



▶ Neilson Strategies Inc.
Allan Neilson, Principal
778.214.3405
aneilson@neilsonstrategies.ca

MEMORANDUM

TO: Bill Sims
General Manager, Engineering & Public Works
City of Nanaimo

CC: John Elliot Taaj Daliran Sherry Hurst
Director, Public Works Manager, Sanitation, Recycling &
City of Nanaimo Cemeteries Leftside Partners
City of Nanaimo

FROM: Allan Neilson
Neilson Strategies Inc.

DATE: October 26, 2020

SUBJECT: **CURBSIDE COLLECTION POST-IMPLEMENTATION REVIEW
RECOMMENDATIONS EXPECTED TO IMPACT 2021 CURBSIDE COLLECTION USER RATE**

BACKGROUND

Neilson Strategies Inc. (NSI) has been retained by the City of Nanaimo to undertake a *Curbside Collection Post-Implementation Review* on the City's fully-automated curbside collection system that was introduced in 2017 (Phase I) and 2018 (Phase II). NSI is in the process of writing a full report on the review. The report will identify and explain the consultants' recommendations for the City to consider.

The City is in the process of developing its *2021-2025 Financial Plan*. In order to give the Finance Department sufficient time to develop proposed 2021 property tax and user rates for presentation to Council, any recommended changes to the curbside collection service that could impact the 2021 service user rate must be submitted to the City by the end of October, 2020.

2021 RECOMMENDATIONS

This memorandum presents the consultants' recommendations for 2021 in advance of the full report. Figure 1 identifies and explains each recommendation for the City to consider. Information on the anticipated types of costs to expect is presented for each entry; additional detail and rationale will be provided in the full report. Additional recommendations to consider in future years will also be presented in the report.

**Figure 1
2021 Recommendations**

Recommendation	Explanation	Cost Impact
<p>1. Undertake Route Optimization</p>	<p>Increasing recycling volumes, coupled with the City's eight-hour shifts and use of split-load collection vehicles, are creating inefficiencies in the system. On their current collection routes, drivers are required to drop recyclables at the Waste Connections Materials Recovery Facility (MRF) twice per shift. Each trip to the MRF takes considerable time. The need for two trips is a key cause of the department's increased overtime.</p> <p>The current situation can be resolved to a significant degree by redesigning the collection routes, specifically for the curbside recycling stream. The City has two years' worth of data that can be used to optimize the routes so that trucks do not have to tip recyclables more than once per shift.</p> <p>This recommendation is being addressed by the City's Manager of Sanitation, Recycling & Cemeteries.</p>	<p>The recommendation would result in:</p> <ul style="list-style-type: none"> · elevating one of the diesel back-up vehicles to full-time usage, and incurring the maintenance and fuel charges associated with full-time use · ordering (as planned already) the tenth CNG automated truck for delivery in 2022 · hiring an additional full-time driver (1.0 FTE)
<p>2. Create Cart Administrator Position</p>	<p>Similar to other local governments that have introduced an automated cart-based system, Nanaimo has discovered that the effort required to manage the City's curbside carts is considerable. Ongoing tasks include:</p> <ul style="list-style-type: none"> · receiving and addressing requests for cart exchanges · identifying and eliminating "phantom carts" (i.e., carts with missing or mis-assigned RFIDs) · ensuring that carts are properly repaired (this task is currently not being done) · ensuring that carts are assembled and delivered to new addresses · ordering new carts as required · overall management of 90,000+ inventory <p>It is recommended that an additional administrative resource be added to undertake these tasks. At a minimum, 0.5 FTE should be considered.</p>	<p>This recommendation would result in:</p> <ul style="list-style-type: none"> · hiring an additional administrative staff resource (minimum 0.5 FTE) to work at the Public Works Yard and be responsible for cart management

Recommendation	Explanation	Cost Impact
<p>3. Develop and Implement Resident Education</p>	<p>When the City introduced the automated system staff developed and presented a broad range of user-friendly information materials in various formats to help residents understand how to use the new service. Since implementation some additional materials have been produced and presented; however, the reach of these efforts has been relatively limited.</p> <p>Users have a significant role to play in increasing the system's overall efficiency and in postponing the need for further major capital expenditures to increase system capacity. Targeted education campaigns could be developed to:</p> <ul style="list-style-type: none"> · lower the overall participation rate — and thus reduce the number of carts that must be collected each shift — by encouraging residents to hold back carts that are less than half full · properly flatten and size cardboard to maximize the carrying capacity of the vehicles, and to minimize compaction-related equipment problems · reduce recycling contamination levels · optimize the efficiency of cart placement · minimize incidents of carts being blocked by parked cars · address other matters <p>It is recognized that the City does communicate on some of these matters with residents on an ongoing or periodic basis. Additional targeted efforts, however, would be helpful.</p> <p>The City's Zero Waste Coordinator would have an important role in developing portions of the required education. Staff from the Communications department, however, would also need to be involved.</p>	<p>This recommendation would result in:</p> <ul style="list-style-type: none"> · making available the Zero Waste Coordinator to address at least some of the education needs (currently the Coordinator's time is focused on COVID-related response needs) · acquiring resources from the City's Communications Department and/or hiring a communications consultant to help design and implement the education programs
<p>4. Provide Additional Driver Training</p>	<p>It is clear that the City's collection truck drivers take pride in their work. Overall vehicle efficiency, however, could be improved with some additional</p>	<p>This recommendation would result in:</p>

Recommendation	Explanation	Cost Impact
	<p>driver training. Targeted training on the following items would be useful:</p> <ul style="list-style-type: none"> · use of the on-board vehicle computer to bolster the City's collection of data — data that are critical to optimize routes, inform resident education needs, identify phantom carts, correct cart misplacements, and address other matters · proper vehicle operation to reduce wear-and-tear and, in so doing, to better manage vehicle repair and maintenance costs · post-trip vehicle inspections to ensure that any maintenance issues are identified for mechanics to address beginning at 5:00 am on the following morning, and to enable drivers to exit the Public Works Yard early the following morning <p>The challenge in providing additional driver training will be creating time for it. The City has considered introducing a "skip-a-day" twice each year to provide opportunities for all drivers to train as a group. This idea has merit. The less attractive alternatives are for drivers to be trained individually or using overtime.</p>	<ul style="list-style-type: none"> · contracting trainers and/or or using experienced staff to train drivers and produce supporting written materials · addressing the potential overtime impact of any skip-a-day initiatives, versus the overtime impact of having drivers train off-shift
<p>5. Purchase and Install On-Board Computer</p>	<p>The on-board computers on the collection vehicles are critical to the City's efforts to collect that data required to optimize routes and increase overall system efficiency. Most of the vehicles have the computers; however, at least one vehicle — Truck 317 — does not have one. The City should consider purchasing and installing the computers, as required, to ensure that all trucks are properly equipped.</p>	<p>This recommendation would result in:</p> <ul style="list-style-type: none"> · the cost to purchase and install an on-board computer for Truck 317 (and for any other vehicle that may be missing the device)