waste collection that proper monitoring for waste collection contracts costs are about 20 per cent of the annual contract costs to achieve high performance levels.

7.5 MISCELLANEOUS COSTS

A move to an alternative service delivery model would have several changes both positive and negative to miscellaneous costs. Most noticeable are the avoidance of Corporate Human Resources costs which are typically based on the total number of full-time equivalent positions due to the reduction in WRS residential collection services positions.

The consultants noted that miscellaneous business expense costs per scheduled service has increased over time. They recommended that further review may be warranted in this area.

7.6 PROFIT

According to industry review, private sector companies' profit margins specifically for collection operations are estimated at 10 per cent. Previous studies have noted that a range of 7 per cent to 15 per cent are possible.

8. COST OF ALTERNATIVE SERVICE DELIVERY

There are risks involved in switching service delivery models. The consultants' industry scan noted that a mixed service delivery model has potential for cost savings relative to WRS existing service delivery model. For consistency with the 2014-2015 Collection Services Review, a contract area of one-third of the residential collection services for black, blue and green carts was determined to be the most appropriate cost comparison for Calgary. The consultants were not asked to comment on the ideal number of households to consider contracting out, their scope did include assessment of risks and potential savings.

The comparative financial analysis for the two service delivery models for 1/3 of Calgary's residential collection is based on costs for: labour; fleet; miscellaneous business expenses; corporate allocations; and profit. Estimates are based on differences between known WRS costs and efficiencies; and expected private sector costs and efficiencies. Table 5 summarizes the cost comparison.

TABLE 5: SUMMARY COST COMPARISON OF 1/3 OF SERVICE DELIVERY PUBLIC VS. PRIVATE

Cost Element	WRS Current Model Annual Cost for 1/3 Collection Network	1/3 Private Sector Estimate	1/3 Private Sector vs. WRS Current Model Difference
Labour	\$8.928 million	\$6.919 million	(\$2.009 million)
Fleet Leasing	\$3.473 million	\$3.039 million	(\$0.434 million)
Fleet Maintenance	\$3.096 million	\$2.787 million	(\$0.309 million)
Fuel & Oil	\$10388 million	\$1.319 million	(\$0.069 million)
Misc. Business Exp.	\$0.874 million	\$0.830 million	(\$0.044 million)
Contract Management	-	\$0.775 million	+\$0.775 million
Corp HR Allocations	\$0.250 million	-	(\$0.250 million)
Profit	-	\$1,490 million	+\$1.490 million
Total Difference	\$18.011 million	\$17.160 million	(\$0.851 million) +/- 50% range

Overall, annual savings of approximately \$850,000 may be achieved with an alternative service delivery model where one third of residential black, blue and green cart collection are contracted out. This is less than 2 per cent of WRS' entire collection costs and equates to a possible city-wide rate savings of \$2.59 per household per year. Based on the nature of this evaluation, the analysis could vary by as much as plus or minus 50 percent.

9. RISKS

WRS' existing residential collection services model could lead to some potential risks. These risks include:

- Customers not realizing savings passed onto them from potentially lower cost service delivery options;
- Potential future city budget constraints may cause the level of service to decrease;
- Potential labour negotiation impacts on costs are unknown, while unlikely, there is the potential for impacts to citizen customer service experiences if contract negotiations were to become contentious; and
- Although unlikely given the current economic climate and past performance, lack of competition could create complacency instead of striving for further efficiencies.

As well, there are anticipated risks with contracting out residential black, blue and green cart collection services. These risks include:

- Initial savings promised to customers might not be realized over the term of the contract;
- Aggressive bids and large contracts can create less competitive markets over time resulting in potential smaller cost savings;
- The profit motive could become more important than quality service, if costs are higher than anticipated at the time of the bid;
- Moving to a mixed service delivery model poses potential risks to performance in Customer Experience, particularly for reliability, and safety, due to the lack of control over the service and an increased risk for the private entity to attract and retain qualified drivers;
- Industry scan has noted that the most likely cause for contract default is the lack of qualified drivers, especially in a challenging labour market like Calgary where there are large fluctuations in demand based on the cyclical nature of the oil and gas industry, this could cause service level impacts; and
- Customer service quality could suffer due to the difficulty of including qualitative performance measures and reporting requirements within contracts.

It should also be noted that initiating and managing contracts may compete for available resources and other WRS strategic efforts, such as Pay-As-You-Throw (PAYT). Contract costs can also be negatively impacted by the desire to include flexibility to allow for future system changes. For example, a fixed contract term could result in delayed savings for citizens from Extended Producer Responsibility (EPR) implementation in Calgary.

10. RESIDENTIAL CHARGES – MUNICIPAL SCAN

A recent scan of charges for residential waste programs are shown in Table 6 below. Typically, these charges are for full program costs including: collection, processing/disposal, education, communication and administration. Municipalities were selected to cover various service delivery models including, public, mixed and private.

It should be noted that Ontario and British Columbia have producer-funded recycling programs (Extended Producer Responsibility) for recycling. Therefore, the charges noted for Toronto* and Vancouver* are for Black and Green cart services only.

TABLE 6: SCAN OF OTHER MUNICIPALITIES' WASTE MANAGEMENT CHARGES

Service Delivery Model	Municipality	2019 Annual Fees	Type of Programs	Collection Frequency
Public	Calgary	\$292	<i>unlimited</i> 	Black EOW Blue Weekly Green summer Weekly winter EOW
Mixed	Vancouver	\$299* Black and Green only		Black EOW Blue Weekly Green Weekly
	Toronto	\$347* Black and Green only		Black EOW Blue EOW Green Weekly Yard EOW seasonally
	Edmonton	\$565	Black/Green and Blue & Depots, Reuse Centre, Big bin events and Eco Stations	Black/Green Weekly Blue Weekly
Private	Airdrie	\$255	<i>one bag</i> 	Black Weekly Blue Weekly Green summer Weekly winter EOW
	Cochrane	\$258		Black Weekly Blue Weekly Green summer Weekly winter EOW

Vancouver, Toronto, Airdrie and Cochrane all limit either the amount of garbage for collection and / or the amount of paid excess garbage that can be collected, which impacts collection efficiency and costs to deliver services.

This illustrates that even though the potential exists for residential collection savings WRS' overall program charges remain in line.

11. RESIDENTIAL COLLECTION PERFORMANCE

WRS participates in several initiatives to monitor and compare performance including: Municipal Benchmarking Network Canada (MBNCanada); National Solid Waste Benchmarking Initiative (NSWBI); annual Accountability Reports to Council; and The City's EnviroSystem and Safety reporting systems.

WRS will continue to benchmark and monitor performance of the residential cart-based collection system, using measures from both existing initiatives and corporate programs to monitor black, blue and green cart collection services. Combined use of all these measures supports achieving the outcome of providing safe; environmentally responsible; reliable; and responsive customer experiences at the lowest possible cost.

Any collection service delivery model has risks and it is important to evaluate and monitor those risks to determine future courses of action. As such, WRS is also committing to participate in either a Zero-Based Review or another Collection Services Review to inform the 2023 to 2026 service plan and budget cycle.

12. CONSULTANTS KEY RECOMMENDATIONS

As part of the 2018 Collection Services Review, the consultants made 10 individual recommendations as a result of the research and analysis completed. Highlights include:

- Maintain the public-sector service delivery model for residential collections, provided, regular review, assessment and performance reporting occur.
- Manage costs per scheduled service through the 2019 to 2022 cycle in balance with the service value objectives of customer experience, environment and safety objectives.
- Create and maintain performance measures and operational indicators for residential collection services to support annual reporting on progress across all three service value objectives.
- Consider extending collection shifts to a ten-hour work day.
- Consider alternative fuel vehicles to further enhance cost savings.

13. SUMMARY

The key findings upon completing the 2018 Collection Services Review were:

- WRS has been providing reliable, responsive and valued collection services;
- WRS has a competitive advantage to attract and retain qualified labour;
- Specific risks to changing the service model for residential black, blue and green cart collection services include customer experience and safety;
- WRS should develop an annual benchmarking plan to monitor its' indicative performance; and
- A mixed service delivery model likely has the potential for cost savings in the range of \$425,000 to \$1,275,000, equating to a city-wide cost savings of approximately \$1.30 to \$3.90 per household per year.

WRS' performance since 2014 shows: improved collection costs per scheduled service; better cost efficiencies in labour and fleet maintenance per scheduled service; collection reliability performance that is better than most reporting municipalities; and comparable responsiveness to service requests.

Regardless of the service delivery model, monitoring performance is a critical activity. WRS continues to be part of several benchmarking initiatives and corporate performance reporting system that allow monitoring of residential black, blue and green cart collection performance. Use of measures that

support all four service value objectives creates a balanced representation of overall performance and will be used to report annually on WRS' residential Collection Service. Transparent reporting assures the public of the value for money received from residential collection services.

A mixed service delivery model is the most likely alternative to WRS' current service delivery model to offer potential cost savings. Estimated annual savings of \$425,000 to \$1,275,000 may be achieved through a one-third mixed service delivery model, equating to less than 2 per cent of WRS' collection costs and a city-wide cost savings of approximately \$1.30 to \$3.90 per household per year. However, a mixed service delivery model could put two of The City's service values objectives, customer experience and safety, at risk.

WRS' Black, Blue and Green Cart Programs offer highly valued services at competitive rates. Significant efficiencies have been realized over time with the introduction of automated collection, cost improvements in fleet maintenance, and the implementation of industry specific route design software in 2018.

The potential exists to further reduce collection costs for the Black, Blue and Green Cart Programs. The consultants have recommended WRS consider extending collection shifts to a ten-hour day and developing an alternative fuel strategy. In addition, WRS continues to explore cost cutting opportunities such as: limiting excess garbage collection, in-truck technology and advocating the Province to implement an Extended Producer Responsibility (EPR) program for recycling. Reports will be coming to Council in 2019.