2021

Fleet Resource Plan

November, 2021

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1.0 Executive Summary

As per Council direction staff have developed the 2021 Fleet Resource Plan to establish principles and act as a guiding document to maximize the efficiency and value of current and future assets from acquisition through to disposal. This plan will provide a methodology to evaluate inventory in an effort to determine future needs to meet evolving service levels. The Town of Deep River currently has 30 active fleet assets throughout 5 different departments to support the organization's operations with an estimated capital replacement value of $3,910,000 and an average condition rating of "fair". Essentially, this plan is intended to maximize our ability to have the right equipment to provide the Council determined Municipal services at the identified service levels. The following is a list of information and principles that will be incorporated into applied strategies to achieve this goal;

Fleet Inventory

- Determine the Town's current inventory, condition and current use of fleet assets
- Research and keep up-to-date on new and emerging technologies
- Cross reference current inventory levels and upcoming capital replacement needs with new technology and evolving services & service levels
- Review Fleet Resource Plan annually as part of Capital planning to ensure that new proposed inventories align with both service needs and new technology

Fleet Asset Management

It is critical that this resource plan be aligned with our Asset Management Plan (AMP). A combination of lifecycle and performance base data may be used to ensure the best value is achieved for these assets.

- Identify life expectancy models for assets consistent with AMP and industries standards
- Minimize assets cost while ensuring that services are provided at pre-determined service levels
- Develop a performance index within our future KPIs to determine performance levels
- Ensure that both lifecycle targets and performance data are evaluated on their effectiveness

Procurement & Disposal

It is essential for staff to maximize the efficiency and value of current and future assets from acquisition through to disposal.

- Compare service delivery to fleet necessity to determine optimum fleet assets
- Determine and procure the best suitable asset to obtain the desired level of service
- Provide direction to staff for current and future assets available for disposition while allowing for a fair market valuation and securing the best available value of the asset for the Town
- Leverage opportunities related to used equipment where appropriate

Energy Management

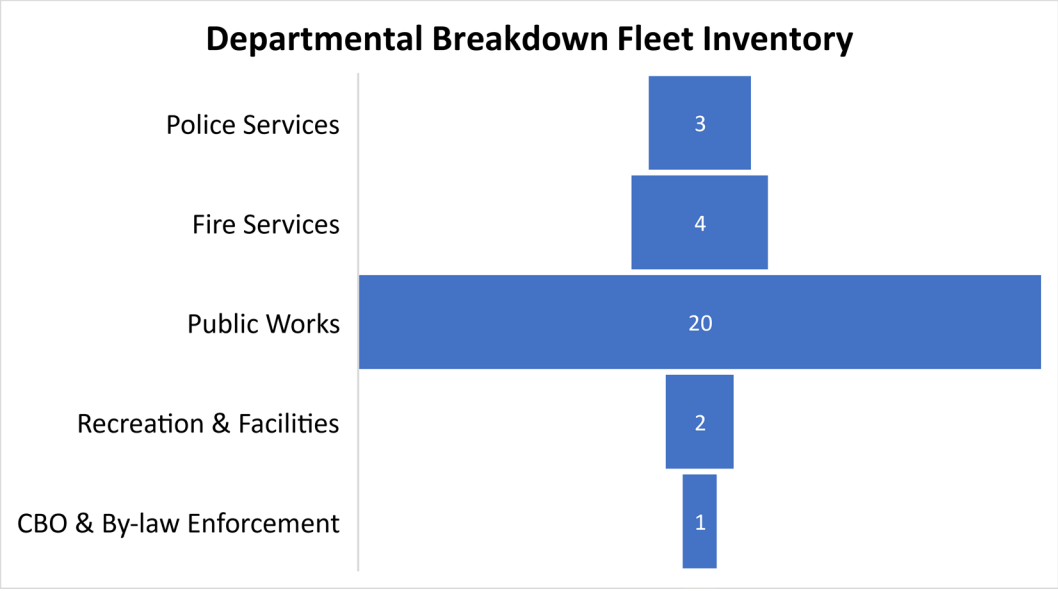
Improving efficiency through reduced fuel consumption, fuel costs, and exploring and implementing alternatives to reduce carbon emissions.

- Find innovative ideas for reducing costs and improving functionality
- Demonstrate a commitment to protecting our environment by decreasing our carbon emissions through committing to removing internal combustion engines from our light-duty truck fleet by the year 2035

2.0 Current Inventory

The Town of Deep River has 30 fleet assets to support the organization's operations within 5 different departments; Police Services, Fire Services, Public Works, Facilities & Recreation and CBO & By-law Enforcement. The fleet assets are managed and administered by each department with maintenance work being completed in house or if necessary, by specialized outsourced vendors. Figure 1 below is a summary of the departmental breakdown of the fleet assets.

Figure 1: Summary of Departmental Breakdown of Fleet Asset Inventory



These five departments have a diverse variety of equipment including emergency service vehicles, heavy equipment, heavy duty, medium duty and light duty trucks, trailers, and specialized units used for maintaining municipal property, facilities and infrastructure, which are summarized in Table 1 and Table 2 below. Table 1 is a summary of the fleet asset groups, and Table 2 below is a more detailed breakdown of the many different asset categories of the fleet. See Appendix A for Fleet Directory.

Table 1: Summary of Fleet Asset Inventory

Asset Group	Number of Assets	Approx. Capital Replacement Value	% Fleet
Police Services	3	$150,000	10
Fire Services	4	$1,240,000	13
Heavy Equipment	4	$1,010,000	13
Heavy Duty Trucks	3	$420,000	10
Medium Duty Trucks	2	$170,000	7
Light Duty Trucks	5	$240,000	17
Other	9	$680,000	30
Total	**30**	**$3,910,000**	**100**

Table 2: Detailed Fleet Asset Inventory

Asset Group	Asset Description	Approx. Capital Replacement Value	Condition
Emergency Services: Police	2016 Dodge Charger	$50,000	Fair
	2014 Dodge Charger	$50,000	Fair
	2020 Chevy Tahoe	$50,000	Good
Emergency Services: Fire	1997 Freightliner Pumper	$400,000	Poor
	2007 International Tanker	$400,000	Fair
	2013 Freightliner Pumper	$400,000	Good
	2013 Dodge Ram 1500	$40,000	Fair
Heavy Equipment: Public Works	2006 Komatzu Loader	$225,000	Fair
	2011 John Deere Loader	$225,000	Fair
	2012 John Deere Grader	$400,000	Good
	2014 John Deere Backhoe	$160,000	Good
Heavy Duty Trucks: Public Works	2008 International	$140,000	Poor
	2014 International	$140,000	Fair
	2016 Freightliner	$140,000	Good
Medium Duty Trucks: Public Works	2008 Chevy Silverado	$80,000	Poor
	2016 Dodge Ram 3500	$90,000	Good
Light Duty Trucks: Public Works	2018 Chevy Silverado	$40,000	Good
	2014 Ford F-150 XLT	$40,000	Fair
	2012 Dodge Ram 1500	$40,000	Poor
Light Duty Trucks: CBO	2018 Chevy Silverado	$40,000	Good
Light Duty Trucks: Recreation	2009 GMC Sierra	$40,000	Poor
Other Equipment: Recreation	2001 Olympia	$135,000	Poor
Other Equipment: Public Works	2004 Trackless	$140,000	Poor
	2009 Trackless	$140,000	Fair
	Sewer Flusher	$60,000	Fair
	Sewer Rodder	$60,000	Fair
	Steam Generator	$15,000	Good
	Wood Chipper	$65,000	Poor
	Air Compressor	$60,000	Fair
	Utility Trailer	$5,000	Good

3.0 Fleet Usage

Table 3: Fleet Usage

	Emergency Services	Building Inspection & By-law Enforcement	Manager Supervision	Winter Maintenance & Snow Removal	Paved Road R&M	Unpaved Road R&M	Sidewalk R&M	Waste Pickup (Garbage, Spring/Fall & Large Item)	Cemetary Operations	Water & Waste Water R&M	Storm Sewer R&M	Locates	Streetlight R&M	Tree Removal	Gardens & Flowers	Parks & Open Space	Facilities	Travel & Pickups
2014 Dodge Charger	X																	
2016 Dodge Charger	X																	
2020 Chevy Tahoe	X																	
2013 Dodge Ram 1500	X																	
1997 Freightliner Pumper	X																	
2007 International Tanker	X																	
2013 Freightliner Pumper	X																	
2006 Komatzu Loader				X	X	X		X		X			X	X	X	X		
2011 John Deere Loader				X	X	X		X		X			X	X	X	X		
2012 John Deere Grader				X		X												
2014 John Deere Backhoe				X	X	X	X	X	X	X	X			X		X		
2008 International				X	X	X		X		X				X	X			
2014 International				X	X	X		X		X				X				
2016 Freightliner				X	X	X		X		X				X				
2008 Chevy Silverado										X	X	X				X		
2016 Dodge Ram 3500				X		X	X									X		
2014 Ford F-150 XLT					X		X	X	X				X	X	X			X
2012 Dodge Ram 1500				X	X		X	X	X				X	X				X
2018 Chevy Silverado			X		X	X												X
2018 Chevy Silverado		X																X
2009 GMC Sierra			X													X	X	X
Olympia																	X	
2004 Trackless				X			X		X									
2009 Trackless				X			X		X									
Sewer Flusher										X	X							
Sewer Rodder										X								
Steam Generator											X							
Wood Chipper								X						X				
Air Compressor					X		X		X		X					X		
Trailer								X	X	X	X				X	X		

4.0 Fleet Asset Management

Staff will continue to evaluate fleet assets based on a combination of lifecycle targets and performance to ensure the best value for these assets, and determined service levels are achieved.

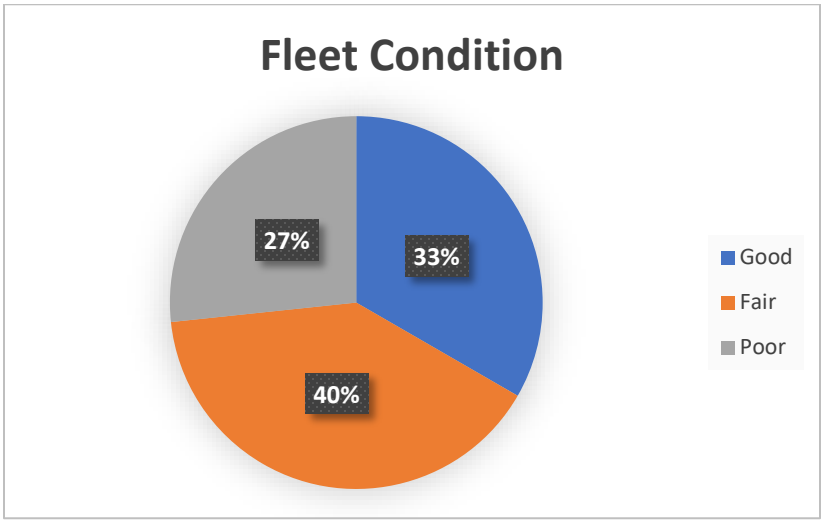
Current Condition

The Town's fleet conditions are evaluated based on the Estimated Service Life (ESL) of the vehicle compared to the actual service life using either the age of the asset or the expected end of service based on usage. Table 3 describes the condition description rating system of the fleet which ranges from "Very Good" to "Very Poor" condition.

Table 4: Rating System

Condition Description	% Estimated Service Life (ESL) Used	Description
Very Good	0-20%	New unit
Good	21-50%	Normal maintenance, good overall condition, low km
Fair	51-80%	Higher maintenance cost, moderate km use
Poor	81-100%	Unit needs to be replaced, high km
Very Poor	>101%	Unit is no longer operational

The diagram below shows a summary of the fleet asset condition. Below, it can be seen that 33% of the assets are in Very Good" to "Good" condition, 40% are in "Fair" condition, and 27% are in "Poor" to "Very Poor" condition. On average, the Town's fleet is in "Fair" condition.



Lifecycle Targets

Determining the best time to replace fleet assets is complex. You want to get the most out of your assets, but there comes a point of diminishing returns with every vehicle. At some point, maintenance expenses outweigh the cost of a new vehicle. So, it is important that vehicles and equipment are replaced at an optimum point before an impact to level of service and an increase in maintenance costs. Due to low mileage, the Town is able to use vehicles for longer than average. The Statistics Canada publication An Update on Depreciation Rates for the Canadian Productivity Accounts states the years of replacement in regards to fleet however, staff adjusted this standard to accommodate for the low mileage and Deep River's historical replacement treads, as shown in Table 5 below.

Table 5: Fleet Replacement

Asset Group	Town Lifecycle Targets	Statistics Canada Lifecycle Targets
Police Vehicles	4	-
Light Duty Trucks	10	7.5
Medium Duty Trucks	15	10.5
Heavy Duty Trucks	17	14.4
Fire Trucks & Heavy Equipment	20	14.4

Performance Index

Staff will continue to deliver quality service, while monitoring the fleet actively to develop a performance index. This performance index will demonstrate and forecast the effectiveness of the fleet by identifying financial impacts, condition, lifecycle target dates, usage, etc. This performance index will be incorporated within the Town's KPI reporting and therefore reported back to Council (Est. Q4 of 2022)

5.0 Procurement & Disposal

The Town's procurement of fleet assets is funded through reserves and taxation, and acquired through Council approval and the Town's Procurement Policy, By-law 33-2010. Moving forward staff will evaluate fleet necessity based on information shown within the performance index to determine the optimum fleet assets for the Town. This process will allow staff to determine and procure the best suitable asset to obtain the predetermined level of service. During the procurement process staff will leverage procurement opportunities where appropriate through the purchase of used equipment.

In order to reduce waste at the Town, assets need to be properly disposed of when they can no longer be used. Staff are proposing the following procedure which will provide a clear and consistent process for the disposal of all surplus assets, while allowing for a fair market valuation and securing the most available value of the asset for the Town.

In order to properly dispose of surplus municipal assets, the department head will conduct two appraisals;

- A fair market asset value based on all available information, useable life remaining, market valuations from trade in options or industry supplier appraisals and the salable condition of the asset
- The value of disposal for scrap or recyclable material.

The greater value of the two appraisals will then be used as a minimum bid for the sale of the asset as per a highest bid/best proposal. If the minimum bid dollar value is not reached or the asset is not sold the department head will proceed with disposal for scrap or recyclable material. The department head will then complete the necessary disposal paperwork with the assistance of the Finance Department. Details of this disposal strategy will be incorporated into the Procurement By-law.

6.0 Planning for the Future

The Town of Deep River's fleet is determined by the level and type of service provided as well as approved level of funding. Table 6 below describes the recent proposed 2022 Capital Budget which contains multiple fleet assets for replacement within the next 5 years.

Table 6: Capital Budget

Fleet Asset	2022	2023	2024	2025	2026
1997 Freightliner Pumper	$200,000	$200,000			
Wood Chipper	$65,000				
2013 Dodge Ram 1500		$40,000			
2014 Dodge Charger		$50,000			
2008 International		$140,000			
2008 Chevy Silverado		$80,000			
Olympia		$135,000			
2016 Dodge Charger			$50,000		
2014 Ford F-150 XLT			$40,000		
2004 Trackless			$140,000		
2006 Komatzu Loader					$225,000

Two proposed fleet assets for replacement in 2023 and 2024 are police service vehicles for $50,000 each. This is aligned with Section 5.0 Replacement which states that police service vehicles are to be replaced every 4 years. After these replacements staff will continue to investigate innovative ideas, possibly electric fleet options, for the police fleet assets.

Furthermore, staff are consistently re-evaluating the need for each asset type and have identified one asset group that needs to be examined further; heavy equipment (2012 John Deere Grader). As identified in Section 4.0 Usage the 2012 John Deere Grader is utilized for unpaved road repairs and maintenance, and winter maintenance and snow removal. The sections of unpaved roads for repairs and maintenance consist of McAnulty Road (approx. 4,500 ft) as well as Pinepoint Road (approx. 1,500 ft). The Town is currently undertaking a West End Secondary Plan (WESP), which includes McAnulty Road, as well as having recently received a proposed concept plan for development of the Pinepoint Area. These two potential developments may change the type of service needed for the John Deere Grader by changing the type of roadway surface. If a new surface material (asphalt, tar and chip, etc.) is applied due to the development then staff will need to re-evaluate the need for the grader within the fleet. Also, the grader is utilized for winter maintenance and snow removal which staff believe could be replaced, while still achieving the level or service, with a plow truck similar to the 2016 Freightliner.

7.0 Energy Management

Fuel is one of the largest on-going costs for fleet however, it can be managed. Staff have recently begun to utilize an electronic fuel tracking system, which tracks both fuel costs and fuel consumption for each asset. Fuel consumption and fuel mileage will assist in determining and increasing fuel efficiency but does not provide a long-term solution to reduce costs while improving functionality. As such, staff will continue to discover and implement innovative ideas that are aligned with the Canadian governments recently announced plan to set the path to net-zero emissions by 2050. A key component of meeting this goal will be accomplished through shifting transportation away from fossil fuels. Currently, the fleet is all powered by fossil fuels with only the 2001 Olympia scheduled for replacement to an electric model in 2023. This goal has pushed governments and automotive manufacturers to bring electric vehicles to market faster and it has been announced that eventually Canada will ban the sale of fuel-burning new cars and light-duty trucks in 2035.

Currently, there are several electric vehicle options however an all-electric pickup truck has not been released but are set to be released starting in 2022. Many manufacturers plan to release fleet versions of electric vehicles, meaning that Town staff need to start thinking of zero emission vehicles now, and how we can seamlessly implement them into our municipal fleet. The Town will have to replace all light-duty trucks before this 2035 target date, so staff are looking at ways to incorporate charging receptacles into the necessary facilities which will be the only capital upgrade required to switch over to a zero-emission fleet of pickup trucks. There are many new technologies being developed, and staff foresee changes coming to our larger fleet vehicles like heavy equipment and heavy-duty trucks. These changes could be in the form of hybrid powertrains, or use of alternate fuels like hydrogen.

A goal of this plan focuses on the replacement of our fleet of gas-powered pickup trucks to electric models since the technology to move to zero emissions is available to consumers starting in 2022. The benefits of moving to an electric pickup truck fleet include:

- A tangible commitment by the Town to lower carbon emissions
- Annual fuel savings
- Decrease in yearly maintenance of fleet
- Braking systems last longer due to regenerative braking systems
- Manufacturers offer an eight-year battery warranty, which closely matches our current practice of keeping pickup trucks for 10 years before replacement

The Town can demonstrate a commitment to protecting our environment by decreasing our carbon emissions through committing to removing internal combustion engines from our light-duty truck fleet by the year 2035. This commitment will allow for the “provision of efficient and effective municipal services” while being “environmentally sustainable” and “embracing science, scientific legacy, innovation and new technologies” (Strategic Plan).

8.0 Conclusion

The intention of the Fleet Resource Plan is to act as a guiding document to ensure efficiency and determine optimum fleet assets to provide a methodology to evaluate inventory in an effort to determine future needs to meet evolving service levels. This plan will be reviewed annually as part of the Capital planning process to ensure that new proposed assets align with both service requirements and available new technology.

Essentially, the Town of Deep River will continue to:

- Deliver quality service
- Keep a high level of maintenance on the fleet
- Monitor the fleet actively
- Review fleet necessity to determine optimum fleet assets
- Procure and disposal of assets to ensure ideal service and value
- Find innovative ideas for reducing costs and improving functionality

Appendix A – Fleet Directory

Department: Police
Vehicle: 2014 Dodge Charger
Kilometers or Hours: 142,774 kms
Condition: Fair

Department: Police
Vehicle: 2016 Dodge Charger
Kilometers or Hours: 113,051 kms
Condition: Fair

Department: Police
Vehicle: 2020 Chevy Tahoe
Kilometers or Hours: 71,604 kms
Condition: Good

Department: Fire
Vehicle: 1997 Freightliner Pumper
Kilometers or Hours: 39,685 kms
Condition: Poor

Department: Fire
Vehicle: 2007 International Tanker
Kilometers or Hours: 11,660kms
Condition: Fair

Department: Fire
Vehicle: 2013 Freightliner Pumper
Kilometers or Hours: 37,441 kms
Condition: Good

Department: Fire
Vehicle: 2013 Dodge Ram 1500 – Light Duty Truck
Kilometers or Hours: 62,524 kms
Condition: Fair

Department: Public Works
Vehicle: 2006 Komatzu Loader – Heavy Equipment
Kilometers or Hours: 10,479 hrs
Condition: Fair

Department: Public Works
Vehicle: 2011 John Deere Loader – Heavy Equipment
Kilometers or Hours: 8,472 hrs
Condition: Fair

Department: Public Works
Vehicle: 2012 John Deere Grader – Heavy Equipment
Kilometers or Hours: 2,958 hrs
Condition: Good

Department: Public Works
Vehicle: 214 John Deere Backhoe – Heavy Equipment
Kilometers or Hours: 2,958 hrs
Condition: Good

Department: Public Works
Vehicle: 2008 International – Heavy Duty Truck
Kilometers or Hours: 131,564 kms
Condition: Poor

Department: Public Works
Vehicle: 2014 International – Heavy Duty Truck
Kilometers or Hours: 59,302 kms
Condition: Fair

Department: Public Works
Vehicle: 2016 Freightliner – Heavy Duty Truck
Kilometers or Hours: 19,337 kms
Condition: Good

Department: Public Works
Vehicle: 2008 Chevy Silverado – Medium Duty Truck
Kilometers or Hours: 58,572kms
Condition: Poor

Department: Public Works
Vehicle: 2016 Dodge Ram 3500– Medium Duty Truck
Kilometers or Hours: 33,202 kms
Condition: Good

Department: Public Works
Vehicle: 2018 Chevy Silverado – Light Duty Truck
Kilometers or Hours: 45,587 kms
Condition: Good

Department: Public Works
Vehicle: 2014 Ford F-150 – Light Duty Truck
Kilometers or Hours: 100,820 kms
Condition: Fair

Department: Public Works
Vehicle: 2012 Dodge Ram 1500 – Light Duty Truck
Kilometers or Hours: 247,252 kms
*Motor replaced at 200,000 kms
Condition: Poor

Department: CBO & By-law Enforcement
Vehicle: 2018 Chevy Silverado – Light Duty Truck
Kilometers or Hours: 21,751 kms
Condition: Good

Department: Recreation/Facilities
Vehicle: 2009 GMC Sierra – Light Duty Truck
Kilometers or Hours: 131,572 kms
Condition: Poor

Department: Recreation/Facilities
Vehicle: Olympia
Kilometers or Hours: 5,941 hrs
Condition: Poor

Department: Public Works

Vehicle: 2004 Trackless
Kilometers or Hours: 3,476 hrs
Condition: Poor

Department: Public Works
Vehicle: 2009 Trackless
Kilometers or Hours: 2,899 hrs
Condition: Fair

Department: Public Works
Vehicle: Sewer Flusher
Kilometers or Hours: 486.4 hrs
Condition: Fair

Department: Public Works
Vehicle: Sewer Rodder
Kilometers or Hours: N/A
Condition: Fair

Department: Public Works
Vehicle: Steam Generator
Kilometers or Hours: N/A
Condition: Good

Department: Public Works
Vehicle: Wood Chipper
Kilometers or Hours: N/A
Condition: Poor

Department: Public Works
Vehicle: Air Compressor
Kilometers or Hours: N/A
Condition: Fair

Department: Public Works
Vehicle: Utility Trailer
Kilometers or Hours: N/A
Condition: Good