

Operational Performance and Fleet Management Recommendations Status Updates

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Background

CH2M HILL conducted a comprehensive review of Calgary's collection service delivery model by obtaining and analyzing financial and operational data from Waste & Recycling Services (WRS), as well as information from Fleet Services (FS). The consultant used this analysis to evaluate opportunities for increased efficiency and effectiveness both within current operations.

In 2014 November, WRS presented the consultants findings and recommendations (UCS2014-0262) which resulted in Council directing Administration to report back to the Standing Policy Committee on Utilities and Corporate Services with two reports. The first (UCS2015-0220) was presented on 2015 March 20 and provided a review of collection service delivery model and; this report, which provides an update on the current status of the operational performance and fleet management recommendations.

Fleet Management

Fleet Size, Specification and Standardization

1. Consultant's recommendation: Currently, Waste & Recycling Services (WRS) collection vehicles are procured along with other equipment. Collection vehicle tenders should be specific only to WRS to ensure that best value is received for the specific needs of WRS. WRS should lead the development of specifications (with support from a procurement specialist who has expertise developing collection vehicle specifications), and at least one WRS representative should be present during evaluation of all fleet vehicle tenders.

Administration Response: WRS and FS accept this recommendation. WRS is involved in some aspects of the procurement of collection vehicles with FS.

Next Steps: By the end of 2015, WRS and FS will work with Supply Management and Finance to:

- Analyse industry best practices and comparable asset types.
- Improve the current procurement process and investigate if a specialized procurement process is required and possible.
- Develop a process document which outlines replacement planning and acquisition best practices.

Maintenance Procedures and Practices

2. Consultant's recommendation: Historically, WRS has experienced substantial challenges with vehicle downtime, a lack of transparency, and poor communications with Fleet Services about maintenance procedures and practices. On the basis of interviews with Fleet Services and WRS it is clear that the scope of these problems have been expressed to Fleet Services, and Fleet Services has recently suggested a series of potential remedies.

Administration Response and Current Status: WRS and FS accept the recommendation.

In 2014, WRS and FS scheduled regular meetings between various stakeholders and implemented a fleet availability report, which identifies the current status of collection vehicles. As well, a fleet availability listing has been implemented to monitor truck availability daily.

Next Steps: By the end of 2015, WRS and FS will:

- Review the current fleet availability report and make necessary adjustments for accuracy and completeness.
- Analyse industry best practices and develop a performance measure on collection vehicle down time.

3. Consultant's recommendation: It is recognized that there is a trade-off between having mechanics working nights, weekends, and/or overtime perhaps at higher hourly rates (depending on union agreements), but it appears that Fleet Services and WRS should jointly place more emphasis on keeping first line vehicles on the road at all times. Maintenance bays need to be fully utilized as necessary during non-collection times to ensure trucks are ready to perform their duties.

Administration Response and Current Status: WRS and FS accept the recommendation.

Keeping first line vehicles on the road at all times is crucial to operations and customer satisfaction. Any maintenance activities completed during non-collection times (weekends and Mondays) would increase vehicle availability and create a reduction in required fleet due to reduced spare fleet requirements.

Next Steps: WRS and FS will review the maintenance schedule and determine how to incorporate additional downtime shifts for additional repair time outside standard WRS operating hours.

4. Consultant's recommendation: WRS and Fleet Services should jointly assess a preventive maintenance plan for vehicles, and then agree upon and implement that plan: preventive maintenance should be performed routinely and should not be skipped to "get trucks on the road". In particular, preventive maintenance on mechanical arms would help minimize down time and lower costs overall.

Administration Response and Current Status: WRS and FS accept the recommendation.

In Q1 of 2015, WRS implemented a new driver training program with a focus on usage and care of the trucks. As well, additional truck inspections and ride alongs are occurring to ensure cleanliness and to identify any preventive maintenance issues.

In 2014, FS reviewed and integrated a preventive maintenance program to ensure that the work is performed as recommended by the manufacturers.

Next Steps: Throughout 2015-2018, the preventive maintenance program will continue to be reviewed and improvements will be incorporated. WRS and FS will:

- Schedule meetings related to preventive maintenance to monitor the current plan and ensure ongoing commitment to the program.
- Update the vehicle emissions preventive maintenance program and implement the changes.
- Monitor the new driver training program and vehicle inspection process and implement any required enhancements.

5. *Consultant's recommendation:* Poor condition spare vehicles are a major problem for WRS. WRS should consider reconditioning some of the spares that are currently in the best condition. This will help lower vehicle downtime and maintenance costs, and improve driver morale when employees must use a spare vehicle while their regular truck is being repaired.

Administration Response and Current Status: WRS and FS accept the recommendation.

In Q1 2015, WRS and FS have reviewed the state of the full fleet including spares and identified 28 high cost trucks for relinquishment due to age and maintenance costs. It is anticipated that the additional focus on preventive maintenance and training standards will lead to decreased downtime and will create the opportunity to decrease the spare fleet as well.

Next Steps: WRS and FS will:

- Continue to evaluate the condition of the spare fleet to ensure the condition and maintenance costs of trucks are maintained at appropriate levels.
- Review high cost spares annually for potential relinquishment or refurbishment.
- Define spare fleet requirements by the end of 2015.
- Develop preventive maintenance schedules for the spare fleet.

6. *Consultant's recommendation:* The drive for efficiency and maximizing the number of stops collected per day puts strain on vehicles and hydraulic lifting arms. Some of the maintenance issues WRS is experiencing may be the result of drivers misusing equipment. Information from the recommended fleet maintenance report card should be used to give feedback to driving trainers, management, and drivers and used to develop targeted training programs to ensure an appropriate balance between collection productivity and the cost and frequency of repairs.

Administration Response and Current Status: WRS and FS accept the recommendation.

Over the past year, WRS and FS have made improvements to reduce misuse of trucks and to ensure appropriate maintenance and inspection of arms. All truck arms have been returned to manufacturer's hydraulic pressure specifications and additional safeguards have been added to ensure that only specific parties can adjust the arm pressures.

In addition, 29 new seasonal hires have completed driver training programs related to truck maintenance, repair and treatment in 2015. FS has completed condition reports for the arms of each unit and incorporated these into the preventive maintenance program, and has initiated the Customer Focus Initiative (CFI) project to review high cost vehicles and their systems/components. The CFI project is focused on reviewing internal business practices,

reducing the total cost of asset utilization, and improving asset reliability/availability.

Next Steps: WRS and FS will continue to monitor trends related to arm repairs, hose and coupling breaks to ensure program effectiveness.

7. Consultant's recommendation: Recurring downtime could be a result of performing poor quality pre- and post-trip inspections, or not performing them at all. WRS should insist that all drivers perform complete pre- and post-trip inspections of vehicles. Morning repair downtime should be recorded and tracked by vehicle and driver. Corrective action, such as foremen participating in inspections, should be taken for drivers whose trucks continually have recurring morning repairs.

Administration Response and Current Status: WRS and FS accept the recommendation. WRS foremen review the truck sheets daily and participate in weekly truck inspections. FS has initiated the CFI project to review high cost vehicles and their systems/components.

WRS and FS have collaborated to enhance the inspection criteria as required. FS has developed an operator checklist to enhance the daily pre-trip inspection and is working with WRS to implement these recommended practices within its operations.

Next Steps: By the end of 2015, WRS and FS will:

- Implement the updated operator checklist for pre- and post-trip evaluation.
- Improve the driver training program with a focus on vehicle inspections.

8. Consultant's recommendation: WRS and Fleet Services should more formally define roles and responsibilities and establish clear communication processes to ensure that the proper level in each organization is communicated with about work being performed.

Administration Response and Current Status: WRS and FS accept the recommendation.

Appropriate levels of communication have been clarified and a formal structure has been implemented to include communication meetings between stakeholders from each business unit (fleet coordinators and mechanics, business strategist and Fleet Services team leaders). The additional structure has increased the understanding of the needs and the current state of each business unit at the operating level.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will continue to improve communication processes.

Maintenance and Lease Costs for First Line Vehicles and Spares

9. Consultant's recommendation: Compared to the four other public sector operations analyzed, WRS maintenance costs are about average and lease costs are relatively high.

Administration Response and Current Status: WRS and FS accept the recommendation. WRS is tracking costs associated with all maintenance work and follows up with FS to confirm billing.

As of January 1, 2015, FS has been authorized to remove Return on Equity (ROE) surcharge from its lease rate which would further reduce the lease cost of new units. This reduction was offset by an equivalent reduction to WRS' tax-supported funding. In circumstances where billing is not correct it is flagged for follow up. WRS supports a review of the rates and fees which are charged to ensure adequate value for service and money. WRS is collaborating with FS on their CFI project.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will increase transparency and understanding in vehicle leasing and maintenance costs. Utilities & Environmental Protection (UEP) and FS are collaborating on a departmental evaluation of costs.

Potential Savings from Reducing the Fleet Spare Ratio

10. Consultant's recommendation: WRS has about 50 total spare black cart and blue cart vehicles system-wide, however, staff report that often only three to eight vehicles are actually available at the beginning of a work day; operations are regularly short of trucks required to collect waste and recycling materials. Spare ratios could be lower if the vehicle maintenance practices and the condition of the spare truck fleet were improved.

Administration Response and Current Status: WRS and FS accept the recommendation.

In Q1 2015, WRS and FS have reviewed the state of the full fleet including spares and identified 28 high cost trucks for relinquishment due to age and maintenance costs. It is anticipated that the additional focus on preventive maintenance and training standards will lead to decreased downtime and the opportunity to decrease the spare fleet.

WRS is supportive of any additional practices for maintenance to keep trucks on the road including inspection and repair of trucks outside of normal operating hours.

In Q3 2014, WRS and FS developed a unit availability report to measure the status of its spare units. Average percentage of spare units for Q1 2015 has been measured at 19% or 38 units.

Next Steps: WRS and FS will continue to evaluate the condition of the spare fleet to ensure the condition and maintenance costs of trucks are maintained at appropriate levels. High cost spares will be reviewed annually for potential relinquishment or refurbishment.

11. Consultant's recommendation: The spare ratio of Calgary's collection fleet is not particularly high compared to the other cities analyzed. However, all of those cities have spare ratios exceeding 20 percent, which is quite high compared to many high performing organizations. For example the five private collection operations contacted by the CH2M HILL team operate at spare ratios ranging from 7 percent to 20 percent, with an average of 14 per cent.

Administration Response and Current Status: WRS and FS accept the recommendation.

In Q1 2015, WRS and FS have reviewed the state of the full fleet, including spares, and identified 28 high cost trucks for relinquishment due to age and maintenance costs. It is anticipated that the additional focus on preventive maintenance and training standards will lead to decreased downtime and will create the opportunity to decrease the spare fleet.

In Q3 2014, WRS and FS developed a unit availability report to measure the status of its spare units. Average percentage of spare units for Q1 2015 has been measured at 19% or 38 units.

Next Steps: WRS and FS will continue to evaluate the condition of the spare fleet to ensure the condition and maintenance costs of trucks are maintained at appropriate levels. High cost spares will be reviewed annually for potential relinquishment or refurbishment.

Lease Rates Charged on Collection Vehicles

12. Consultant's Recommendation: In 2012, WRS paid \$8.1 million to Fleet Services for leasing its collection vehicles: 21.2 percent or \$1.7 million of that cost was for indirect charges. While there is some overhead associated with procuring and tracking fleet, this is one area where significant savings could be achieved if other arrangements were made for owning fleet. If WRS ran this function with assistance from procurement, legal and other City departments, it should be able to manage its collection fleet at an overhead rate of 5 -10 percent or less, resulting in annual savings of \$900,000 to \$1.3 million. WRS should consider owning its collection vehicles rather than leasing them from Fleet Services.

Administration Response and Current Status: WRS and FS reviewed this recommendation. WRS would support a review of the rates and fees which are charged to ensure value for service and money. WRS is collaborating with FS on its Customer Focus Initiative project.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will increase transparency and understanding in vehicle leasing and maintenance costs. Utilities and Environmental Protection (UEP) and FS are collaborating on a departmental evaluation of costs.

Fleet Replacement

13. Consultant's recommendation: WRS and Fleet Services should jointly use the Fleet Services Life Cycle Management model (FSP 411), or a similar fleet replacement model to optimize the replacement cycle for vehicles. Trucks should be sold before maintenance costs get too high: perhaps a six or seven year life cycle with arm rebuilds at year four would lower overall fleet maintenance costs. If the useful vehicle lives are shortened, WRS should develop a fleet replacement policy based on the shorter fleet lifecycles.

Administration Response and Current Status: WRS and FS are reviewing the recommendation.

WRS has been working with FS to ensure preventive maintenance plans and training documents are in place and that trucks are being appropriately utilized before reducing the replacement timeline of trucks. This should help extend the life of the trucks and avoid the

increased costs associated with a shorter truck life.

Next Steps: WRS and FS will continue to monitor truck condition and maintenance costs to optimize the timing of vehicle replacement.

Warranty Recovery Process

14. Consultant's recommendation: WRS should consider hiring or assigning an employee to interface with the Fleet Services Warranty Agent to assist in further pursuing warranty recovery. Increasing the percent of warranty claims recovered from 50 percent to 70 or 80 percent would result in \$275,000 to \$400,000 in annual savings to WRS.

Administration Response and Current Status: WRS and FS accept the recommendation. Work has been ongoing as FS returns to full staffing in the Customer Account Manager team to ensure that warranty claims have high priority and that procedures are in place to recover all possible warranty opportunities.

Next Steps: Throughout 2015-2018, the warranty process will continue to be reviewed and incorporated into operating procedures. By Q3 2016, WRS and FS will have clarified and made recommendations for improvement in identifying options for warranty recovery.

Fleet Billing and Information Technology

15. Consultant's recommendation: Currently, invoices are sent by Fleet Services electronically in a PDF format to WRS on the third day of each month without any review by WRS. There's no way for WRS to access individual line items in the invoice. Once received, truck coordinators at each District within WRS then have to match invoices manually to those reports to cross check billings and review the invoices for accuracy and identify any discrepancies such as overcharges. It is estimated that WRS disputed approximately 600 invoices during the first nine months of 2013, or 3-4 per working day.

Administration Response: WRS and FS accept the recommendation. WRS now receives a monthly spreadsheet of invoices through the Fleet coordinator.

Fleet Services is currently reviewing the work order management processes in order to improve the accuracy and accountability of work order charges and invoicing. Fleet Services is also committed to the reporting needs as identified by WRS. System coding is currently being reviewed within the M5 Data Integrity project. Fleet Services has placed the responsibility of resolving invoicing issues upon the Customer Account Manager, who will then investigate these concerns within Fleet or with its vendors. Fleet Maintenance is working on an initiative to improve overall work order management processes.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will increase transparency and understanding in vehicle leasing and maintenance costs. UEP and FS are collaborating on a departmental evaluation of costs.

16. Consultant's recommendation: WRS and Fleet Services should establish a formal process for dialogue and resolution of questions or complaints about maintenance charges, and then develop a system that allows integrated access to invoices and bills, and an automated process to question charges. The process should include appropriate controls, such as periodic reconciliation of actions and monitoring, to ensure data integrity and reliability and to build trust between staff at Fleet Services and WRS.

Administration Response and Current Status: WRS and FS accept the recommendation. A formal process has been developed and implemented.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will increase transparency and understanding in vehicle leasing and maintenance costs. UEP and FS are collaborating on a departmental approach to improved invoice and billing accuracy quality control.

Overall Recommendation

17. Consultant's recommendation: WRS should work with Fleet Services to develop a Maintenance and Fleet Management Improvement Plan. The plan should evaluate the recommendations in this study and other ideas from WRS and Fleet Management staff, prioritize the recommendations and further study needed, and develop a timeline to implement process improvements. One year after initiation of the Plan, WRS should evaluate the extent to which Fleet Services is meeting the targeted outcomes requested. If those expectations are not being met to its satisfaction, WRS should request approval to bring the maintenance function in-house within WRS or initiate a managed competition process that would allow Fleet Services to propose against private sector service providers on a multi-year contract for providing vehicle maintenance services.

Administration Response and Current Status: WRS and FS are reviewing the recommendation. Currently, changes to preventive maintenance programs are being implemented. As well, a new training plan for drivers has been implemented to address abuse or misuse of the trucks.

Next Steps: Throughout the 2015-2018 business cycle, WRS and FS will increase transparency and understanding in vehicle leasing and maintenance costs. UEP and FS are collaborating on a departmental approach to improve fleet management. As part of the plan, WRS and FS will implement KPI's for continual monitoring and ensure continual improvement and value for money is being achieved.

Operational Performance

Beat Design and Mapping

18. Consultant's recommendation: It is recommended that WRS explore the potential benefits of waste collection industry-specific routing software further by pilot testing some routing software packages and comparing route maps generated by those packages to route maps generated by The City's existing mapping software. WRS should conduct a detailed business case study about whether the potential benefits of improved long-term on-route efficiency and more balanced routes would be greater than the added cost of software and training associated with implementing a commercial routing software package.

Administration Response and Current Status: WRS accepts the recommendation. WRS is completing a market scan of route design technology and is reviewing the current BEAT routing tool to confirm if the BEAT system is the appropriate technology or if there are other tools that provide a more comprehensive residential and commercial routing package.

Next Steps: Recommendation from this analysis will be finalized in Q3 2015.

Health and Safety

19. Consultant's recommendation: WRS places considerable emphasis on ensuring safety in the workplace. Workplace safety statistics are measured and reviewed by WRS management. A new training program is being developed that should improve safety performance further. Compared to the other jurisdictions surveyed, Calgary reports about 0.06 lost-time injuries per hundred thousand pickups compared to 0.09 for Toronto, 0.11 for Edmonton, 0.43 for Ottawa, and 1.16 for Spokane. Thus, it appears that Calgary has a lower rate of lost-time injuries than the other cities.

Administration Response and Current Status: WRS continues to promote safety in the workplace. Work in this area has been ongoing. Additional focus on the identification of hazards and near misses has been ongoing in 2014 and 2015 to improve safety performance.

Next Steps: Throughout the 2015-2018 business cycle, WRS will continue to focus on improving safety performance.

20. Consultant's recommendation: To minimize "In the Zone" issues (where repeated container lifts can result in drivers becoming less aware of their surroundings), WRS should consider requiring that drivers switch positions in the cab partway through the day on the dual drive cabs.

Administration Response and Current Status: WRS accepts the recommendation. This item has been identified through the driver health and wellness information and requires additional work for implementation.

Next Steps: Implement health and wellness as part of the driver training program in 2016 based on 2015 training program feedback received from staff.

Training, Culture and Communication

21. Consultant's recommendation: Of the four cities analyzed regarding collection efficiency, Calgary was the only city that reported conducting regular surveys of employee satisfaction. WRS conducts an employee satisfaction survey annually, with the results tracked year-to-year to examine areas where employee satisfaction is growing or diminishing. WRS management reports that they use the results to assess and develop initiatives to address areas where more could be done to improve employee satisfaction and retention.

Administration Response and Current Status: WRS continues to participate in the employee survey. For the past few years the results of employee surveys have been generally positive for Collection Services.

Next Steps: WRS will continue to monitor employee survey results to ensure positive trends continue will occur during the 2015-2018 Action Plan.

22. Consultant's recommendation: WRS is the only one of the four public sector operations surveyed that conducts regular customer satisfaction surveys. Customer satisfaction levels typically range from 80-90 percent.

Administration Response and Current Status: WRS continues to participate in the Citizen Satisfaction Survey. WRS continues to monitor the Citizen Satisfaction Survey as well as 311 customer service requests (CSRs) and other public feedback locations to identify trends and opportunities for additional customer service improvements.

Next Steps: WRS will continue to monitor Citizen Satisfaction Survey results as well as 311 CSRs and other public feedback locations to identify trends during the 2015-2018 Action Plan.

23. Consultant's recommendation: The new training program being implemented should provide significant benefits in many areas of WRS operations. The program should be evaluated at least annually to ensure that training is effective and is providing good value for the money spent.

Administration Response and Current Status: WRS accepts the recommendation. This work is ongoing. Training is being created which will focus on the treatment and issue identification for the trucks to assist in reducing the number of significant failures related to mechanical issues.

Next Steps: WRS will continue to monitor the training program and implement changes to improve effectiveness as required.

Cart Procurement, Maintenance and Management

24. Consultant's recommendation: WRS does a good job tracking container status. Staff members track inventory by type of cart, entity responsible for damage (warranty, collector, other), and six types of damage (e.g., repair one wheel or lid). It is recommended that WRS conduct a pilot study and business case to assess the benefits

and costs of implementing an electronic cart management system (i.e., RFID, barcodes, handhelds, cart database management, container delivery management). This type of system would include using barcodes or RFID tags and handheld readers to ensure real-time cart management.

Administration Response and Current Status: WRS accepts the recommendation. RFID tags are being included as part of the RFP for green carts.

Next Steps: Throughout the 2015-2018 Action Plan, RFID tags will be evaluated on commercial bins for potential implementation onto other trucks and carts.

Customer Service, Public Education and Outreach

25. Consultant's recommendation: Collection operations would run more smoothly if WRS improved public education and outreach to citizens to make sure they are setting out their carts properly and to ensure minimization of recycling contamination. More specifically, a good suggestion offered by a WRS driver to place large stickers on each cart showing what is and is not acceptable should be evaluated by WRS and considered for implementation.

Administration Response and Current Status: WRS accepts the recommendation. Blue cart contamination audits have identified education opportunities in the audited areas. In addition, areas with high contamination which may see improvement with education have been identified. Education opportunities are being scheduled for these areas. WRS has been looking for all options to communicate with Calgarians related to cart placement including a Report to Calgarians which ran in Q1 2015 and information included in the collection day tool (ReCollect) in Q2.

Next Steps: Throughout the 2015-2018 Action Plan WRS will continue to improve public education and outreach by continuously reviewing and implementing opportunities as appropriate.