

CAPITAL FUND - 2014 Capital Projects

		2014 Budget Recommended (\$000s)	Formula Funding (\$000s)	IT Reserve (\$000s)
General Government	Page #			
Communication and Outreach Plan	205	40	40	
		40	40	-
Information Technology				
Network Upgrades	208	25		25
GIS Enhancements	209	50		50
Server Replacement	210	25		25
Communication Infrastructure Renewal	312	25		25
Security Cameras	214	20		20
Secondary Site & Data Replication	215	20		20
MED In-Car Computers	313	40		40
Website Enhancements	216	15		15
Core Switch Upgrades	314	25		25
Virtualization	219	40		40
One-Stop Shopping	220	25		25
Document Management	222	175	175	
Mapping	223	20		20
Automated Ticket Writer	316	40		40
Digital Signatures	317	30		30
Client Access Management	318	25		25
Multifunction Devices and Printers	234	50		50
Social Media	235	15		15
		665	175	490
Subtotal		705	215	490

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES

DIVISION INFORMATION TECHNOLOGY

PROJECT Communication Infrastructure Renewal

COST 2014 \$25,000
2015 \$25,000

STATUS Replacement

PHASE Ongoing

DESCRIPTION The 2007 Radio Study identified glaring deficiencies in the City's radio communications system, including inadequate coverage, failure to comply with key National Fire Prevention Association requirements, and reliance on obsolete equipment. The subsequent Communications Infrastructure project made significant investments to rectify these issues and implement a robust and reliable communications system. This new system supports voice radio communications throughout the organization, and transmits a variety of mission-critical data.

This key resource must be maintained and enhanced on a regular, consistent basis to ensure it continues to meet the City's growing requirements. To this end, regular, planned enhancements are recommended.

This project works toward City Council's Goals #1 and #4,, Objectives #1.4 and #4.4, and Action #4(b).

O&M IMPACT There will be no direct impact on O&M expenditures. However, should this equipment fail there could be significant public safety risks and service interruptions.

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- 1 Affordability
 - 2 Continuous Improvement
 - 3 Emphasize fairness and transparency in financial decisions, program 4 delivery and land assembly.
 - 4 Be a leader in innovation.
 - 5 Lead in innovation and best practices.



CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES

DIVISION INFORMATION TECHNOLOGY

PROJECT MED In-Car Computers

COST \$40,000

STATUS Replacement

PHASE 1 of 1

DESCRIPTION The Municipal Enforcement Division operates four patrol cars in which the officers spend most of their day. The officers rely heavily on computers to document occurrences or to retrieve information such as motor vehicle information checks. In 2010, computers were installed in the four patrol cars allowing officers to be more efficient and spend more time on the street instead of in the office. Under the City's evergreen policy, these computers are due for replacement after four years of service. These computers, unlike office computers, are operated in extreme conditions and are prone to malfunction. In the last year, these computers have seen an increase in the amount of downtime due to malfunction.

Good, reliable computers are important for officer safety. They allow officers to have immediate access to information on dangerous individuals, dogs, stolen vehicles, etc. which allows them to take proper precautions when dealing with these situations. Officers also rely heavily on these computers to access motor vehicle information on persons and vehicles during traffic stops, which is a large component of their work day.

This project works toward City Council's Goal #4¹ and Objective #4.4².

O&M IMPACT There will be a monthly service charge between \$50 and \$100 from a wireless Internet service provider.

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- ¹ Continuous Improvement
 - ² Be a leader in innovation

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES

DIVISION INFORMATION TECHNOLOGY

PROJECT Core Switch Upgrades

COST 2014 \$25,000

2015 \$35,000

STATUS New

PHASE 1 of 2

DESCRIPTION The City's network undergoes regular, incremental improvements to sustain its functionality. This strategy has proven to be an effective way to grow and expand the network to meet increasing demands and expectations. However, there remains the occasional need for a more significant investment to enhance the infrastructure and thus it is recommended that the City replace its core switch stack in 2014 and 2015.

This equipment forms the very backbone of the City's network, but by 2014 it will be seven years old, two years beyond the end-of-life specified by the manufacturer. Therefore a timely replacement is crucial.

Currently, core networking services are comprised of five switches: three high-speed similar units working as one logical unit and two dissimilar lower speed units. This project will provide consistent models for streamlined management and new cabling of the 240 patch cables at the core plant.

The upgrade will deploy five Cisco 3750 switches working as one logical unit, capable of delivering gigabit speeds and power-over-ethernet (POE) to client desktops and network devices. Three units will have base level licensing and two will have higher level services licensing for routing redundancy. The total port

count will be 240, allowing for network scalability in the foreseeable future.

The upgrade will provide improved port density (240 connections), greater functionality (POE), and less overhead (unified management), and is expected to meet current and projected core requirements until 2023.

For budgetary and logistical reasons the upgrade will take place in stages commencing in the fourth quarter of 2014. The first stage will see the installation of one 48-port switch with elevated licensing, one 48-port switch with base licensing, and new cabling for each switch. The two new switches will be configured as one logical unit, forming the base of the new stack and allowing for staged client migration from existing switches. Once initial migration is complete and stable, the old switches will be retired and removed from the rack to create space for the next stage. The remaining three switches will be separately incorporated into the stack in the first half of 2015, and required cabling changes will be completed as each unit is installed. In the third quarter of 2015, the old switches will be removed and configurations will be finalized so that all the new switches work as one logical unit.

The complete upgrade will take place with zero impact on clients and no network downtime: configurations and cabling changes will take place during regular business hours, but actual port migrations will be performed after hours. This strategy will generate complete transparency for clients and a fast, efficient cutover to the new equipment.

This enhanced foundation will protect the City's existing investment in its network and ensure the network is able to meet current and future demands.



This project works toward City Council's Goals #1¹ and #4², Objectives #1.4³ and #4.4⁴, and Action 4(b)⁵.

O&M IMPACT There will be no direct impact on O&M expenditures. However, should this equipment fail, significant network outages will ensue.

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CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES

DIVISION INFORMATION TECHNOLOGY

PROJECT Automated Ticket Writer

COST \$40,000

STATUS New

PHASE 1 of 1

DESCRIPTION The Municipal Enforcement Division currently utilizes a two-part parking ticket. These tickets are printed by a local printer at a cost of approximately \$9.95 per 25 tickets. There are approximately 11,000 tickets issued each year at a cost of approximately \$4,400. The officers issuing the tickets hand write the offenders' information on the tickets which are then turned in to Municipal Enforcement clerks who then have to manually enter the information from the ticket into the City's Financial Information System.

This process is labour intensive, taking up a significant amount of a clerk's workday. The Automated Ticket Writer would eliminate the need to print tickets as the unit prints the tickets as they are issued. The unit would also be capable of downloading the information directly to the City's Financial Information System, greatly reducing the time the staff spend doing data entry.

This project works toward City Council's Goals #1¹ and #4², Objectives #1.4³ and #4.4⁴, and Action 4(b)⁵.

O&M IMPACT This project will reduce O&M expenditures on paper tickets, and ensure ticket data are captured more efficiently and accurately.

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CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES

DIVISION INFORMATION TECHNOLOGY

PROJECT Digital Signatures

COST \$30,000

STATUS New

PHASE 1 of 1

DESCRIPTION The City is conducting an increasing volume of business electronically. With this move to digital documents comes an increased need to provide electronic verification of document contents and authenticity.

This verification can be provided by a digital signature, which is a mathematical scheme for demonstrating the authenticity of a digital document. It gives the recipient a high level of confidence that the document was created by a known sender and that it was not altered in transit.

An enterprise solution is required to provide standard tools and processes across the organization. As well, the solution must integrate seamlessly with applications already in use at the City.

This project works toward City Council's Goals #1¹ and #4², Objectives #1.4³ and #4.4⁴, and Action #4(b)⁵.

O&M IMPACT This project will increase annual O&M expenditures by 20% of the software acquisition cost.

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CAPITAL FUND - 2014 Capital Projects

DEPARTMENT CORPORATE SERVICES
DIVISION INFORMATION TECHNOLOGY
PROJECT Client Access Management
COST \$25,000
STATUS New
PHASE 1 of 1

DESCRIPTION Providing network access for employees and the public is a critical service that necessitates balancing transparency for the client (effortless logon) with adequate administrative controls for authentication, authorization and accounting. However, managing this network access becomes increasingly complex as the variety of devices used within the organization increases, the ownership and control of the devices becomes more flexible, and the type of client access broadens. Therefore, to achieve satisfactory network access management the City requires a centralized tool.

This project will implement Cisco's Identity Services Engine (ISE), a highly functional and flexible access / authentication / accounting appliance that provides intelligent centralized access management. It is capable of recognizing what type of device (iPad, smartphone, laptop, etc.) is accessing the network, determining the ownership (City, vendor, public, etc.) of the device, and then establishing what policies should automatically be applied.

Coordinated with this device recognition are capabilities for authentication (challenge and verification of who the client is), authorization (what the authenticated client is permitted to do) and accounting (the actions done by the client). These functions meet access requirements for clients, security and management requirements for

the organization, and accounting requirements for forensic or legal considerations.

This project works toward City Council's Goals #1¹ and #4², Objectives #1.4³ and #4.4⁴, and Action #4(b)⁵.

O&M IMPACT This project will increase annual O&M expenditures by 20% of the acquisition cost.

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CAPITAL FUND - 2014 Capital Projects

	<u>Page #</u>	<u>2014 Budget Recommended (\$000s)</u>	<u>Formula Funding (\$000s)</u>	<u>Grants (\$000s)</u>
Community Services				
Arenas				
YKCA - Wiring	320	15	15	
YKCA - Ice Plant Bldg., Ice Boards & Ice Plant	321	585	585	
Parks/Trails				
Ball Diamond Upgrade	322	45	45	
Rental Equipment	247	15	15	
Sport & Multi-use Fields Upgrade- Range Lake North School Field	248	150	70	80
Sport & Multi-use Fields Upgrade- Sir John Franklin High School Field	248	90	90	
Pool				
Locker Replacement	254	100	100	
Roof Resurfacing	323	100	100	
Subtotal		<u>1,100</u>	<u>1,020</u>	<u>80</u>

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT COMMUNITY SERVICES

DIVISION FACILITIES

PROJECT Yellowknife Community Arena – Wiring

COST \$15,000

STATUS New

PHASE 1 of 1

DESCRIPTION The Yellowknife Community Arena was built in 1982 and has served the needs of the community very well over the years. During maintenance of the facility and on advice of our electrical contractor, it has been determined that the wiring from the penalty box side of the facility to the main control box is in need of replacement.

This wiring controls power to the game clock, the facility's public address system, and the entire arena on the penalty box side. A failure in the wiring system will result in these items being nonfunctional.

This project works toward Council's Goal #2¹.

O&M IMPACT There will be no additional costs for maintenance as this will be covered under our current budget for repairs and maintenance.

¹ Enhancing our Built Environment.



CAPITAL FUND - 2014 Capital Projects

DEPARTMENT	COMMUNITY SERVICES		
DIVISION	FACILITIES		
PROJECT	Yellowknife Community Arena – Ice Plant Building, Ice Boards and Ice Plant		
BUDGET	2014	Ice Plant Building	\$425,000
		Ice Boards	\$160,000
		Total	\$585,000
	2015	Ice Plant	\$930,000
	Grand Total		\$1,515,000
STATUS	Replacement		
PHASE	2014	1 of 2	
	2015	2 of 2	
DESCRIPTION	<p>The Yellowknife Curling Club was opened in 1988 and the Yellowknife Community Arena was opened in 1982. Both facilities have served the needs of the community well in those years. In addition to curling, hockey, figure skating, and broomball, both facilities have hosted a number of territorial and national events as well as five Arctic Winter Games.</p> <p>Both facilities are refrigerant based R-22 (Freon) systems which are currently being phased out as R-22 is a greenhouse gas that results in a by-product (HFC-23) that contributes significantly to global warming. As of January 1, 2010, there will be no production or importing of R-22 except for use in equipment manufactured before that date with a total phase out by 2020.</p> <p>The City will install a 150-ton EcoChill refrigeration system that will service both the Curling Club and Yellowknife Community Arena. Due to the fact that it is an EcoChill system, it will also be able to provide low-grade heat to both facilities, thereby reducing heat</p>		

This project will be constructed over a two-year period with the ice plant structure installed in 2014 and the plant itself installed in the summer of 2015.

2014 – Ice Plant Building & Ice Boards

Because this ammonia-based refrigeration system is considerably larger than the two current R-22 systems, it will require a facility of its own to house it. The facility will be outside of the Yellowknife Community Arena as the current ice plant rooms will not accommodate this ice plant.

The boards at the Yellowknife Community Arena are old and have served their purpose over the years and need to be replaced as they are higher than the current required ice board specifications which could result in injuries for participants.

2015 – Ice Plant

In 2015, it is proposed to install the 150-ton EcoChill refrigeration system to provide service for both the Curling Club and Yellowknife Community Arena.

A sport grant will offset part of the cost:

Budget	\$930,000
Less: Grant	<u>\$ 80,000</u>
	\$850,000

This project works toward Council’s Goal #2¹.

O&M IMPACT

There will be no additional O&M impact.

¹ Enhancing our Built Environment.

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT COMMUNITY SERVICES

DIVISION FACILITIES

PROJECT Ball Diamonds Upgrade

COST \$45,000

STATUS Replacement

PHASE 1 of 1

DESCRIPTION The City directly administers five ball diamonds: two at Fritz Theil, two at Parker Field, and one at William McDonald School.

Several of the diamonds use shale which requires periodic replacement and conditioning. This project will allow for the purchase of shale to address this need.

This project would allow the department to replace the shale on the five remaining fields, improving the ball playing experience there.

This project works toward Council's Goal #2¹.

O&M IMPACT There will be no additional costs for maintenance as this will be covered under our current budget for repairs and maintenance.

¹ Enhancing our Built Environment.



CAPITAL FUND - 2014 Capital Projects

DEPARTMENT COMMUNITY SERVICES

DIVISION PROGRAMS

PROJECT Roof Resurfacing

COST \$100,000

STATUS Replacement

PHASE 1 of 1

DESCRIPTION The Ruth Inch Memorial Pool opened its doors to the public in the fall of 1988. The pool continues to be a popular facility for the citizens and visitors of Yellowknife. In 2010, the City awarded an engineering firm to do a life cycle analysis of the Ruth Inch Memorial Pool which identified items that needed to be addressed to ensure the pool meets its life expectancy.

The roof was identified as one of the exterior projects that needed to be addressed within the next three to five years to ensure that the life expectancy of the building is met. The report stated that the average life expectancy of asphalt rolled roof is 25 years which means that the roof should be scheduled to be replaced.

The Community Services Department is recommending that the funding be identified for the roof replacement in the summer of 2014.

This project works toward Council's Goal #2.2¹.

O&M IMPACT No immediate impact on O&M.

¹ Improve transit, roads, sidewalks, recreation facilities and trails with an emphasis on active transportation.

CAPITAL FUND - 2014 Capital Projects

		2014 Budget Recommended (\$000s)	Formula Funding (\$000s)
Public Safety	<u>Page #</u>		
Fire & Ambulance			
Storage Facility	325	150	150
Thermal Imaging Cameras	326	25	25
FDM Software (Apparatus Maintenance Module)	327	30	30
Subtotal		<u>205</u>	<u>205</u>

		2014 Budget Recommended (\$000s)	Formula Funding (\$000s)
Planning & Development	<u>Page #</u>		
Harbour Plan & Smart Growth Development Plan Initiatives	265	1,000	1,000
Streetscaping Initiatives	266	500	500
Subtotal		<u>1,500</u>	<u>1,500</u>



CAPITAL FUND - 2014 Capital Projects

DEPARTMENT PUBLIC SAFETY

DIVISION FIRE AND AMBULANCE

PROJECT Storage Facility

COST \$150,000

STATUS New

PHASE 1 of 1

DESCRIPTION The Fire and Ambulance Division is currently storing equipment and apparatus (Engine 2) outside, exposed to the elements. There is a pressing need for an organized storage facility to accommodate efficiencies and proper care of spare equipment.

This project works toward City Council's Goal #4¹.

O&M IMPACT Minimal

¹ Continuous Improvement

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT	PUBLIC SAFETY
DIVISION	FIRE AND AMBULANCE
PROJECT	Thermal Imaging Cameras
COST	\$25,000
STATUS	Replacement
PHASE	1 of 1
DESCRIPTION	<p>The Fire Division is currently using thermal imaging cameras that are becoming obsolete in comparison to the technology available today. It is essential that firefighters have the best equipment available to ensure safe and effective rescues.</p> <p>This project works toward City Council's Goal # 4¹.</p>
O&M IMPACT	Minimal

¹ Continuous Improvement



CAPITAL FUND - 2014 Capital Projects

DEPARTMENT PUBLIC SAFETY

DIVISION FIRE AND AMBULANCE

PROJECT FDM Software (Apparatus Maintenance Module)

COST \$30,000

STATUS New

PHASE 1 of 1

DESCRIPTION The Fire Division is currently using FDM software, but would like to upgrade the system to enhance our ability to manage equipment and apparatus. The Asset Management and Preventative Maintenance Modules will allow us to track apparatus and equipment service and maintenance. Currently, Public Works only tracks service of light apparatus. The Fire Division is responsible for heavy apparatus, all small engines and equipment, and ancillary vehicles. The number of daily, weekly, monthly and annual inspections calls for a more sophisticated system to ensure safety and operational readiness.

This project works toward City Council's Goal # 4¹.

O&M IMPACT Minimal

¹ Continuous Improvement

CAPITAL FUND - 2014 Capital Projects

		2014 Budget Recommended (\$000s)	Formula Funding (\$000s)	M.E.R. Reserve (\$000s)	MACA Capital Grant (\$000s)
Public Works & Engineering	Page #				
Fleet Management	330				
1023-10 Crown Victoria Police Interceptor		52		52	
1102-04 F350 Ford 1-Ton		41		41	
1103-04 Ford E250 Service Van		36		36	
1124-04 Ford F150		33		33	
1125-04 Ford F150		33		33	
1174-09 '34" Exmark Mower'		7		7	
2022-08 Cat 140M Grader		206		206	
2064-08 Landfill Haul Truck		154		154	
2099-02 Freightliner Sweeper		371		371	
3130-04 Zamboni Ice-Resurfacers		124		124	
2118-94 IHC 4900 Hazmat/ Rescue		309		309	
		<u>1,366</u>	-	<u>1,366</u>	-
Engineering & Garage					
Traffic Lights Video Detection Equipment	279	75	75		
Roads & Sidewalks					
Road Rehabilitation	280	3,000	790		2,210
Drainage Improvements	284	50	50		
		<u>3,125</u>	<u>915</u>	-	<u>2,210</u>



CAPITAL FUND - 2014 Capital Projects

		2014 Budget Recommended (\$000s)	Formula Funding (\$000s)	Long-Term Debt (\$000s)	Water & Sewer User Fees (\$000s)	M.E.R. Reserve (\$000s)	Gas Tax Rebate (\$000s)	MACA Capital Grant (\$000s)
Solid Waste Management	Page							
Landfill								
Baling Facility Mechanical Upgrades	286	25	25					
Site Restoration	287	150	150					
Centralized Composting Project	290	250	250					
		425	425	-	-	-	-	-
Community Energy Plan (CEP) Initiatives	291							
CEP Implementation		85	85				-	
Energy Efficiency Projects		415	415				-	
		500	500	-	-	-	-	-
Pumphouses/Liftstations (PHs/LSs)	Page #							
Water Treatment Plant	293	10,100		10,100				
Liftstations Capital Upgrade	295	65			65			
Reservoir Flushing, Cleaning & Repairs	297	25			25			
Monitor & Controls Assessment & Upgrade	298	75			75			
Pumphouse & Liftstation Pipe Replacement	300	300			300			
Other								
Liftstation GenSet Installation (Backup Power)	301	175			175			
Fire Hydrant Repair/Upgrade	302	30			30			
Water Licence Study & Report Requirements	303	50			50			
CMP Replacement Program	304	8,425	1,804		2,102		4,519	
		19,245	1,804	10,100	2,822	-	4,519	-
PW Subtotal		24,661	3,644	10,100	2,822	1,366	4,519	2,210

CAPITAL FUND - 2014 Capital Projects

DEPARTMENT	PUBLIC WORKS & ENGINEERING
DIVISION	FLEET MANAGEMENT
PROJECT	Upgrading of Fleet
COST	\$1,365,780
STATUS	Replacement/ New
PHASE	Ongoing
DESCRIPTION	The mobile equipment fleet has a replacement value of \$13.4 million and must be maintained to meet the service levels expected by residents. The City has a fleet of 134 active heavy-duty and mobile equipment that support Fire and Ambulance, Road Maintenance, Water and Sewer Maintenance, Solid Waste, Parks, Arenas and Administrative functions, plus 23 stationary engines for emergency power generation and fire pumping capacity.

The replacement vehicles have passed their useful lives according to City practices. In addition, they are recommended for replacement according to a mechanical assessment carried out by licensed mechanics. In the 2006 Infrastructure Needs Assessment by Ferguson, Simek and Clark Architects and Engineers, it was noted that nearly half of the City's fleet has exceeded its anticipated life span. Currently the fleet has only a few vehicles that are older than the required age or do not meet the City's standard.

Light Vehicles:

According to the City of Yellowknife Fleet Management Practices, these vehicles should be reviewed for replacement after five years and replaced after eight years. Replacing the aging fleet has lowered the O&M to operate the fleet. Starting next year, on an average, four pickups or vans have to be replaced every year to

maintain the fleet to the policy standard. If the standard is not followed, more maintenance staff will have to be hired to maintain the fleet at a safe and operational level and there will be increased costs. Status: Good – meets standard. Note: Due to the success of the replacement program, the replacement age of light vehicles was increased from eight to ten years.

Medium-Duty Trucks:

According to the City of Yellowknife Fleet Management Practices, these vehicles should be reviewed for replacement after eight years and replaced after ten years. Status: Medium-duty trucks meet standard and no replacement medium trucks are planned this year.

Municipal Enforcement Vehicles:

These are to be replaced every three years or 100,000 km. Due to high usage, Municipal Enforcement vehicles require a high amount of maintenance (usage is nearly five times that of similar vehicles in the fleet). For this reason, it is important to maintain the replacement schedule of the vehicles. One Municipal Enforcement vehicle must be replaced yearly to maintain the City standards and in order to reduce O&M costs and labour requirements. With the replacement of one vehicle this year, the City will meet the practice identified. Status: Good – standard is maintained.

Heavy Trucks:

This vehicle class includes trailers, tandem tractors, dump trucks, and street sweepers. One of the street sweepers is due for replacement. Most heavy trucks are to be replaced every 12 years. Sweeper and vacuum trucks are replaced every eight years because of the high amount of use and the large amount of wear on parts in that type of vehicle. Reliability is greatly diminished as the equipment ages. After evaluation the replacement age was changed to eight years from 12. Sweepers and vacuum trucks are required to meet environmental requirements set out by territorial and federal governments.



Trucks are used for City projects and snow removal in the winter. The cost of operating these vehicles compared to hiring contractors is about half. Each truck is operated for about 1,000 hours annually, saving the City \$45,000/year for each truck it operates rather than contracting out. A highway tractor and roll-off bin truck were added to the fleet in 2012.

Trailers are reviewed when aged out. If practical, the trailer is refurbished and returned to service. The dump trailers (due to more use and normal wear and tear) are replaced when aged out.

As trucks get older, increased maintenance and repairs are required, such as replacing motors and transmissions at costs of \$20,000 and \$10,000 respectively. Breakdowns inevitably occur when equipment is needed, resulting in a cost to the City to engage contractors that is much higher than using our own resources. Status: if replacement continues, heavy-truck fleet is in good condition.

Heavy Equipment:

Most heavy equipment is to be replaced every 12 years. Heavy equipment is used for City projects and snow removal in the winter. The cost of operating our equipment compared to hiring contractors is about half. Each piece of heavy equipment is operated for about 1,000 annually, saving the City over \$45,000 per year for each piece of heavy equipment it operates.

Equipment in service at the Solid Waste Facility has a replacement cycle of six years. The equipment must run reliably or we may face environmental risks.

Graders are replaced every six years because the graders are required to maintain the roads in a safe manner. Breakdowns tend to leave areas that are not cleared in a timely manner, leading to complaints and possible dangerous road conditions.

As heavy equipment gets older, increased maintenance and repairs are required, such as replacing motors and transmissions at a cost of \$30,000 and \$20,000 respectively. Breakdowns inevitably occur when equipment is needed, resulting in a cost to engage contractors. The operators supplied by a contractor often cause damage to the streets because they are unaware of hidden hazards such as frost heaved manholes and uneven curbs.

The City has explored contracting out heavy equipment services and leasing vehicles, but recommends the acquisition of replacement vehicles as the most cost-effective option. Status: if replacement continues, heavy-truck fleet is in good condition.

Mobile Tractors:

This class includes Zambonis, skid steers, compactors, and forklifts. The anticipated life span is ten years. This equipment is currently tasked with sidewalk and ice surface maintenance in the winter. Work in the summer includes sidewalk resurfacing and cold mix patches, trail repairs, and grounds maintenance. Status: if replacement continues, Mobile Tractor fleet is in good condition.

Emergency Vehicles:

This includes fire trucks, ambulances and water trucks. Due to increased demand and aged equipment, the replacement life cycle standard has been re-evaluated by Public Works and the Fire and Ambulance Division. The standard for replacement was reduced from 30 years to 20 years for most firefighting equipment. This was done after a replacement part was not available for a fire truck that was over 20 years old. The vehicle was out of service for eight weeks until a part was finally found at a used car wrecker. Parts are no longer manufactured for vehicles over 20 years old.

Ambulances are now replaced on a 12-year cycle, due to the high amount of use and reliability issues with ambulances as they get older. We have three ambulances and one is replaced every four years. The newest is placed on “first out the door” service and the oldest is declared surplus. Status: most of the emergency vehicles are due for replacement since re-evaluation of their life cycle. Condition is poor for most second line duty vehicles while front line vehicles are in good condition.

Other Equipment:

This class of equipment includes the miscellaneous equipment required by City departments to do their work. Included are: riding mowers, snowmobiles (Municipal Enforcement Division), all-terrain vehicles (firefighters), Solid Waste Facility baler, light trailers, line-painters, and crack sealing equipment, trailer-mounted water pumps, and ground thawing equipment. Equipment in this group have a varied life expectancy and replacement cost. Status: for the most part, this equipment group is in good shape and the replacement schedule allows for safe work and consistent workflow.

Stationary Engines:

Our fleet mechanics also maintain and service stationary engines. This includes standby generators for City water and sewer supply and City facilities (City Hall, Fire and Ambulance Division, Multiplex/Fieldhouse). The stationary engines provide standby electricity on water and sewer services in times of power outages or natural disasters. The estimated value of the stationary engines is approximately \$4.8 million. Many of the existing engines are old; three are over 30 years old, Twelve are over 20 years old, Parts are often unavailable for engines over 20 years old. Though these engines get little use, even small breakdowns may result in lengthy repairs.

Status: The Mobile Reserve Fund is not used to replace

stationary engines, although fleet resources are used to maintain them. It is recommended to departmental managers that the older stationary engines be replaced. Fleet-wide, it is recommended that one engine a year be replaced until all stationary engines are less than 20 years old.

Summer Vehicles:

Summer vehicles are those that have been replaced but are still useful in a secondary or low priority role. These are light vehicles used mainly by Community Services staff in the summer or as administration vehicles year round, and one heavy equipment class dump trailer used in winter as a backup or used with a leased tractor for winter snow removal, one vacuum truck and a sanding truck with a belly blade used for backup. If repair of a summer vehicle exceeds an estimated cost of \$500, the vehicle may be removed from service at the discretion of the Works Superintendent.

This project addresses City Council’s Objective #4.1¹.

O&M IMPACT

Maintenance costs will decrease if City of Yellowknife Fleet Management Practices are followed, due to reduced fuel consumption and repair costs. City residents will be highly satisfied with City services. If the fleet is replaced and a schedule followed, services will be more consistent and not interrupted due to equipment failure.

¹ Be accountable to residents by ensuring open and accessible information flow and accessible decision-making.



CAPITAL FUND - 2014 Capital Projects

Vehicle Unit #	New / Replacement	Year	Replacement Year/Standard	Replacement Value
1023-10 CROWN VICTORIA POLICE INTERCEPTOR	Replacement	2010	2014	51,500
1102-04 2004 F350 FORD 1-TON	Replacement	2004	2014	41,200
1103-04 2004 FORD E250 SERVICE VAN	Replacement	2004	2014	36,050
1124-04 FORD F150	Replacement	2004	2014	32,960
1125-04 FORD F150	Replacement	2004	2014	32,960
1174-09 '34' EXMARK MOWER	Replacement	2009	2014	7,210
2022-08 CAT 140M GRADER	Replacement	2008	2014	206,000
2064-08 LANDFILL HAUL TRUCK	Replacement	2008	2014	154,500
2099-02 FREIGHTLINER SWEEPER	Replacement	2002	2014	370,800
3130-04 ZAMBONI ICE-RESURFACER	Replacement	2004	2014	123,600
2118-94 1994 IHC 4900 HAZMAT/RESCUE	Replacement	1994	2014	309,000
Total				\$1,365,780

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