

WASTE & RECYCLING SERVICES





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1. INTRODUCTION

Monitoring performance of residential cart-based collection is a critical activity, regardless of the service delivery model. To that end, WRS participates in several initiatives to monitor and compare performance. Several existing performance measures and benchmarks support WRS' efforts to continually monitor performance of the residential black, blue and green cart collection system. Use of measures that support all four of the service value objectives, developed for the 2018 Collection Services Review create a balanced representation of overall performance.

2. OBJECTIVES

Service value objectives were used throughout the 2018 Collection Services Review to create a balanced look at WRS' performance of residential cart-base collection services. The objectives were: customer experience, safety, environment and costs. They have been defined in Table 1 below:

Service Value Objectives of Residential Collection	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.

TABLE 1: SERVICE VALUE OBJECTIVES DEFINITIONS

3. CURRENT PERFORMANCE MEASUREMENT PROGRAM

WRS currently participates in several initiatives to monitor and benchmark performance. Four of the initiatives are corporately mandated and include: Municipal Benchmarking Network Canada (MBNCanada) formerly known as Ontario Municipal Benchmarking Initiative (OMBI); accountability reports to Council for One Calgary; and The City's environmental management system (Envirosystem)

and Safety reporting systems. WRS also voluntarily participates in an additional initiative called the National Solid Waste Benchmarking Initiative (NSWBI) to supplement benchmarking opportunities.

Several performance measures or benchmarks currently exist to support WRS' efforts to continually monitor performance of residential cart-base collection system.

3.1 CUSTOMER EXPERIENCE

Residential cart-based customer experience focuses on two main purposes, reliability and responsiveness. These were defined to: Deliver consistent and reliable Black, Blue and Green cart collection services and respond to inquiries and resolve issues in a timely, accurate and courteous way.

The ideal performance proxy for reliability is to monitor missed collections. In order to benchmark with other municipalities, missed collections should be normalized for the number of scheduled collections, removing some of the bias between differing program service levels.

Further opportunities exist to improve data gathering for this performance measure by determining when collection has actually been missed by a driver, versus a 'missed collection' for other reasons. Examples of missed collections that are not driver error include: if a cart is not set out on time, cart containing visibly improper materials, a cart not used or emergency road closure; as such, collection was not possible, yet often it is recorded as a 'missed collection'.

MBNCanada and NSWBI provide benchmarking data regarding the number of missed collections for each line of service (garbage, recycling and organics). The existing measures are:

- Missed collection calls received per scheduled collection -residential curbside garbage;
- Missed collection calls received per scheduled collection - residential curbside recyclables;
- Missed collection calls received per scheduled collection - residential curbside organics; and

WRS' response time to complete service requests is a measure of collection responsiveness. On average, WRS response time is between one and two days and is consistent with the results of most other municipalities. Neither MBNCanada nor NSWBI has a benchmark regarding response times for service calls. However, WRS has proposed a performance measure for One Calgary 2019-2022 service plans and budgets that monitors average initial response time for all WRS service requests. From this measure, WRS will monitor its own response time for residential cart-based response time performance.

The consultants have suggested several internal operating measures that will support WRS in its overarching goal of reliable and responsive customer experience. These include: internal employee engagement survey satisfaction results; staff turnover percentage; and truck availability percentage.

3.2 ENVIRONMENT

The environment objective is defined as the importance to both protect air, land, and water and facilitate waste diversion.



The City's EnviroSystem monitors greenhouse gas (GHG) emissions from operations, reported at the WRS Business Unit level. From this, WRS can calculate greenhouse gas emissions from trucks which deliver residential cart-based collection services. To benchmark results to other municipalities, GHG emissions should be reported per scheduled service.

EnviroSystem also monitors spills, by both their frequency and amount. WRS encourages a culture of reporting in this area, as it helps to determine root causes to be addressed. As such, benchmarking on this measure may misrepresent findings when comparing against other municipalities who have not established this culture. It would be important to determine how other municipalities define spills, in order to create a comparable measure.

In addition, WRS has developed a performance measure to track the per cent of residential waste being diverted through cart-based programs for the 2019-2022 One Calgary service plans and budgets. This measure will monitor the percentage of total residential waste diverted from landfill as achieved by both the Blue and Green Cart Programs. Both MBNCanada and NSWBI have similar diversion measures, which allows WRS to benchmark performance with other municipalities. MBNCanada reports on total tonnes of residential solid waste diverted per household and percent of residential solid waste diverted – single family; while the NSWBI reports on the residential curbside diversion rate based on weight.

However, it should be noted that cart-based diversion measures gauge the effectiveness of the overall residential curbside collections programs, and not necessarily the collection service delivery model itself. This acknowledges that although collections drivers can support customer education through activities such as set-out requirements and behaviours, they cannot be held accountable for program diversion.

The consultants have suggested an internal operating measure of total diesel fuel consumption per scheduled service, which would support WRS' environment objective.

3.3 SAFETY

The safety objective is defined as the protection of both the public and internal workers, and both public and private property.

WRS reports internally on a variety of safety-related measures at the Business Unit level, which can also be monitored for residential cart-based collection. These include:

- Total number of days lost for all claims;
- Lost Times Claims Frequency; and
- Total Recordable Injury Frequency.

With respect to industry benchmarking, NSWBI has a measure that monitors providing a safe work place, and is reported as the number of WCB claims per 1,000 hours for residential curbside collection of garbage, recycling and organics. NSWBI is considering switching to a new safety measure in the future, at which point WRS could consider that benchmark.

WRS monitors property damage by observing the costs associated with property damage repair for both public and private property. A performance measure of total public property damage per scheduled service is recommended by the consultants for future monitoring.

The consultants have also recommended considering an internal measure of number of public safety incidents per scheduled service.

3.4 COSTS

The cost objective is focused on WRS providing safe; environmentally responsible; reliable and responsive customer experiences at the lowest possible cost.

In Action Plan 2015-2018 business plan and budget, WRS had an annual performance measure that reports on black cart collection costs per household. This measure monitors operational efficiency for collection of waste from single-family homes.

In order to benchmark financial performance, it is important to have performance measure definitions that support comparability. As costs can be impacted by program decisions, such as handling of excess or the materials included in a program, it is important to understand what is and isn't included in each benchmark. The consultants recommended financial performance measures where costs are measured per scheduled service, however these are currently not available with either MBNCanada or NSWBI. They also recommended wherever possible, that each measure should be reported individually by material type (garbage, recycling and organics).

While not ideal, existing NSWBI and MBNCanada financial performance measures, do indicate general financial trends across municipalities. These include:

- Residential curbside collection cost per tonne collected material – garbage;
- Residential curbside collection cost per tonne collected material – recyclables;
- Residential curbside collection cost per tonne collected material – organics;
- Residential curbside collection cost per tonne collected material – combined; and
- Operating Cost for Garbage Collection per Tonne.

Several challenges arise in using these measurements as a direct comparison for WRS performance. These include different service levels; such as collection frequencies and handling excess outside the cart, and the inclusion of different levels of internal indirect and overhead costs. However, these do provide a general comparison, particularly for trending patterns over time.

The consultants suggested several internal operating measures that will support WRS in achieving the financial objective. Fleet and manpower costs are the largest cost components of a residential collection services financial analysis and as such, it was identified that indicators that support measurement of these elements are necessary. These include: collection efficiency, average number of households collected per day; fleet availability efficiency, fleet spare ratio; manpower availability efficiency, manpower spare ratio.

4. SUMMARY

WRS will continue to benchmark and monitor performance of the residential cart-based collection system. Table 2 is a summary of measures from both existing initiatives and corporate programs that

WRS will use to monitor black, blue and green cart collection services. Use of these measures will support achieving the outcome of providing a safe; environmentally responsible; reliable and responsive customer experiences at the lowest possible cost.

Objective	Benchmarks and Performance Measures	Operational Indicators
Customer Experience	Missed collections per scheduled service Average service request response time in days	Truck availability Employee engagement satisfaction survey Staff turnover
Safety	Number of public safety incidents per scheduled service Dollar amount of public damage per scheduled service Corporate safety reporting for residential cart-based collection	Corporate safety reporting for residential cart-based collection
Environment	GHG emissions (tonnes) per schedule service Percent of residential waste diverted through cart-based programs	Total litres of diesel fuel consumed per household for each Black, Blue, and Green cart program
Cost	Black Cart: cost per scheduled service Blue Cart: cost per scheduled service Green Cart: cost per scheduled service	Number of households collected per day (separately for Black, Blue, & Green) Vehicle spare ratio Manpower spare ratio

TABLE 2: SUMMARY OF BENCHMARKS, PERFORMANCE MEASURES AND OPERATIONAL MEASURES FOR RESIDENTIAL COLLECTION SERVICES.

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.