WFMA comparison of Life Cycle Cost Management principles to that of extending vehicles beyond planned replacement

WFMA has reviewed capital, repair and maintenance costs from 2010 to 2022. The Agency has estimated average annual costs for vehicles and equipment under 3 categories (light, heavy, specialty) and 4 lifecycles (5,7,10 and 12 year). A comparison of average annual capital costs and repair & maintenance costs under the scenarios is provided below. Capital costs are estimated using actual average vehicle purchase costs, interest rates and estimated resale values. Repair and maintenance costs are based on actual costs and vehicle age. Fuel, insurance, accident costs were excluded from the analysis.

CATEGORY	AVERAGE ANNUAL COSTS	5 YEAR	7 YEAR	10 YEAR	12 YEAR
LIGHT	CAPITAL COSTS	$ 5,988	$ 5,109	$ 4,442	$ 4,082
LIGHT	REPAIR & MTCE COSTS	2,663	2,824	2,975	3,011
LIGHT	TOTAL COSTS	$ 8,652	$ 7,933	$ 7,417	$ 7,093

CATEGORY	AVERAGE ANNUAL COSTS	5 YEAR	7 YEAR	10 YEAR	12 YEAR
HEAVY	CAPITAL COSTS	$14,342	$ 13,077	$ 11,629	$10,798
HEAVY	REPAIR & MTCE COSTS	10,103	10,740	10,771	10,717
HEAVY	TOTAL COST	$24,445	$ 23,817	$ 22,400	$21,515

CATEGORY	AVERAGE ANNUAL COSTS	5 YEAR	7 YEAR	10 YEAR	12 YEAR
SPECIALTY	CAPITAL COSTS	$10,005	$ 8,947	$ 8,113	$ 7,533
SPECIALTY	REPAIR & MTCE COSTS	8,168	8,440	8,458	8,499
SPECIALTY	TOTAL COSTS	$18,174	$ 17,386	$ 16,570	$16,032

NOTES:

Average annual capital costs decline as vehicle replacements are extended. Average annual repair and maintenance costs increase as vehicle replacements are extended. When combined, overall average annual costs decrease as replacements are extended.

The sample of fleet vehicles reduced significantly with age as vehicles were replaced and/or removed from the fleet. By year 10 only 23% of vehicles remained. By year 12, it was 10%.

Fleet represents only a portion of the service cost. Other costs and impacts are not included in the analysis. For example, vehicle downtime increases for older vehicles which impairs department service delivery and sometimes results in increased rental costs or hired equipment costs incurred by the department. Maintaining an older fleet increases risks to service delivery for heavy & specialty equipment where rentals are not readily available.