



2016 – 2019 CITY OF LONDON STRATEGIC MULTI-YEAR BUDGET

ADDITIONAL INVESTMENTS BUSINESS CASE #8

STRATEGIC AREA OF FOCUS:	LEADING IN PUBLIC SERVICE
SUB-PRIORITY:	EXCELLENT SERVICE DELIVERY
STRATEGY:	DELIVER GREAT CUSTOMER EXPERIENCES TO RESIDENTS, BUSINESSES, AND VISITORS: INNOVATIVE TECHNOLOGY
INITIATIVE:	GARBAGE COLLECTION- ON-BOARD WEIGHING & TRACKING TECHNOLOGIES
INITIATIVE LEAD(S):	JAY STANFORD
SERVICE(S):	GARBAGE COLLECTION & DISPOSAL
TOTAL 2016 – 2019 INVESTMENT REQUESTED (\$000'S):	\$150
TOTAL 2016 – 2019 NET BUDGET REQUESTED (\$000'S):	\$150

WHAT IS INCLUDED IN THE BASE BUDGET?

BASE BUDGET (\$000'S):	2015	2016-2019 TOTAL
Civic Service Areas:		
Operating	5	20
Full-Time Equivalents	0	0
Capital		
Total Capital	0	0

Base Budget Summary:

The use of GPS/AVL technology in garbage collection vehicles has been underway since 2015 and will continue into 2016/2017 (Trial Project). Five garbage packers have been outfitted with on-board tracking technology that provides real time information about vehicle and engine data, driver performance and service delivery. Key deliverables include additional levels of oversight and coaching to lead to risk mitigation, improved driver performance, conservation customer service, safety, accountability and due diligence. In addition, on board weighing technologies have gone through a short trial period. City staff are closely following the potential role of radio frequency identification (RFID) tags used to monitor recycling or garbage carts or bins in combination with GPS/AVL solutions.

DEMONSTRATION PROJECT BASE BUDGET METRICS	2015	2016	2017	2018	2019
Vehicle idling (fuel consumption)	0	5% reduction	5% reduction	0	0
Route optimization (increase in pickups/day)	0	5% increase	5% increase	0	0
Cost per packer	0	5% reduction	5% reduction	0	0

Note: Metrics based on 3 year pilot ending at the end 2017.

WHAT INVESTMENT IS REQUIRED FROM PROPERTY TAX?

TAX LEVY IMPACT (\$000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Net Requested Tax Levy <small>(Cumulative)</small>	0	0	75	75	150	0
Net Incremental Tax Levy	0	0	75	0		
Annual Tax Levy Impact	0.0%	0.0%	0.01%	0.0%		

INITIATIVE DELIVERABLES

On-board weighing technologies and RFID tags are complementary systems that provide increased opportunities for route optimization, asset utilization and customer service. GPS Fleet Telematics, as applied to garbage collection, is a method for monitoring the location, movements, status and behaviour of the mobile assets. This is achieved through a combination of a GPS receiver and an electronic device installed in each packer, which then communicates with the user and using advanced web-based software.

In addition to location data, fleet telematics (fleetmatics) systems provide a wide variety of critical information that can be used to help manage all collection operations. In its simplest form it provides an easy method to track each garbage packer in real time identifying start time, shut down, idling status, location, and speed. Through analysis and controls this information is used to:

- Increase productivity through on and off-route optimization
- Optimize use of labour and associated costs
- Control fuel use and costs
- Mitigate risks
- Enhance regulatory compliance
- Improve customer service and understanding of customer needs (i.e., increased value of service)
- Increase worker and fleet safety and security
- Reduce operating expenses
- Reduce the environmental impact of a fleet

NOTE: Operating costs, capital requirement needs and metrics are very difficult to identify at this stage as it requires details from the Demonstration Project and other research. Placeholders have been identified and will be refined for 2017.

CUMULATIVE OPERATING BUDGET (\$000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Expenditure	0	0	45	45	90	0
Source of Funding:						
Grants						
User Fees						
Savings from Existing Budget						
Other						
Net Tax Levy	0	0	45	45	90	0
Additional Full-time Equivalents	0	0	0	0	0	0

CUMULATIVE CAPITAL BUDGET (\$000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Expenditure	0	0	30	30	60	0
Source of Funding:						
Debt						
Reserve Fund						
Other						
Capital Levy	0	0	30	30	60	0

METRICS¹ <small>(CUMULATIVE CHANGES)</small>	2016	2017	2018	2019
Vehicle idling (fuel consumption)			5% reduction	5% reduction
Route optimization (increase in pickups/day)			5% increase	5% increase
Cost per packer			5% reduction	5% reduction

METRICS¹ (CUMULATIVE CHANGES)	2016	2017	2018	2019
Commercial Vehicles (packers) - Regulatory compliance – percentage outfitted with Electronic Hours of Service Logs and Pre/Post Inspection Records			75% outfitted	100% outfitted
Reduction of collisions and Commercial Vehicle Operator's Registration (CVOR) Violation rate			2% reduction of CVOR violation rate	2% reduction of CVOR violation rate

(1) Metrics are conditional and will be developed based on the results from the Demonstration Project and further research.

WHAT ARE THE RISKS OF NOT PROCEEDING?

Some specific risks include:

- 1 Less ability to optimize collection routes and measure ongoing performance and contain/reduce costs.
- 2 Reduced levels of oversight and supervision.
- 3 Uncontrolled idling costs.
- 4 Driver development to increase safety and further reduce collisions.
- 5 Liability of not exercising adequate duty of care.
- 6 Potential for unsafe acts by drivers to be undetected.

OTHER INFORMATION TO REFER TO

Garbage and Recycling Collection - Status and Potential Next Steps (December 2014)

[HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=167248](http://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=167248)

Quarterly Report on Internal Audit Results (PricewaterhouseCoopers – PwC) - Engineering and Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review (December 2014)

[HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=168030](http://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=168030)

Road Map 2.0 The Road to Increased Resource Recovery and Zero Waste (City of London, 2013)

<http://www.london.ca/residents/Garbage-Recycling/waste-management-planning/Pages/Road-Map-to-Waste-Diversion.aspx>

Quarterly Report on Internal Audit Results (PricewaterhouseCoopers – PwC) - b) Planning, Environmental and Engineering Services – Fleet Asset Management internal audit project (2012)

[HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=26117](http://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=26117)

Fleet Services Report to the Environment & Transportation Committee (2009)

[HTTP://COUNCIL.LONDON.CA/COUNCILARCHIVES/AGENDAS/ENVIRONMENT%20AND%20TRANSPORTATION%20COMMITTEE%20AGENDAS/ETC%20AGENDAS%202009/2009-10-19%20AGENDA/ITEM%208.PDF](http://COUNCIL.LONDON.CA/COUNCILARCHIVES/AGENDAS/ENVIRONMENT%20AND%20TRANSPORTATION%20COMMITTEE%20AGENDAS/ETC%20AGENDAS%202009/2009-10-19%20AGENDA/ITEM%208.PDF)