

Double H Consulting

**Examination of Annual Heavy
Equipment Operations at Public Works
City of Winnipeg and the Potential
Benefits of Self Performance**

JUNE 2015

Table of Contents

Executive Summary

1. Scope of Report

- Government Announcements
- Materials Reviewed
- Licensing Requirements
- Consultation

2. Background on Present Practices

- 2012 City of Winnipeg Public Works Review
- City of Ottawa Audit of Construction Supervision
- Licensing Requirements Heavy Equipment Operator

3. Present Practices

- Contracting Out Streets, Parks and Snow Clearing
- Self Performance
- Quality of Work
- HR and Physical Infrastructure
- Green Fleet Plan

4. Conclusions

- Capital Investment
- HR and Training Opportunity
- Response Time to Crisis Resolution

- Long Term Commitment to City's Workforce and Residents
- Potential Savings

Executive Summary

The amount of funding for contracting heavy equipment used for infrastructure, snow clearing, streets maintenance, and water and waste excavation has reached unprecedented proportions. A detailed cost analysis of the leasing of each type of external equipment provided with an operator for all departments should be undertaken. A stakeholder group including HR, WFMA, Operator Training, Public Works and Water and Waste should be formed with input from both WAPSO and CUPE. Either an outside external consultant or a centralized Project Manager reporting to the Senior Management Team should be hired to investigate the economics of self performance versus contracting.

The infrastructure deficit is over 3.6 billion dollars. The City's continued reliance on the private sector for work has ballooned to contracting out a minimum of 60 million dollars worth of equipment work annually and needs to be re examined. The current practice of annually contracting out the same equipment in order to provide City services, begs for a detailed financial analysis to compare the implications of self performance vs. contracted services. There is no question that the financial commitments required in these areas will continue to grow.

The quality of work from the overwhelmed private sector, and the lack of a competitive field in this sector effects the wellbeing, safety, and pocketbooks of residents. It is of paramount importance to the health, welfare, and quality of life in this City that the public sector becomes more efficient in the delivery of these

services. The opportunity for the provision of more stable professional fulltime employment in the City should not be dismissed.

1. Scope of Report

This report first examines the amount of funding that was announced by two levels of government in 2015 to be dedicated to street infrastructure renewal.

City of Winnipeg 104,000,000

Province of Manitoba 23,000,000

This report also refers to the 2012 City of Winnipeg Public Works Review report of June 2013 conducted by KPMG in order to examine historical levels of annual spending in street construction and maintenance, as well as street sweeping and snow clearing. Reports from other cities were also examined including the City of Ottawa Audit of Construction Supervision regarding information pertaining to best practices in receiving quality work for dollars spent on infrastructure renewal.

This report also investigates the licensing requirements in different Provinces for operating the type of equipment required to perform street construction, street sweeping, and snow clearing tasks. In preparing this report the Consultant also attempted to obtain insurance and regulatory enforcement practices on the operation of heavy equipment.

A survey was sent out to the Western Provinces Regulatory Agencies as well as Ontario and Quebec regarding the training and licensing of operators and equipment in these Provinces.

The review also included consultation with CUPE local 500 on current job descriptions, and the availability of workforce. The willingness of the Union to engage in dialogue to provide full time employment for members using a multitasked job description for heavy equipment operators was apparent.

2. Background on Present Practices

The 2012 City of Winnipeg Public Works Review is an extensive review of all areas of Public Works. The document provided a great deal of the background information in this report. In 2009 the City was estimated to have an infrastructure deficit of 3.5 billion dollars growing to 3.9 billion over the next 10 years. The Public Works Department has responded to this deficit by contracting out an average 60 million dollars, 25 million dollars of which is annually spent on heavy and specialty equipment tasks. Public Works has also contracted out pothole repairs, snow clearing, tree planting, pruning, and removal. The City has committed another 104 million dollars in 2015 to the infrastructure deficit with the Province committing another 23 million under the assumption that the private sector has the skill and trained workforce to complete these tasks.

The 2012 City of Ottawa Audit of Construction supervision was instrumental in pointing out obvious issues inherent in contract management. “The City has developed a document for reporting supplier performance during the course of a contract. However, if the contractor completes the contract without default, they are eligible to bid in future City contracts; even if the contract process was fraught with difficulties, delays, and extra costs caused by poor performance. The only penalty considered is if Supply Branch bars the contractor from bidding on future City projects.”

The current licensing requirements for Heavy Equipment Operators are also problematic as they are vague at best. There is no standardization of

training or regulation across Canada. At this time in some jurisdictions no licensing is required for a portion of operations while a class 5 is required in other areas. This is an opportunity for the City as well as Red River Community College to create a professional training program for operators in the City of Winnipeg.

3. Present Practices

According to the City of Winnipeg Public Works Management Preferences “Overall Winnipeg Public Works contracts out relatively more than most peer cities in the benchmarking survey, particularly higher for snow removal. Public Works has experience and comfort with contracting services to support and complement in house work.”

Contracting in 2012 Budget

- Construction services 31 million on road construction
- Streets maintenance 11 million in summer on external equipment rentals

There is no breakdown on what type of equipment was contracted making it difficult to provide an in house comparison for self performance.

Street Cleaning in 2011

- 32 Sweepers were hired spring and Fall
- 6 were hired for regular sweeping
- 2 for road construction
- 1 for cold planing
- 1 for chip seal

Parks in 2011

- Forestry and Parks 6 million

- Winnipeg contracts out approximately 40% of tree planting, removal, and pruning.

Snow Clearing in 2011

- 30 front end plow trucks and contracted another 24
- 6 sander salters with front plow
- 41 graders and contracted another 78
- 41 front end loaders and contracted another 99
- 9 bulldozers /front end loaders for storage areas
- 56 dump trucks
- Total Hired 183 units. Of the 488 units at its disposal 388 are hired or contracted out at a cost of 12 to 15 million dollars for the hired and contracted portion. If the average cost is 60,000 per unit that means 11 million of the snow clearing budget went to these units. The other 30% went to on call units.

Contracting Expenses

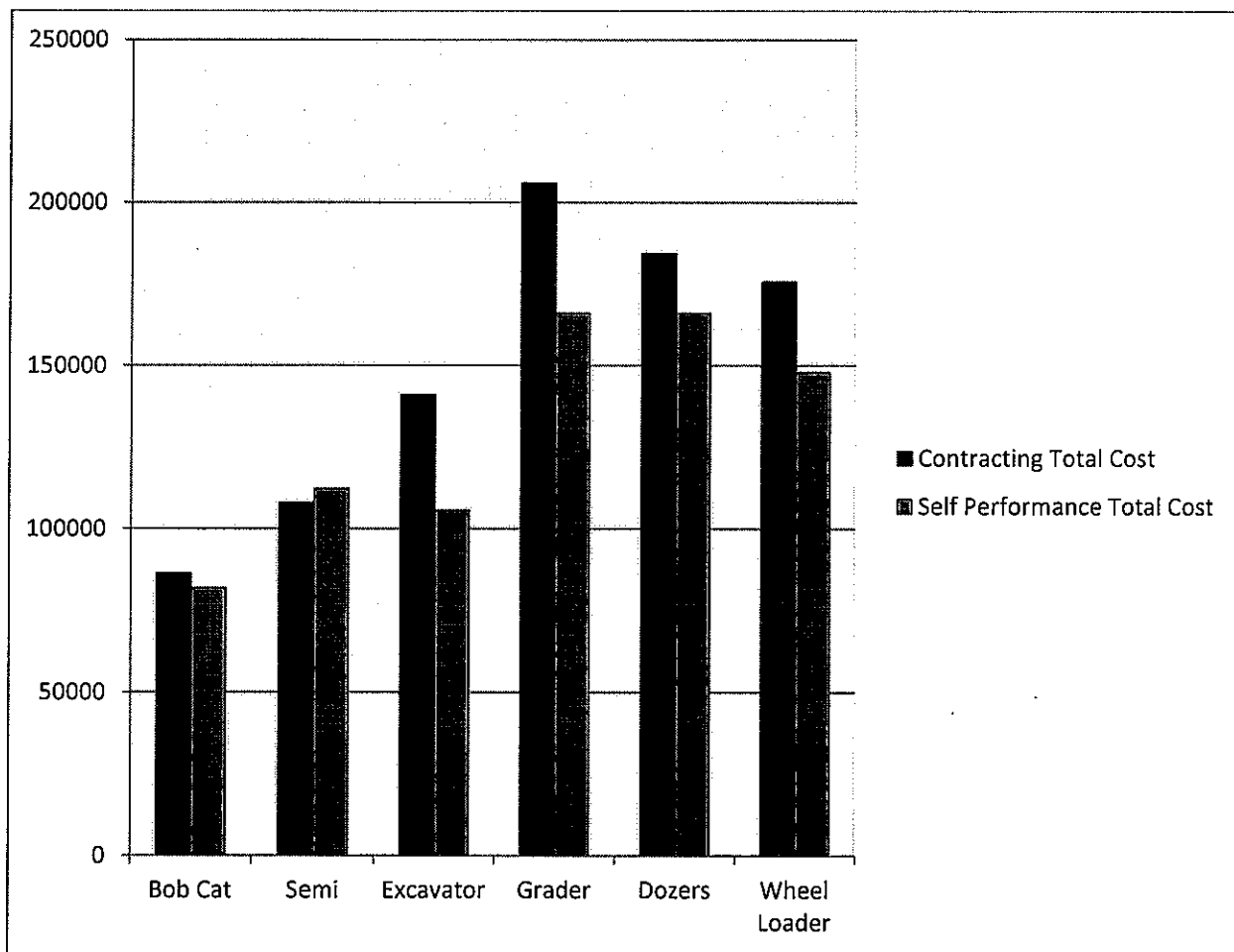
	Contract Rate 36 Weeks	Total
Bob Cat	60	86400
Semi	75	108000
Excavator	98	141120
Grader	143	205920
Dozers	128	184320
Wh. Loader	122	175680
Bob Cat	60	86400

Self Performance Expenses

	Cost	Amortization	Fuel/Maint.	Wages/Ben.	Training	50 Weeks Hourly Rate	Total
Bob Cat	60000	8400	9600	63000	900	\$40.95	81900
Semi	160000	22400	25600	63800	500	\$56.15	112300

Excavator	125000	17500	20000	66320	1875	\$52.85	105695
Grader	300000	42000	48000	73000	3000	\$83.00	166000
Dozers	300000	42000	48000	73000	3000	\$83.00	166000
Wh. Loader	250000	35000	40000	70000	3000	\$74.00	148000

Costs Per Unit



Quality of Work

The quality of work done in the City of Winnipeg is inevitably affected by the large amount of work contracted out to the private sector. The Public Works Review City of Winnipeg discusses concrete road maintenance practices in different cities stating that “Edmonton’s in house staff provides labour and supervision for all concrete road maintenance activities” City of Winnipeg contracts out

approximately 65% of paving activities” . This is concerning as according to the 2012 KPMG report “The repair and maintenance of concrete roadways is quite a specialist activity compared to the repair of asphalt- the private sector may not be structured to provide this service in a cost effective manner.”

HR and Physical Infrastructure

The present day HR issues handling a seasonal workforce of 800 workers in Public Works with little chance for advancement other than through retirements is a monumental task. This number could be cut by 20% through the creation of 160 fulltime jobs. It would relieve a very stressful tasking area of the workplace.

The addition of one heavy mechanic addition per 50 pieces of new equipment in the fleet would add a total of 3 new positions at WFMA. These costs are covered under the maintenance portion of the table above.

A training program for heavy equipment operators could be developed with the critical mass required to team with RR College and MPI on a regulated professional licensing program.

The new East Yards with its new footprint for both the WFMA and Public Works is well suited to accommodate both the additional fulltime staff and equipment, while lowering the revolving door training required for seasonal employees.

The work experience available in Public Works is second to none and it would be a huge opportunity to pass along these skill sets to the next generation.

Green Fleet Plan

The additional units will also allow the City to meet its commitments to its residents under the Green Fleet Plan. This initiative would definitely lower the City's carbon imprint while creating 150 full time jobs.

4. Conclusions

Capital Investment

Although the numbers are preliminary and should be verified, the following costs are adequate for estimates. Equipment ranges from 140,000 to 240,000 per unit.

Average Per Unit Cost	190,000
Amortized over 10 years	26,600
Fuel Maintenance	30,400
Wages and Benefits	70,000
Annual Training Cost	3,000
Total	130,000
150 Units Annual Cost	19,500,000
Average per unit rate with employee	65.00
Snow clearing Contracted average	104.00 per hour

Current costs based on snow clearing estimates 2015

Snow Clearing based on 18 weeks at 104.00 per hour per unit

150 units at 75,000 per unit	11,250,000
------------------------------	------------

Streets Maintenance based on 18 weeks at 104.00 per hour per unit

150 units at 75,000 per unit	11,250,000
------------------------------	------------

Total	22,500,000
Total Weeks paid for 36	
Self Performance total weeks paid for 50	19,500,000
Total Weeks Available 50	
Annual savings	3,000,000

Over the ten year program a savings of 30 million could be realized.

HR and Training Opportunity

With support staff dealing with contractors already on site, the additional costs to the City would be negligible as the majority of costs are fixed. The employees tasked with procuring and managing contracted work would instead be tasked with managing staff and assets. The challenge comes in managing 17 million dollars worth of human and equipment assets annually to produce savings from a pot of 20 million dollars.

Although most of the training costs would be upfront, together with Red River College, City of Winnipeg Operator Training would have the opportunity to build a model Operator Training Program for Western Canada. With additional funding of 4.5 million over ten years, Operator Training would have the opportunity to invest in the training program tasked with providing professional operators that would be second to none in Canada.

Response Time To Crisis Resolution

The added value of having the assets required on hand to react to a crisis cannot be overlooked. Having the ability to respond quickly, and efficiently with a well-trained workforce to any emergency is paramount in today's environment. Rush jobs and having no recourse but to replace a contractor when the first one

doesn't show up during a major event, are huge costs that would now be kept in house.

Long Term Commitments to the City's Workforce and Residents

Having the critical assets and funding required to implement such a program can easily be found at the municipal level of government. Due to both the small geographic area and the large population base to be serviced, it is one area of municipal government that can efficiently provide a high standard of service. This should include succession planning, green fleet planning, economies of scale in training, and purchasing. The amount of risk to the residents decreases not only financially but also in the safety of knowing that operators of these pieces of equipment are properly trained and have a vested interest in providing good service. Creating 150 new careers at the City can only be considered a bonus.

Potential Savings

The potential upfront monetary savings of 3 million annually are a good incentive for the City to investigate this program. It should also be mentioned that the quality of work would improve while the dealing of legal, insurance, and other risk factors would drop in price, due to the nature of the work being performed internally. Also the retention of a trained workforce will create savings for HR and training costs.