



**STAFF REPORT**  
**Chief Administrative Officer**

Title: Efficiencies and Continuous Improvement Efforts  
Report Number: CAO2019-031  
Author: Adam Lauder  
Meeting Type: Finance & Strategic Planning Committee Meeting  
Council/Committee Date: September 16, 2019  
File: N/A  
Attachments: Appendix A – Efficiencies and Continuous Improvement List

Ward No.: All Wards - City Wide

**Recommendation:**

That CAO2019-031 be received as information.

**A. Executive Summary**

This report provides Council with an overview of the 2019 efficiencies and continuous improvement efforts that have been undertaken by staff.

The City has a strong culture of finding efficiencies and undertaking continuous improvement efforts. Traditionally, this work has been outlined during the capital and operating budget deliberation process as a means to document the various ways that services and internal processes are being improved. Staff are outlining the 2019 efficiencies and continuous improvement efforts now, given the amount of material historically discussed during the 3-year capital and operating budget deliberations.

**B. Financial Implications**

The ongoing efforts of finding efficiencies and continuous improvements outlined in this report directly leads to the City's ability to undertake additional work throughout the year. Indirectly, these ongoing efforts allow the City to offer enhanced service to taxpayers.

**C. Technology Implications**

There are no technology implications associated with this report.

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### D. Link to Strategic Plan

This work supports the Guiding Principles of Fiscal Responsibility and Service Excellence.

### E Previous Reports on this Topic N/A

### F. Approvals

Name	Signature	Date
<b>Author:</b> Adam Lauder		
<b>CAO:</b> Tim Anderson		
<b>Finance:</b> N/A		

CAO



## Efficiencies and Continuous Improvement Efforts CAO2019-031

### 1.0 Introduction

The City has a strong culture of finding efficiencies and undertaking continuous improvement efforts. Traditionally, this work has been outlined during the capital and operating budget deliberation process as a means to document the various ways that services and internal processes are being improved. This report is being advanced to inform Council of the history of efficiency/continuous improvement, and to signal staff's proposed direction to strengthen our efforts in this regard, through the 2020-2022 budget.

Beginning in fall 2019, staff will be strengthening our culture around continuous improvement through a Lean Six Sigma program pilot. The two projects moving forward are focused on streamlining the fleet acquisition and disposal process and on the internal administrative process of recording vehicle maintenance and repair work orders to improve data based decision making. Lean Six Sigma is a systematic, team based program that is designed to improve performance, remove unneeded process steps and reduce variation.

Staff are proposing a more robust Lean Six Sigma rollout in 2020, which would entail staff training on the methodology, and selection of existing processes and workflows that could be targeted for enhancement, subject to resourcing through the 3 year budget process.

### 2.0 Highlights of 2019 Efficiencies and Continuous Improvement Efforts

Efforts to find efficiencies and make improvements can generally be categorized as below. Some efforts may fall into more than one theme:

- Effort leads to cost savings;
- Effort is a quality enhancement/leads to enhanced service;
- Effort builds capacity, repurposes resources, or avoids costs

Below is a highlight of efficiencies and continuous improvement efforts that have been brought forward in 2019, by department. See Appendix A for a complete list of 2019 efforts.

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- 1. Lime Scooter Pilot** – The City was first in Canada to pilot Lime Scooters, which was a successful pilot that ended in August 2019. The City is hopeful that the Ministry of Transportation will provide a legislative framework for this technology in the future.
- 2. Electric Vehicle Charging Stations in Uptown** - The City has installed 3 EV charging stations in Uptown since 2016, with more anticipated.
- 3. Reduction of Outside Legal Services Work** - Legal Services has significantly increased its internal legal work over the last 2-3 years, and is intending to further this trend. Examples include court hearings, drafting and executing Agreements, enhanced general counsel throughout the organization, etc.

### Community Services

- 1. ActiveNet Implementation** – Implementation of the City's new online recreational registration program continues. To date, it has led to a 67% increase in online transactions and increased customer service features.
- 2. Enhanced Client/Community Services Strategy** – Recreational services has increased its leadership support during evenings and weekends, to provide greater assistance to part-time customer services staff.
- 3. Community-based Campfires in City Parks** - A new process will make it easier for residents to safely host campfires in city parks for community events, after the Neighbourhood Strategy heard this was a desired direction from residents.

### Corporate Services

- 1. Pilot Social Media Responses with Select Customer Facing Divisions** - Traditionally, responses to social media posts have been handled by Corporate Communications. However, there is a strong trend to have questions received through social media handled by call centres or people responsible for customer service. We are going to pilot this approach with the Service Centre working with the Administrative Co-ordinator and the team who will respond to questions/comments that come in through social media on the same topics as the team currently handles through email/telephone. This will greatly enhance service to customers/public and improve response times.
- 2. Supervote Locations** - For the 2018 Election supervote locations were held throughout the city. The purpose of this initiative was to provide easier access to voting day locations and to provide easier opportunities for on and off campus students to vote on campus. The initiative facilitated a live voters' list strike off throughout the city which

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in addition to reducing on location worker resources, provided a more robust reporting mechanism.

**3. Solar Idle Reduction** - Solar panels mounted on truck roofs are used to power the accessory equipment resulting in idle time reduction of 2-3 hours per day and average fuel savings of approx. \$225 per month. In addition there is a reduction in CO2 emissions of approx. 200 kg per month per truck. Due to success of the program, it will be expanded to two additional trucks in 2019.

**4. New Mobile Contract** - Using the Waterloo Regional Purchasing co-operative, the city leveraged the mobility contract and saved an estimated \$20 per user.

### **Integrated Planning and Public Works**

**1. Winter Control Modernization Review** - Transportation Division is undertaking the Winter Control Modernization Review, funded via the Province's Audit and Accountability Fund. This Review is anticipated to streamline resource requirements, and lead to enhanced services.

**2. Artificial Intelligence Inspections (Pavement and Potholes)** - Pilot use of Artificial Intelligence (AI) technology for potholes and pavement condition in collaboration with the University of Waterloo. Will reduce the need for external consultants and improve pavement quality.

**3. Building Standards Electric Vehicle Fleet Purchase** - Building standards purchased a fleet of electric vehicles to upgrade the current fleet, and reduce carbon footprint, downtime, fuel and maintenance costs (arriving 2020).

**4. Comprehensive Zoning By-law** - The new comprehensive Zoning By-law was approved in 2018, and is now being implemented. The new by-law is easier to read, reduces the number of zones throughout the city, provides clear regulations for development, and will save time when reviewing applications.

### **3.0 Next Steps**

Beginning in fall 2019, staff will be strengthening our culture around continuous improvement through a Lean Six Sigma program. Lean Six Sigma is a systematic, team based program that is designed to improve performance, remove unneeded process steps and reduce variation.

Staff will also be proposing a more robust Lean Six Sigma rollout via the upcoming 3 year budget process, which would entail staff training on the methodology, and selection of existing processes and workflows that could be targeted for enhancement.

Council will receive additional information as part of the Capital and Operating Budget packet deliberations.

## APPENDIX A – EFFICIENCIES AND CONTINUOUS IMPROVEMENT EFFORTS

### INITIATIVES IN CHIEF ADMINISTRATIVE OFFICER DEPARTMENT

Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Person(s)	Type <i>(select from list)</i>	Detailed Description
Diversity and Inclusion Task Force	in progress	CAO	Tim Anderson	Capacity Building/Repurposing/ Cost Avoidance	The Diversity & Inclusion Taskforce was launched by HR and the CAO to understand, assess and develop a plan to advance the City's diversity and inclusion goals
Strategic Plan Working Group	complete	CAO	Anna Marie Cipriani	Capacity Building/Repurposing/ Cost Avoidance	Utilized an 8 member staff working group to build capacity for outreach (both corporate and community) regarding the strategic plan development process.
Lean Six Sigma Launch	Launching fall 2019	CAO	Keshwer Patel	Capacity Building/Repurposing/ Cost Avoidance	This pilot initiative will launch this fall, and will streamline processes within the City fleet team, leading to enhanced customer service, additional staff capacity for additional priorities, and improved internal coordination.

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
Lime Scooter Pilot	complete	Economic Dev't	Justin McFadden	Quality Enhancement	The City of Waterloo was first in Canada to pilot Lime Scooters.
Municipal Accommodation Tax Regional Coordination	complete	CAO	Brad Witzel & Adam Lauder	Capacity Building/Repurposing/ Cost Avoidance	City staff coordinated the introduction of a Region-wide MAT, which began July 1, 2019.
Honk Mobile	in progress	Economic Dev't	Christine Tettman	Quality Enhancement	Honk Mobile provides a customer-oriented parking solution, while also generating \$35,000 annually to the City. It has exceeded original revenue estimates due to popularity.
EV Charging Stations in Uptown	in progress	Economic Dev't	Christine Tettman	Quality Enhancement	3 EV charging stations have been installed in Uptown Waterloo since 2016.
Arts & Culture - Community Capacity Building	in progress	Economic Dev't	Astero Kalogeropoulos	Quality Enhancement	Arts & Culture staff are focussed on enhancing community capacity for events, which will enable community-based organizations to host their own events. This will compliment existing

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					City-organized events.
SC Open House	in progress	All	Rhonda Fetterly	Quality Enhancement	This annual Open House demonstrates the value of many services provided by the City. It is an increasingly popular event, and has recently been rejuvenated.
Legal Services Reduction of Outside Services Work	in progress	Legal	Steve Ross	Cost Savings	Legal Services has significantly increased its internal legal work over the last 2-3 years, and is intending to further this trend. Examples include court hearings, drafting and executing Agreements, enhanced general counsel throughout the organization, etc.

## INITIATIVES IN COMMUNITY SERVICES DEPARTMENT

Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Person(s)	Type ( <i>select from list</i> )	Detailed Description
ActiveNet Implementation	In Progress	Recreation Services	Leta Campbell	Capacity Building/Repurposing/ Cost Avoidance	ActiveNet Registration module installed in 2018/2019, provides customers a new, more effective and efficient user friendly online registration system with enhanced customer service features. Comparison of online vs. in person registration shows an increase to 67% online transactions, exceeding the goal of 60%. The ActiveNet implementation process continued in 2019 with the installation of the facility booking module. This initiative continues to build staff capacity at recreational city facilities while also enhancing the experience of users. Recognizing additional strategies were required to provide oversight, effectively administer the ActiveNet software, as well as an opportunity to enhance the customer experience, the Recreation Services management team has advanced a

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					<p>realignment of resources to support. A dedicated staff person, assigned to lead the software roll out and implementation will continue in an administrator role. ActiveNet training has been extended to customer service sections at both RIM Park and the WMRC for an improved customer interface. Creative staffing strategies provide better long-term stability, increase opportunities for cross training so that staff have a broader understanding of staff team functions and responsibilities, better prepare staff to pursue succession opportunities and address the additional resources needed to effectively administer the ActiveNet software solution, ensuring a consistent and effective management of the system on a go forward basis.</p>

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
Client/ Customer Service Strategy	In Progress	Recreation Services	Steve Scherrer	Capacity Building/Repurposing/ Cost Avoidance	In recognition of continued growth, increased customer service requirements, growing leadership requirements and a changing work force, the Customer Service team developed a staffing plan to better position the team for future success. This plan includes the creation of a part-time leadership role to aid in typical evening and weekend customer service support, assist in times of high customer traffic flow, provide ActiveNet support as required, and most importantly, serve as a resource to the other part-time customer service resources working across all Recreation Services facilities. It is expected the increase in onsite leadership support will provide part-time Customer Service Associates an additional resource when full time Customer Service or supervisory support is not on duty, which will in turn

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					help mitigate issues quicker and contribute to a healthier and more supportive work environment.
Pre-Approved Walk/Run Routes	Completion June 2019	Recreation Services	Jillian Fleming	Quality Enhancement	A Special Events Committee, a sub-group comprised of staff representatives from Environment and Parks, Transportation Services, Arts and Culture, Recreation Services and others reviewed processes in which recreational walk and run inquiries are routed, managed and booked. In order to create an environment that is more beneficial to the customer and staff, and in an effort to expedite the

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					process, multiple pre-approved routes have now been created.
Ontario Volleyball Championship Hosting	In Progress	Recreation Services	Jillian Fleming	Quality Enhancement	The City of Waterloo along with the City of Mississauga will be the host locations for the 2021 and 2022 Ontario Volleyball Championships. This event has historically supported approximately 900 teams and 35,000 spectators from across the province, generating an estimated \$5 million in economic benefit. Age divisions range from U12 to U18 for both boys and girls. The City of Waterloo has been very fortunate to be the host location of this event since 2007, with the exception of 2020. Starting in 2021, Ontario Volleyball Championships will be hosted in multiple locations due to

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					the continued growth of the event. The City of Mississauga – Paramount Fine Food Centre will be the other host location for 2021 and 2022.
Community Based Campfires in City Parks	Completion June 2019	Community & Neighbourhood Services	Beth Rajnovich	Quality Enhancement	A new process will make it easier for residents to safely host campfires in city parks for community events, after the Neighbourhood Strategy heard this was a desired direction from residents.

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INITIATIVES IN CORPORATE SERVICES DEPARTMENT

Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Person(s)	Type (select from list)	Detailed Description
Created a dedicated website coordinator role	30-Jan-19	Corporate Communications	Tony Iavarone	Capacity Building/Repurposing/ Cost Avoidance	The city has previously employed a decentralized approach to website content additions and revisions. This was a reasonable approach at the time, but over time the website became too big, with too many pages, dated content, broken links and spelling errors. After a website refresh, the website was reduced from 1000 pages to 300, a writing guide was developed and the coordinator provides ongoing oversight and support to divisions to ensure a high standard is maintained.
Pilot social media responses with specific customer facing divisions	In progress	Corporate Communications	Tony Iavarone/Brandon Currie	Capacity Building/Repurposing/ Cost Avoidance	Traditionally, responses to social media posts have been handled by Corporate Communications. However, there is a strong trend to have questions received through social media handled by call centres or people responsible for customer service. We are going to pilot this approach with the Service

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					Centre working with the Administrative Co-ordinator and the team who will respond to questions/comments that come in through social media on the same topics as the team currently handles through email/telephone. This will greatly enhance service to customers/public and improve response times.
Self Time Entry Pilot - Payroll	in progress	Finance	Heidi	Capacity Building/Repurposing/ Cost Avoidance	Self entry for full time staff to daily report vacation, sick and other type of time reporting. This has streamlined the payroll process and saved time in a distributed way across the organisation.
Fire custom application for scheduling/ time capture	in progress	IMTS/Fire	Tina/ Heidi	Capacity Building/Repurposing/ Cost Avoidance	Worked with Fire and IMTS to map out new payroll and time tracking process, testing. This was important as the scheduling and attendance reporting for fire staff is complex and time consuming. Roll out on hold pending

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					availability of Payroll staff.
EFT payment option for recurring Accounts Receivable Invoices	in progress	Finance	Jody, Lily	Quality Enhancement	Increased the number of electronic payments to be received and addressing customer's request for electronic payment
Property Tax Calculator - Website	June, 2019	Finance	Jody, Fern, Esolutions	Quality Enhancement	Enhanced the property tax calculator to allow for property taxes to be calculated for all tax classes for properties within the city. Previously the property tax calculator was limited to residential properties only.
Final Tax Brochure now a budget insert	May, 2019	Finance	Jody, Communications	Quality Enhancement	Revamp the Tax Brochure to reflect current year budget and payment options in card stock layout

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TapPay, WMRC Box Office terminal	April, 2019	Recreation Services	Jody, Kristen Cooke	Quality Enhancement	Provide faster payment processing for customers, through a Tap option at the terminals in the community centres. Tickets sales for special events, WLU hockey & Siskins
TapPay, Food Services concessions	Sept	Recreation Services	Jody, Helen, Food Services	Quality Enhancement	Upgrade software system to provide faster payment processing for customers for special events like OVA

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
ECP, ActiveNet	Sept	Recreation Services	Jody, Paul, Andrea Giesler	Cost Savings	Allow for ECP (electronic cheque Payment) for re-occurring facility booking rentals. Cheaper tender option than credit card, more efficient than post-dated cheques, allows for withdrawal amount to match outstanding balance with rental adjustments

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Multi-year Budgeting	2020-2022 Budget (In Progress)	Financial Planning	Brad/Filipa	Capacity Building/Repurposing/ Cost Avoidance	<p>The City of Waterloo has been preparing multi-year budgets (1 year budget, then 3 year budget) since 2008. So over the last 12 years (2008-2019) instead of taking forward 12 budgets, we have taken forward 6. The budget process is a significant investment of time and effort by all departments/divisions and involves people at many different levels from senior management, to middle management, professional staff and various other staff. The City estimates that collectively there are over 10,000 hours saved during a four year Council term as a result of multi-year budgeting. Council and staff, at various levels and across the organization, are able to focus on what matters most to tax/rate payers and the broader community. Specifically, this capacity has enabled the ability of finance staff resources to be redeployed for various</p>

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					<p>purposes including; the implementation of Tangible Capital Assets, coordinating grant applications, the development of various plans including; long term financial plan, asset management plan, cemetery business model, parking model, capital year end reporting without adding additional staff resources. For others in other areas of the organization, they can focus on delivering services, building and maintaining assets, exploring new partnerships and opportunities with other organizations, and ultimately delivering value add work. All of this time saved, provides value for tax payers and the broader community.</p>

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Yardstick Benchmarking Tool	In Progress	Environment & Park Services	Susan	Quality Enhancement	Data gathering and implementation of a benchmarking tool that allows the City to input data pertaining to costs, quantities and other information regarding our Park services and compare the cost of providing various services within Parks in addition to reviewing our performance against other cities across North America. Assists in determining the future cost needs as a supplement to the LTFP.
Account and Program Realignment	In Progress	Financial Planning	Susan	Quality Enhancement	Working with both Transportation and Environment & Park Services plus the Maximo support team, we have been stream-lining the financial reports to provide more concise information. Staff use Maximo work orders to track detailed information regarding work that is done. This allows us to reduce the number of accounts and/or programs and provide concise financial reports. This efficiency transfers to operations staff by clarifying the work

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					orders to be used, allowing them to focus on physically doing operational work instead of administrative reporting.
Holding Accounts for Recurring Expenses	In Progress	Financial Planning	Susan	Quality Enhancement	A process was developed to set up holding accounts to facilitate payments to vendors with repeat transactions of certain items for various depts./programs/projects and reduce data entry time for the Accounts Payable and front line administration staff. The work order is used to extract the financial coding, which is then uploaded to offset the holding account. Admin staff no longer have to look up the coding and enter it onto the payable voucher form, which is then sent to AP, who would then re-enter

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					the information before payment can be made. This process is currently used with about 8 vendors is designed to effectively speed up vendor payments and reduce any late payment charges.
New mobile contract	1-Mar-19	IMTS	Teresa Soulliere Max Min	Cost Savings	Using the Waterloo Regional Purchasing co-operative, the city leveraged the mobility contract and saved an estimated \$20 per user.
Hours of work "App" for drivers	30-Apr-19	IMTS	Thomas Dong Max Min	Cost Savings	We pay \$20,450.00 annually to use the previous On Track application. The in-house development cost for the new application is \$16,640 and there will be no annual maintenance and licence cost moving forward.
PeopleSoft Upgrade	In Progress	Finance	Paul Hettinga Max Min	Cost Savings	Outsource routine tasks to allow IMTS staff to provide dedicated support for more projects. Savings were made on the capital project

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Changed Account Structure for Elected Officials	Completed 01/01/19	Clerks	Olga Smith	Capacity Building/Repurposing/ Cost Avoidance	Consolidated accounts that were similar, in order to streamline any financial administrative work done for the elected officials.
Hosting Veterans Fundraising Event	9/13/2019	Elected Officials	Nichole Matthews	Capacity Building/Repurposing/ Cost Avoidance	The City has taken the administrative work of hosting the veterans' fundraising event, and revamped it in order to increase the amount of \$ being earned for fundraising. All proceeds support veterans.
Supervote Voting Locations	Completed October 2018	Clerks	Election Team	Quality Enhancement	For the 2018 Election supervote locations were held throughout the city. The purpose of this initiative was to provide easier access to voting day locations and to provide easier opportunities for on and off campus students to vote on campus. The initiative facilitated a live voters' list strike off throughout the city which in addition to reducing on location worker resources, it provided better reporting

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					mechanism.
Recruitment process changes - HR not in interviews	Sep-19	Employee Relations	Kathy Weidhaas	Capacity Building/Repurposing/ Cost Avoidance	Employee Relations provided a one day training session on the recruitment process to standardize it. Training on the interview process was part of this and provided hiring leaders with the skills to conduct interviews independent of HR. This will create time for the HR Generalists to spend more time with their user groups and be more proactive in our work.
Enhanced Reporting	Completed 2018	Fleet and Procurement	Jeff Poetker	Quality Enhancement	Worked with Bank of Montreal to realign City of Waterloo cardholder structure on P-Card System to align with City organizational structure allowing for spending reporting by Section, Division and Department.

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New Procurement By-Law	Completed June 24, 2019	Fleet and Procurement	Tracie Bell	Capacity Building/Repurposing/ Cost Avoidance	Increasing the low cost threshold from \$25,000 to \$50,000 and incorporating an opportunity to undertake non-competitive procurements with supported rationale and pre-approval for purchases up to \$100,000 enables Procurement staff to focus more time on higher risk procurements and reduces the time that City staff had to devote to RFP drafting, proposal reviewing and meeting attendance for lower value, lower risk projects.
Transition to Co-operative fuel contract	Completed May 2019	Fleet and Procurement	Karen Moyer	Cost Savings	The City had a long standing agreement with Transit Fuels (formerly Hogg Fuel) that had not been revisited in sometime. As members of the Grand River Cooperative Procurement Group we were able to work with Transit Fuels to transition our contract to the cooperative contract that had lower pricing (lower mark-up on posted fuel rack rates). Procurement staff is currently analysing numbers to report

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					on savings - estimated to be between \$3,000 to \$15,000 per year.
Painting of the Shop	Completed July, 2019	Fleet and Procurement	Karen Moyer	Quality Enhancement	Shop cleaning and painting provided efficiencies in that it resulted in having to move and organize items which makes working better. The new paint colour (chosen by the Technicians) has had an immediate impact on overall staff well being and morale.
Solar Idle Reduction	In Progress	Fleet and Procurement	Karen Moyer	Cost Savings	Solar panels mounted on truck roofs are used to power the accessory equipment resulting in idle time reduction of 2-3 hours per day and average fuel savings of approx. \$225 per month. In addition there is a reduction in CO2 emissions of approx. 200 kg per month per truck. Due to success of the program, it will be expanded to two additional trucks in 2019.

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Fleet Process Review	Completed Q1, 2019	Fleet and Procurement	Richard Mores	Quality Enhancement	Review of the existing circle check process identified efficiencies by consolidating existing 2 book process into one enhanced circle check book. The elimination of one book used for small equipment results in annual cost savings for printing, reduces paper and saves staff time. The revised single book enables 5 operators to sign off within a 24 hour period on one sheet rather than a single sheet per driver. In addition to the paper savings, drivers no longer have to repeatedly enter unit information.
Fleet Parts and Service Specialist	Completed - July 2, 2019	Fleet and Procurement	Tracie Bell	Capacity Building/Repurposing/ Cost Avoidance	Recruitment of Fleet Parts and Service Specialist to focus on the sourcing of non-stock parts needed to facilitate repairs and preventative maintenance, has been recently implemented. Fleet Technicians are currently spending up to 1.5 hours per day sourcing their own parts. Having this position is expected to increase existing Fleet Technician

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					Capacity by approximately 1 FTE and will enable Fleet Technicians to increase Preventative Maintenance on non CVOR Vehicles.

INITIATIVES IN INTEGRATED PLANNING & PUBLIC WORKS

Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Person(s)	Type <i>(select from list)</i>	Detailed Description
Drone and Artificial Intelligence	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Exploring the use of Drones and Artificial Intelligence; could be useful for inspections and accessing difficult areas to access. This technology would enhance survey accuracy and efficiency for hard to access locations.
Artificial Intelligence Inspections - Pavement and Potholes	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Pilot use of Artificial Intelligence (AI) technology for potholes and pavement condition in collaboration with the University of Waterloo. Will reduce the need for external consultants and improve pavement quality.
Road Restoration Technology	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Joint research with the University of Waterloo Pavement Centre on alternative road restoration technology. Pilot use of infra-red heat pavement repair could enhance the ability to "recycle" existing road surface materials and reduce the use of new materials.

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Engineering Standards Manual	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Development of new comprehensive Engineering Standards Manual. This manual will enhance quality of engineering submissions from consulting engineers. It will promote greater consistency in development applications. Will help to alleviate multiple inspections for deficient works.
Design Guidelines and Supplemental Specifications for Municipal Services	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Updates to the Design Guidelines and Supplemental Specifications for Municipal Services (DGSSMS) with local municipalities. Provides guidance to civil construction contractors to promote the installation of high quality and durable works. Will enable further harmonization of standards with the City of Kitchener and the Region of Waterloo.
Electronic Construction Inspection Application	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Implementation of Electronic Construction Inspection Application. Enables better record keeping and alleviates manual transfer of paper inspection records to electronic files.

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Supplier Performance Program	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Supplier Performance Program (joint initiative with Procurement). This program will preclude bids from suppliers not capable of meeting City performance requirements for safety and quality of work. Will assist in preventing contractor default, claims and other project risks.
Capital Asset Reporting	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Tangible Capital Asset Reporting Enhancements (joint initiative with Finance). Will enable better life-cycle analysis of assets to prevent premature asset replacement and duplication of work.
Trenchless Technology	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Historical and ongoing use of trenchless technology (pipe bursting, pipe ramming, micro tunneling, re-lining, etc.) has saved the City millions of dollars in surface restoration and replacement costs over the past two decades. It will continue to save money in the future as the costs for pavement and concrete repairs rise. This work has included innovative pilot projects

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					wit the University of Waterloo's Centre for the Advancement of Trenchless Technology (CATT).
Corridor Tool	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	The use of a new electronic Corridor Tool that integrates GIS, Asset Management, and Engineering Data will allow for more sophisticated allocation of capital dollars to target aging infrastructure in an holistic manner. This will allow maximization of capital dollars when replacing sewers, watermains, underground utilities, pavement and concrete works.
Project Management Manual	In Progress	Engineering	Ron Ormson	Capacity Building/Repurposing/ Cost Avoidance	Adoption of a formal Project Management Manual is enabling a formalized approach to project chartering, scoping, quality management and cost control. Based on templates and systems recognized by the global Project Management Institute (PMI), the Project Management Manual will be applied to all significant Capital Projects. This will

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					result in long-term savings by allowing better time and risk management. Implementation commenced in late 2018 and training for the manual is ongoing.
Electronic Files		Utilities	Roy Garbotz	Capacity Building/Repurposing/ Cost Avoidance	Enhanced use of electronic documentation and drawings. This will reduce printing, file storage and copying costs and speed the retrieval of documents when needed. Eliminated the rental of one printer/copier unit in 2018.
Soil, Runs and Fill Pile		Utilities	Roy Garbotz	Cost Savings	Exploring solutions for contaminated soils, and funding for the Runs and Fill Pile (with Community Services). If a site is developed, we may be able to separate contaminated piles so other piles are not subject to further contamination.
Valve Nut Repair Toolkit		Utilities	Roy Garbotz	Quality Enhancement	Valve Toolkit purchased and trailer fitted with a vacuum unit (to be purchased), which will pay for itself in a short period of time due to the

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					frequency of valve related issues. Cost savings and avoidance related to road repairs
Hydraulic Saw		Utilities	Roy Garbotz	Cost Savings	New Hydraulic Saw purchased will be safer and more efficient when cutting pipes on site.
Infiltration Repairs		Transportation	Christine Koehler	Quality Enhancement	Infiltration Repairs on Sanitary Manholes
Transportation Reporting	In Progress	Transportation	Christine Koehler	Capacity Building/Repurposing/ Cost Avoidance	Six new iPads purchased for staff to document, report and take pictures of transportation related issues (potholes, cracks, trips, etc.), which connects with Maximo/GIS etc. Will eliminate paper usage.
Winter Control Modernization Review	in progress	Building Standards	Ralph Kaminski	Quality Enhancement	Transportation undertaking Winter Control review, via Province's Audit and Accountability Fund

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
Mobi Inspect and Builder App	Complete	Building Standards	Ralph Kaminski	Quality Enhancement	MobilInspect (originally designed by and for City of Waterloo), is used to document, photograph and identify Building Inspection results, and update AMANDA. Builder App in progress of being built will receive information and results from inspections, allow builders to book inspections, reducing administrative costs and time in general. Four other municipalities have joined our user group for cost sharing and savings with more looking into our plan (including Ministry of Housing).
BlueBeam Software/Program	In Progress	Building Standards	Adam Fischbach	Capacity Building/Repurposing/ Cost Avoidance	BlueBeam Software being used for the electronic review of drawings, saving floor space, increasing review speed, corrections and retrieval of drawings.
Electric Vehicle Fleet	Complete	Building Standards	Ralph Kaminski	Quality Enhancement	Building purchased a fleet of electric vehicles to upgrade current fleet, and reduce carbon footprint, downtime, fuel and maintenance costs (arriving 2020).

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
Building Standards' Renovation	Complete	Building Standards	Ralph Kaminski/ Brandon Thompson	Quality Enhancement	Renovation to Building Division provided 3 new workstations and a board room, with the assistance of BlueBeam Software.
Permit Process Concierge Position	Completed	Planning	Joel Cotter	Quality Enhancement	'Concierge' Position to help expedite Permitting Process across IPPW and prevent future issues. Incorporated into existing position.
Committee of Adjustment report has been reviewed and updated	Completed	Planning	Joel Cotter	Quality Enhancement	Committee of Adjustment hearings now include a brief staff presentation on the application, and the format for staff comments has been modified to better reflect legislative requirements and articulate how the application is/is not in compliance with applicable decision-making criteria.
Sketch Up Software	Completed	Planning	Joel Cotter/ Fredrick VanRooyen	Quality Enhancement	Planning has increased its in-house capacity and expertise in modelling and 3D visualization using Sketch Up software. The modelling has improved application evaluation and review processes at no additional cost to the

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Initiative	Completion Date OR In Progress	Lead Division	Lead(s) Persons(s)	Type <i>(select from list)</i>	Detailed Description
					City.
Sign Permit Review Process	in progress	Planning	Joel Cotter/Robyn McMullen	Capacity Building/Repurposing/Cost Avoidance	The review timeframe for sign permits has been significantly reduced (from multiple weeks to a few days in most instances) by transferring the compliance review from Municipal Enforcement to Planning Approvals staff.
Community Climate Action Plan	Completed	Planning	Joel Cotter/ Dominik Simpson	Quality Enhancement	Through staff, the City renewed its commitment and funding of a service agreement with the Region and area municipalities that will result in the development of a Community Climate Action Plan. The agreement helped leverage Federal Funding and will deliver a final plan to the City at a fraction of the cost.
Demolition Permit and Control Application	Completed, 2018	Planning	Joel Cotter	Quality Enhancement	Aspects of the Demolition Control process are now managed by a single staff person, which has streamlined the process and freed additional staff time.

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<b>Initiative</b>	<b>Completion Date OR In Progress</b>	<b>Lead Division</b>	<b>Lead(s) Persons(s)</b>	<b>Type (select from list)</b>	<b>Detailed Description</b>
Process					
Comprehensive Zoning By-law	In progress	Planning	Joel Cotter	Quality Enhancement	The new comprehensive Zoning By-law was approved in 2018, and the City has requested that LPAT issue an order under Section 34(31) of the Planning Act to bring the by-law into effect save and except to area specific appeals. The new by-law is easier to read, reduces the number of zones throughout the city, provides clear regulations for development, and will save time when reviewing applications.
Social Media Presence	In progress	Planning	Joel Cotter	Quality Enhancement	Working with Communications to investigate how to enhance planning and development engagement and knowledge sharing through social media.
Council Review Process	In progress	General	Cameron Rapp	Capacity Building/Repurposing/ Cost Avoidance	Council Review Process to be discussed with Clerk's Office to alleviate some pressures in IPPW (process and deadline changes)

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<b>Initiative</b>	<b>Completion Date OR In Progress</b>	<b>Lead Division</b>	<b>Lead(s) Persons(s)</b>	<b>Type <i>(select from list)</i></b>	<b>Detailed Description</b>
					stemming from Bill 108).