

Administration's Response to the Roads Zero-Based Review Final Report

The following document, for Council approval, provides the Administration's response and comment on the findings and recommendations in the Roads Zero-Based Review: Final Report. The final report builds on the high level analysis approved by Council in December 2013 (PFC2013-0751) which recommended a reduced scope of services for the in-depth analysis and business case development of opportunities for increased service efficiency and effectiveness in the Roads business unit.

Roads Zero-Based Review Final Report Overview

The Roads Zero-Based Review was conducted by Western Management Consultants (WMC). The final report focuses on key findings from an in-depth examination of five services and provides business cases with recommendations for improvements to services. These five services are:

- Street Light Maintenance
- Pavement Marking
- Sign Manufacturing
- Gravel Crusher
- Pavement Rehabilitation

The combined 2012 operating budget expenditures for the five services included in the final report was approximately \$50 million; this is approximately 25% of total 2012 operating budget expenditures for the Roads Business Unit.

Building on the high level analysis and preliminary findings, the consultants used a variety of techniques to conduct the in-depth analysis of the five services under review, including:

- A high level process mapping exercise was conducted for all services subject to an in-depth review. This provided the consultants and Roads with a breakdown of the per-unit cost of delivering each of the services.
- Detailed reviews of expenditures for each service were conducted as well as direct interviews with key staff and managers to obtain business operation information for the services.
- A benchmarking survey was developed and sent to three comparable Canadian cities (Edmonton, Winnipeg and Ottawa). This was used to inform the consultant about the service levels and scope offered by these municipalities for each service.
- Site tours of facilities and equipment used in the operation of each service.
- Cost comparisons (when possible) between services offered by Roads as compared to the private sector.

In addition, Administration engaged four peer reviewers on two occasions to provide feedback on the consultant's findings, draft recommendation and business cases. The peer reviewers are from four Canadian cities (Vancouver, Edmonton, Winnipeg and Toronto). Two are Directors of their cities' Roads' business units and two are Division Service Managers from within their cities Roads departments. The peer reviewers' feedback is included in the Administration's comments where applicable.

The results of the Roads Zero-Based Review suggest that some efficiencies and cost savings in service areas can be found through:

- Improved contract management and outsourcing to multiple vendors for street light maintenance;
- Maintaining the current approach for pavement marking;
- Changing the focus of work for sign manufacturing; and
- Improved use of industry standards for costing for the gravel crushing and pavement rehabilitation services.

The total amount of productivity gains that have been identified by the external consultant are \$2.2 – \$2.5 million annually; Administration estimates that approximately \$1.4 – \$1.9 million of this is achievable.

The following section of this document provides a summary of the main recommendations contained in the Roads Zero-Based Review Final Report, highlights of the peer review comments, and the Administration's response and comments.

Business Case 1: Street Light Maintenance

This business case explores opportunities to improve the levels of service for street light maintenance which have deteriorated over the last eight years.

Street Light Maintenance			
Consultant's Recommendation	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Outsource street light maintenance to multiple service providers in specific areas of the City with clearly identified maintenance performance measures.	- Support for the recommendation. - Suggestion for Roads to develop a procurement strategy that ties payment to contractors based on a defined level and standard of service.	The consultant's work will be used to help clarify The City's performance expectations related to street light maintenance. Those expectations will be clearly outlined in any future public tender for street light maintenance following the completion of the current contract. The City has taken action in recent years to improve the performance for this service provided by the ENMAX Power Services Corporation (EPSC), including a series of meetings to address the response time for service requests. Administration has taken the following steps related to its own operations: - Made operational adjustments to have maintenance crews attend specific service requests to improve customer service; - Adjusted maintenance crew schedules to include a night crew to fix the simple problems, leaving the more complicated issues to be dealt with during the day with more experienced/ qualified crews; and - Working across Roads divisions to fix a known fault within work zones as opportunities arise.	Accept

Street Light Maintenance			
Consultant's Recommendation	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Outsource street light maintenance to multiple service providers in specific areas of the City with clearly identified maintenance performance measures. (continued)		Roads has also been developing a strategy to address the large number of faults in streetlight wire (over 400 locations). EPSC has indicated that they do not concur with the consultant's conclusion and have taken steps (since 2012) to work with Roads to improve its service performance. EPSC has stated that it has reduced the outstanding service requests for Street Light Maintenance to below its target of 920 since 2012. Administration will invite EPSC to respond to a public tender for street light maintenance when one is issued.	
i) Examine 30 day service level agreement tool and data.			Accept
ii) Analyze inventory costs.			Accept
iii) Automate dispatch and completion tasks.		Administration suggests that a broader approach (beyond additional automation of internal processes) will need to be examined in order to implement the consultant's recommendation to outsource this service to multiple service providers.	Accept with Amendment as follows: That The City examine how best to implement the outsourcing of street lights maintenance including examining the feasibility of automating its dispatching and task completion tracking.

Business Case 2: Pavement Marking

This business case explores the feasibility of outsourcing this service to private sector providers and examines other operational improvements.

Pavement Marking			
Consultant's Recommendation	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Maintain the present state relative to pavement marking services using Roads business unit staff and equipment.	- A strong reason for keeping the status quo is Calgary's boom/bust economy which could limit external vendors from undertaking the work. - Responsiveness of an in-house service provider may be better than a private sector alternative.		Accept
Roads should examine the availability and use of automated or semi-automated tools to perform the on-going monitoring of maintenance marking.			Accept
Notice of required pavement markings from Project Managers (via work orders) should be lengthened. The ideal time is 10 days' notice, which provides enough time for the marking to be correctly planned and scheduled.		Administration agrees that it may be preferable to receive greater notice for pavement marking work. However, this preference must also be balanced against other corporate needs such as emergency situations that need to be addressed and project planning timelines. Weather conditions are also a factor that may create additional challenges related to work planning. Administration will commit to examine if there are ways in which notice for pavement marking work could be lengthened.	Accept with Amendment as follows: Examine the feasibility of lengthening the Notice required for pavement markings from Project Managers (via work orders)

Pavement Marking			
Consultant's Recommendation	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Review and revise resource allocations based on new marking request trends.		The City has a comprehensive process already under way to review and revise the resource allocation for all of its services. The Action Plan 2015-2018 will address the resource allocation and needs for this service over the next four years.	Accept with Amendment as follows: Review and revise resource allocations based on new marking request trends through the Action Plan 2015-2018.

Business Case 3: Sign Manufacturing

This business case explores the feasibility of four main options: (1) maintain the present state production regime; (2) focusing production on core sign and signage products only (elimination of all non-core production including specialty graphics, engravings, decals and vehicle wraps); (3) expansion of sign manufacturing operations beyond current internal and external customer base; and (4) discontinue current sign production and purchase signs and signage products from private sector vendors.

Sign Manufacturing			
Consultant's Recommendations	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Focus on production of core signs and graphics related to traffic and roadway signs. Specialty graphics such as engravings and vehicle wraps could be purchased from the private sector.	- The sign manufacturing operation is a strong asset for the corporation; elimination of non-core production may negatively impact the City's operations. - Suggest looking at pricing of services to ensure it includes full costs of labour, equipment, and overhead.	Administration agrees with part of the recommendation that Roads focus on manufacturing core sign products, including more clearly defining its core services. However, the current scope of services does have benefits to other business units including time and costs savings related to procurement of signs from external vendors. In addition, Roads only charges other business units for the labour and material of sign production. In order to remain viable, a more effective full cost recovery model could be developed for pricing of products beyond core signage. This enhancement to the recommendations will address financial concerns identified by the consultants, as well as addressing issues that have not been fully discussed including the "value" of responsiveness for urgent sign manufacturing requests, ensuring the existing staff complement is fully utilized throughout the year with different types of work, and retention of technical staff to eliminate recruitment challenges and cost of retraining.	Accept with Amendment as follows: Focus on production of core signs and graphics related to traffic and roadway signs, which are defined as regulatory signs, informational signs, detour signs, street name blades, side/overhead and parks signs; and Develop a full cost recovery model for the production of all sign shop work and apply this for external customers.

Sign Manufacturing			
Consultant's Recommendations	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Focus on production of core signs and graphics related to traffic and roadway signs. Specialty graphics such as engravings and vehicle wraps could be purchased from the private sector. (continued)		Proposed Improvements Administration will develop a full cost recovery model for all sign shop work to ensure both financial and workforce sustainability. More specifically: • Changing process for when non-core work occurs, including the scheduling of non-core work during off-peak production times and seasons to provide suitable work for the existing employees in the off-season. • Changing the costing model for non-core work to include capital replacement; currently, the costing structure is only based on labour, materials and design work. • Exploring the feasibility of selling signs and non-core products (priced at full cost) to external organizations including other municipalities.	
Review potential vendors for specialty signs.		This recommendation is a consequence of the original recommendation to eliminate non-core sign manufacturing work.	Do Not Accept
Review equipment utilization and phase out equipment for non-core signs.		Administration agrees that as part of the proposed improvements to implement a full cost pricing model a review of equipment utilization will be needed. However, the second part of this recommendation is a consequence of the consultant's original recommendation and should be removed.	Accept with Amendment as follows: Review equipment utilization.

Sign Manufacturing			
Consultant's Recommendations	Peer Review Comments	Administration Response and Comments	Administration's Recommendation to Council
Identify/confirm staff and resource impacts to discontinue non-core services.		This recommendation is a consequence of the original recommendation to eliminate non-core sign manufacturing work.	Do Not Accept
Establish a new work order type to track production of Parks signs.		Administration agrees with this recommendation but would suggest that it could apply to more than just Parks' signs (e.g. Transit signs and non-core work could be included).	Accept with Amendment as follows: Establish a new work order type to track production of Parks signs, Transit signs and non-core work"

Business Case 4: Gravel Crushing

This business case examines the feasibility of contracting out the mining, crushing and stockpiling of gravel materials through a competitive bidding process and compares this alternative to implementing industry standard measures for cost control to reduce the per unit costs of producing a ton of gravel.

Gravel Crushing			
Recommendations	Peer Review Comments	Administration Response and Comments	Recommendation to Council
Implement industry standard measures for cost control. Should these measures prove ineffective for reasons beyond the Roads Business Unit control or ability to manage, the best alternative may be to contract out this service by soliciting competitive tenders or proposals for the best available combination of price and performance.	Agree with "Industry Standard Measures".	Administration supports implementing industry standard measures for cost control as outlined in the consultant's report for the Spyhill gravel crushing operation. Prior to implementing the recommendation, Roads will conduct a more thorough cost comparison with the private sector by soliciting information on product prices for a full range of products, in order to supplement the consultant's work outlined in Appendix B. The consultant's analysis only considered the costs of one type of product produced by the gravel crusher, but Roads produces over a dozen different products through the crusher operation, all of which have different production costs. A more comprehensive cost comparison will allow Roads to compare prices across the full range of its gravel operation products. If implementation of industry standard measures does not yield productivity gains, Administration will investigate other mechanisms for extracting and crushing gravel (including but not limited to contracting out this service).	Accept

Gravel Crushing			
Recommendations	Peer Review Comments	Administration Response and Comments	Recommendation to Council
Implement industry standard measures for cost control. (continued)		The gravel crushing operation is located at the Spyhill landfill and contributes toward the creation of air space. As such it operates under specific legal and licensing restrictions that would not apply to gravel mining and crushing operations located at a different site. This joint operation provides Roads with access to a valuable resource needed for Roads operations, while providing Waste and Recycling with significant benefits for its landfill operation. These include: • Excavation of buried aggregate to create additional airspace/capacity for disposal of waste at a pace that is fast enough to create sufficient amount of airspace for unimpeded waste disposal operation and at a depth and with side slopes to allow for safe construction and operation of landfill liners and leachate collection systems; and • Optimized overburden management (removal, stockpiling, use) to meet annual and long-term operational needs. Any contracting out option will need to meet the specific operational needs of the Spyhill landfill site, and ensure that the landfill can continue to meet its environmental, legal and Council policy mandates. Roads has incorporated the productivity gains that will result from the changes made to the gravel crushing operation at Spyhill into its 2015-18 Action Plan.	

Gravel Crushing			
Recommendations	Peer Review Comments	Administration Response and Comments	Recommendation to Council
Roads should engage a consultant familiar with industry standards for cost control and seek assistance in developing and implementing the system.		Administration will determine an approach to implementing industry standard measures of cost control and report back to Council in a year on the progress made. This may or may not involve engaging an external consultant.	Do Not Accept

Business Case 5: Pavement Rehabilitation

This business case examines the merits and costs of contracting out pavement rehabilitation services as compared to maintaining those services in-house.

Pavement Rehabilitation			
Recommendations	Peer Review Comments	Administration Response and Comments	Recommendation to Council
Implement industry standard measures for cost control. Should these measures prove ineffective, all Pavement rehabilitation may be contracted out by soliciting competitive tenders or proposals for the best available combination of price and performance.	- Support for "Standard Industry Measures". - Suggestion to look at the balance of in-house versus contracting out.	Administration supports implementing industry standard measures for cost control. It should be noted that the costs of laying asphalt from one project to the next is largely market driven from year to year. There are some years that Roads does not receive a sufficient number of bids for a project or the bids for a project are much higher than the costs that would be incurred if the project was done by internal paving crews. As such, projected savings to capital costs based on 2012 pavement rehabilitation costs may not reflect the future savings achieved through the cost control measures outlined in the consultant's report. In addition, City of Calgary paving crews are able to be more flexible in planning their work around the needs of road users. The City crews can re-prioritize and squeeze the urgent work into their schedule. There have been many cases where an external contractor is not able to accommodate these needs and some cases where almost no external contractors submit a bid to do work that The City needs done. As a result of this level of service and flexibility provided by city crews for citizens, the cost of these crews can be higher for some paving projects.	Accept

Pavement Rehabilitation			
Recommendations	Peer Review Comments	Administration Response and Comments	Recommendation to Council
Implement industry standard measures for cost control. (continued)		Therefore, Administration believes that implementing industry standard measures will result in some productivity gains for the Pavement Rehabilitation program, but less than the amount estimated by the consultant. Administration estimates potential cost savings of between \$800,000 to \$1.0 million annually. Roads has incorporated the productivity gains that will result from the changes made to the pavement rehabilitation program into its 2015-18 Action Plan.	
Roads should engage a consultant familiar with industry standards for cost control and seek assistance in developing and implementing the system.		Administration will determine an approach to implementing industry standard measures of cost control and report back to the Priorities and Finance Committee in a year on the progress made. This may or may not involve engaging an external consultant.	Do Not Accept

Two additional service areas that were originally identified as having potential improvements for the in-depth analysis, namely the Traffic Management Centre and the Excavation Permission Services, are not included in the final report. These service areas were excluded from this report as outlined below. Despite these omissions from the final report, Administration has proceeded with making improvements to these two service areas.

Traffic Management Centre (TMC) - The intent of this in-depth review was to conduct a value engineering exercise in which an external expert would review The City's current plan for a next generation roads operation centre. Due to the highly specialized knowledge needed to conduct such a review on the TMC, the consultant was unable to schedule an individual with the appropriate level of expertise and who was not involved in the original creation of The City's plan for a next generation roads operation centre. As such, no in-depth review was conducted on the TMC and no business case was completed.

Ongoing work is being carried out in the areas of business continuity and operational efficiency by the streamlining and documenting of sustainable processes and procedures. There is a continuous focus on strengthening relationships and looking for synergies with partners. The use of new technology within the Traffic Management Centre to improve the quality of information, carry out tasks remotely, enhance our ability to respond pro-actively and provide reliable traveller information is being reviewed. Roads will report back to PFC in a year on the progress of the improvements.

Excavation Permission Service - The consultant conducted an in-depth review of the Excavation Permission Service, however during the course of conducting this work Roads began the implementation of an e-permitting service for its Street Excavations and Permission Service beginning in May 2014. As a result, the consultant concluded that to proceed with creating a business case for changes to the permission service may be redundant since many of the challenges faced by the service could be addressed through an e-permitting service. As such, no business case was completed for this service.

By the end of August 2014 there were 1684 out of 2443 permits issued through e-permits. Roads worked on some technical issues related to implementation as well as a change management strategy to increase the use of e-permits. The goal is to have all permit requests done through e-permits by the end of 2015. The excavation permit office will continue to evolve with e-permits to improve the overall permit process and ensure Roads recovers its cost for administering permits. Roads will report back to PFC in a year on the progress of the process improvements.

Additional Area of Review – Spring Clean-Up: Finally, as a consequence of the corporate perspective taken by the Steering Committee during the Roads ZBR, Administration has identified an additional cross-business unit service area worthy of further review, namely the Roads Spring Clean Up. Through inter-departmental discussions, it was discovered that there may be potential benefits to the City as a whole and Water Services in particular, if changes were made to the Roads Spring Clean-up processes. Water Services is required to remove sediment, including sand and gravel, from storm pipes that become blocked as well as from storm ponds that fill with sediment, for which there is a significant cost. Some of this sediment, sand and gravel is placed there by Roads as part of the Snow and Ice Control program.

As a result of this finding, the Roads Steering Committee requested that representatives from Roads, Fleet and Water Services examine potential improvements in the spring of 2014. This team of representatives has been gathering background data to determine the feasibility of making changes to the equipment used for the Roads Spring Clean Up in an effort to avoid future storm pipe and pond clean up costs. Roads and Water Services will continue this work and will report back to Council in a year on the progress they make.