Fire Apparatus Study

City of Norwich

September 3, 2019

Written by City Manager John L. Salomone

With the assistance of Comptroller, Joshua Pothier

Special thanks to:

Fire Chief Keith Milton - East Great Plains

Fire Chief Aaron Westervelt - Laurel Hill

Fire Chief Tracy Montoya - Norwich Fire

Fire Chief Carroll Spaulding III - Occum

Fire Chief Timothy Jencks - Taftville

Fire Chief Frank Blanchard - Yantic

Introduction

In November 2017, at referendum, $2,800,000 was authorized by the voters to replace five fire apparatus of various types to four of the volunteer fire companies. These were the first vehicles acquired by the volunteer fire departments [VFD] in approximately 10 years. One Norwich Fire Department vehicle [NFD] was purchased in 2013.

On February 20, 2019 the City Council of Norwich authorized and directed the City Manager perform a needs analysis and replacement schedule of the existing fire apparatus to be completed and delivered to the Norwich City Council on or before September 3, 2019. What is the potential cost for replacement of the VFD and NFD fleet [excluding automobiles] over the next 20 years? How will is this multimillion dollar expenditure financed and what is the criteria for replacements and on what schedule? Finally, can the City afford to spend what would be needed to keep the fleet current? A common thought was that the VFD took "turns" in receiving funding to purchase fire apparatus. There was a more elaborate process internalized by the VFD to determine which department would receive the funding for the next piece of equipment. The individual fire chiefs of the VFD would meet with their respective truck committees to determine the most logical new acquisition. It wasn't merely the next one in line that would receive the funding but rather a process to determine the new equipment. I look forward to continue working with the fire chiefs as we work on a new acquisition schedule for fire apparatus.

Methodology

A matrix chart was prepared to systemize the order of selection of new equipment for the various VFD's. The participants in preparing this matrix were the six fire chiefs. In addition, the City

Manager and the Comptroller were part of the team. The matrix chart was prepared with the following columns:

- **Department name** - the name of each VFD and the NFD.
- **Equipment type** - aerial ladder, engine, hose tender, and rescue.
- **Apparatus** - ladder, truck, tower, engine tank, squad, hose tender, rescue.
- **Make/model** - Smeal, Pierce, Ferrara inferno, Mack, Spartan, Freightliner, GMC Ranger.
- **Year** - year of acquisition of equipment.
- **Age** - number of years since equipment was purchased.
- **Pump capacity** - gallons per minute of water.
- **Tank capacity** - amount of gallons storage in each vehicle
- **Mileage** - mileage on the odometer of each vehicle.
- **Hours** - amount of time the engine has run; including when the vehicle is stationary and pumps are engaged.
- **Annual runs** - a three-year average of the number of times a vehicle was dispatched to a location.
- **Priority of replacement** - importance and order of replacement of equipment scale is from 1 to 4.
- **Useful life**

Useful Life Estimate	
1	0 to 5 years
2	5 to 10 years
3	10 to 15 years
4	15 plus years

- **Estimated replacement cost** - In 2019, dollars in the base year. Years 2020-2039 are indexed at 2.5% per year to account for inflation of the acquisition cost. Thus, an engine priced at $702,000 would be increased by 2.5% or an increase of $17,550.
- **Remaining useful life** - how many years remained before the apparatus has to be replaced, if less than "1" will be entered.

At the bottom of the chart on the estimated funding uses are:

- Bond 2017 – the bond that was approved at the November 2017 referendum
- New bonds to be proposed, if necessary.
- Capital - Funds that would be contained in the annual Capital improvement Program.
- Grants
- Difference - The difference amount of expenditures necessary and the amount of funding from various sources.
- Cumulative - The carry-over of surplus funds from Fiscal years.

Finally, there is the general fund appropriations impact. This would include the principal and interest on any new bond issues and the capital contribution for each fiscal year. For example, in fiscal year 2021; the $115,000 (principal) plus the $92,000 (interest) added to the $625,000 capital contribution equals $832,000. This would be the total impact of any debt service plus the capital contribution to fund the yearly allocation.

If the reader returns to the matrix chart and locates fiscal year 2039, there is a summary of the first 20 years of the funding program.

Funding Sources

Bond 2017……. $2,815,000

New Bonds…… $3,400,000

Capital contribution……$14,966,241

Total funding sources…… $21,181,241*****

*****if the city were to eliminate the purchase of five vehicles over 20 years the annual cost would be considerably lower. Attached also, is a five vehicle reduction scenario with adjusted annual expenditures.

Matrix Chart Conclusions

1. To maintain the scenario of purchasing all vehicles over a 20 year period would require an additional bond issue of $3.4 million. With the replacement schedule as proposed on attachment one, over the next 20 to 40 years, no additional bond issues would be required.
2. All options would have a balance carryover from each fiscal year.
3. The reduction of five vehicles phased out over a 20 year period would require some alteration of emergency responses for each separate department. I believe that the gradual reduction of vehicles can be accomplished. All departments already have a close interrelationship when responding to emergency calls. The interdepartmental cooperation would have to continue and be increased so that new automatic aid and mutual aid would continue and enhanced.
4. The City Council with the assistance of the Public Safety Committee can consider my recommendations. The reductions can be phased in over a number of years as the

mutual aid responsibilities are altered to the new vehicle allocations within each department.

5. Without the reduction in some vehicles, I don't believe that the City can sustain the funding at the maximum level. See attachment number two. This decision is a compromise which is in the best interests of the City.

Attachment 1

20 Year Funding Summary

City of Norwich
Fire Apparatus Funding Schedule
Last updated: 8/14/2019

Useful Life Estimate:	
1	0-5 Years
2	5-10 Years
3	10-15 Years
4	15+ Years

																1	2	3	4	5	6	7	8	9	10
Department	**Type**	**APPARATUS**	**MAKE/MODEL**	**YEAR**	**AGE**	**PUMP CAPACITY**	**TANK CAPACITY**	**MILEAGE**	**HOURS**	**ANNUAL RUNS (3-yr avg)**	**PRIORITY OF REPLACEMENT**	**USEFUL LIFE (see above)**	**Est Repl Cost (2019 Dollars)**	**Life (see Assumptions)**	**Remaining Life (if less than zero, "1" will be entered)**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
EGPVFD	Aerial Ladder	Ladder-5	Smeal	2001	18	1,500	500	3,440	4,897	275	2	2	$ 800,000	23	5		$ -	$ -	$ -	$ -	$ 905,127	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-1	Pierce	2010	9	N/A	N/A	21,859	3,179/1,031	385	3	2	$ 1,000,000	22	13		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-2 (reserve)	Simon LTI	1995	24	1500	300	36,859	3259/2,226*		3**	2	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	Ferrara Inferno	2006	13	N/A	N/A	14,580	2,174	155	3	3	$ 1,000,000	24	11		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine Tank-51	PemFab/Ranger	1988	31	1,500	2000	36,263	4,147	250	1a in process	in process	$ 702,000	28	1	$ 702,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine-52	PemFab/Ranger	1993	26	1,500	1000	37,408	788*	300	1a	1	$ 650,000	28	2		$ -	$ 682,906	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-62	Ferrara HME	2004	15	1,500	500	27,962	2,065	91	4	4	$ 650,000	30	15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-61	Mack CV686F	1984	35	1,500	500	48,650	4,446	91	in process	in process	$ 366,000	30	1	$ 366,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Squad-A	Ferrara Inferno	2001	18	2,000	500	98,825	10,159	1059	1a	1	$ 695,000	20	2		$ -	$ 730,184	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-2	Ferrara Ignitor	2007	12	1,500	750	74,411	7,845	988	2	2	$ 650,000	21	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761	$ -
NFD	Engine	Engine-3	Ferrara Ignitor	2013	6	1,500	500	23,333	2,908	862	4	3	$ 650,000	22	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-4 (reserve)	E-One Cyclone	1995	24	1500	750	90,241	5,873		1a**	1	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	Pierce Lane	1991	28	1,500	750	33,600	2,590	125	1	1	$ 650,000	29	1		$ 666,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-42	Ferrara	1997	22	1,500	1,000	52,258	2,495	220	2	2	$ 650,000	28	6		$ -	$ -	$ -	$ -	$ -	$ 753,801	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-21	Pierce Dash	1986	33	1,500	1,000	61,028	5,565	350	In process	4	$ 697,000	27	1	$ 697,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-22	Pierce Lane	1995	24	1,500	1,000	36,931	3,274	300	1	1	$ 650,000	28	4		$ -	$ -	$ -	$ 717,478	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-31	Mack CF	1979	40	1,250	650	66,087	5,697	187	In process	4	$ 714,000	29	1	$ 714,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-32	Pierce Dash	2000	19	2,000	500	49,158	966	324	5	2	$ 650,000	27	8		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962	$ -
YVFD	Engine	Engine-33	Pierce Dash	2007	12	2,000	500	36,706	2,779	285	6	3	$ 650,000	28	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Hose Tender	Hose Tender-6	Ford Middlesex	1983	36	1,250	0	25,607	2,035	50	1	1	$ 425,000	30	1		$ 435,625	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Rescue	Rescue-5	SVI/Spartan	2010	19	N/A	N/A	9,578	1,563	225	5	3	$ 800,000	28	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090	$ -
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	Freightliner	2006	13	N/A	N/A	7,582	898			2	$ 800,000	30	17		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Rescue	Rescue-2	GMC Ranger	1981	38	N/A	N/A	24,124	N/A	113	In process	0	$ 336,000	29	1	$ 336,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Rescue	Rescue-3	Mack R-Model	1989	30	N/A	N/A	33,684	1,861	162	2	1	$ 1,150,000	29	1		$ 1,178,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Estimated Funding Uses																$ 2,815,000	$ 2,280,625	$ 1,413,090	$ -	$ 717,478	$ 905,127	$ 753,801	$ -	$ 791,962	$ 1,810,851	$ -
Funding Sources																										
Bond - 2017																$ 2,815,000										
New Bonds																	$ 2,300,000	$ 1,100,000			$ -	$ -			$ -	$ -
Capital																		$ 625,000	$ 640,625	$ 656,641	$ 673,057	$ 689,883	$ 707,130	$ 724,808	$ 742,928	$ 761,501
Grant																										
Total Funding Sources																$ 2,815,000	$ 2,300,000	$ 1,725,000	$ 640,625	$ 656,641	$ 673,057	$ 689,883	$ 707,130	$ 724,808	$ 742,928	$ 761,501
Difference																$ -	$ 19,375	$ 311,910	$ 640,625	$ (60,837)	$ (232,070)	$ (63,918)	$ 707,130	$ (67,154)	$ (1,067,923)	$ 761,501
Cumulative																$ -	$ 19,375	$ 331,285	$ 971,910	$ 911,073	$ 679,003	$ 615,085	$ 1,322,215	$ 1,255,061	$ 187,138	$ 948,639
General Fund Appropriations Impact																										
Principal on hypothetical new bond issues																		$ 115,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000
Interest on hypothetical new bond issues																		$ 92,000	$ 153,250	$ 155,750	$ 147,250	$ 138,750	$ 130,250	$ 121,750	$ 113,250	$ 104,750
Capital																		$ 625,000	$ 640,625	$ 656,641	$ 673,057	$ 689,883	$ 707,130	$ 724,808	$ 742,928	$ 761,501
																		$ 832,000	$ 963,875	$ 982,391	$ 990,307	$ 998,633	$ 1,007,380	$ 1,016,558	$ 1,026,178	$ 1,036,251

City of Norwich
Fire Apparatus Funding Schedule
Last updated: 8/14/2019

			11	12	13	14	15	16	17	18	19	20	
Department	**Type**	**APPARATUS**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**20-Year Total**
EGPVFD	Aerial Ladder	Ladder-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 905,127
NFD	Aerial Ladder	Truck-1	$ -	$ -	$ 1,378,511	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,378,511
NFD	Aerial Ladder	Truck-2 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	$ 1,312,087	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,312,087
EGPVFD	Engine	Engine Tank-51	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 702,000
EGPVFD	Engine	Engine-52	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 682,906
LHVFD	Engine	Engine-62	$ -	$ -	$ -	$ -	$ 941,394	$ -	$ -	$ -	$ -	$ -	$ 941,394
LHVFD	Engine	Engine-61	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 366,000
NFD	Engine	Squad-A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 730,184
NFD	Engine	Engine-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761
NFD	Engine	Engine-3	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
NFD	Engine	Engine-4 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 666,250
OVFD	Engine	Engine-42	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 753,801
TVFD	Engine	Engine Tank-21	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 697,000
TVFD	Engine	Engine Tank-22	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 717,478
YVFD	Engine	Engine-31	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 714,000
YVFD	Engine	Engine-32	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962
YVFD	Engine	Engine-33	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
LHVFD	Hose Tender	Hose Tender-6	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 435,625
EGPVFD	Rescue	Rescue-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,217,295	$ -	$ -	$ -	$ 1,217,295
TVFD	Rescue	Rescue-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 336,000
YVFD	Rescue	Rescue-3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,178,750
		Estimated Funding Uses	$ 1,312,087	$ -	$ 1,378,511	$ -	$ 941,394	$ 1,929,858	$ 1,217,295	$ -	$ -	$ -	$ 18,267,079
		Funding Sources											$ -
		Bond - 2017											$ 2,815,000
		New Bonds			$ -			$ -	$ -	$ -			$ 3,400,000
		Capital	$ 780,539	$ 800,052	$ 820,053	$ 840,554	$ 861,568	$ 883,107	$ 905,185	$ 927,815	$ 951,010	$ 974,785	$ 14,966,241
		Grant											$ -
		Total Funding Sources	$ 780,539	$ 800,052	$ 820,053	$ 840,554	$ 861,568	$ 883,107	$ 905,185	$ 927,815	$ 951,010	$ 974,785	$ 21,181,241
		Difference	$ (531,548)	$ 800,052	$ (558,458)	$ 840,554	$ (79,826)	$ (1,046,751)	$ (312,110)	$ 927,815	$ 951,010	$ 974,785	
		Cumulative	$ 417,091	$ 1,217,143	$ 658,685	$ 1,499,239	$ 1,419,413	$ 372,662	$ 60,552	$ 988,367	$ 1,939,377	$ 2,914,162	$ 2,914,162
General Fund Appropriations Impact													
		Principal on hypothetical new bond issues	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	$ 170,000	
		Interest on hypothetical new bond issues	$ 96,250	$ 87,750	$ 79,250	$ 70,750	$ 62,250	$ 53,750	$ 45,250	$ 36,750	$ 28,250	$ 19,750	
		Capital	$ 780,539	$ 800,052	$ 820,053	$ 840,554	$ 861,568	$ 883,107	$ 905,185	$ 927,815	$ 951,010	$ 974,785	
			$ 1,046,789	$ 1,057,802	$ 1,069,303	$ 1,081,304	$ 1,093,818	$ 1,106,857	$ 1,120,435	$ 1,134,565	$ 1,149,260	$ 1,164,535	

Attachment 2

Hypothetical 4 Vehicle Reductions

City of Norwich
Fire Apparatus Funding Schedule
Last updated: 8/15/2019

WITH 4 HYPOTHETICAL REDUCTIONS

Useful Life Estimate:	
1	0-5 Years
2	5-10 Years
3	10-15 Years
4	15+ Years

																1	2	3	4	5	6	7	8	9	10
Department	**Type**	**APPARATUS**	**MAKE/MODEL**	**YEAR**	**AGE**	**PUMP CAPACITY**	**TANK CAPACITY**	**MILEAGE**	**HOURS**	**ANNUAL RUNS (3-yr avg)**	**PRIORITY OF REPLACEMENT**	**USEFUL LIFE (see above)**	**Est Repl Cost (2019 Dollars)**	**Life (see Assumptions)**	**Remaining Life (if less than zero, "1" will be entered)**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
EGPVFD	Aerial Ladder	Ladder-5	Smeal	2001	18	1,500	500	3,440	4,897	275	2	2	$ 800,000	23	5		$ -	$ -	$ -	$ -	$ 905,127	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-1	Pierce	2010	9	N/A	N/A	21,859	3,179/1,031	385	3	2	$ 1,000,000	22	13		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-2 (reserve)	Simon LTI	1995	24	1500	300	36,859	3259/2,226*		3**	2	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	Ferrara Inferno	2006	13	N/A	N/A	14,580	2,174	155	3	3	$ 1,000,000	24	11		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine Tank-51	PemFab/Ranger	1988	31	1,500	2000	36,263	4,147	250	1a in process	in process	$ 702,000	28	1	$ 702,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine-52	PemFab/Ranger	1993	26	1,500	1000	37,408	788*	300	1a	1	$ 650,000	28	2		$ -	$ 682,906	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-62	Ferrara HME	2004	15	1,500	500	27,962	2,065	91	4	4	$ 650,000	30	15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-61	Mack CV686F	1984	35	1,500	500	48,650	4,446	91	in process	in process	$ 366,000	30	1	$ 366,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Squad-A	Ferrara Inferno	2001	18	2,000	500	98,825	10,159	1059	1a	1	$ 695,000	20	2		$ -	$ 730,184	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-2	Ferrara Ignitor	2007	12	1,500	750	74,411	7,845	988	2	2	$ 650,000	21	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761	$ -
NFD	Engine	Engine-3	Ferrara Ignitor	2013	6	1,500	500	23,333	2,908	862	4	3	$ 650,000	22	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-4 (reserve)	E-One Cyclone	1995	24	1500	750	90,241	5,873		1a**	1	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	Pierce Lane	1991	28	1,500	750	33,600	2,590	125	1	1	$ 650,000	29	1		$ 666,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-42	Ferrara	1997	22	1,500	1,000	52,258	2,495	220	2	2	$ 650,000	28	6		$ -	$ -	$ -	$ -	$ -	$ 753,801	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-21	Pierce Dash	1986	33	1,500	1,000	61,028	5,565	350	In process	4	$ 697,000	27	1	$ 697,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-22	Pierce Lane	1995	24	1,500	1,000	36,931	3,274	300	1	1	$ 650,000	28	4		$ -	$ -	$ -	$ 717,478	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-31	Mack CF	1979	40	1,250	650	66,087	5,697	187	In process	4	$ 714,000	29	1	$ 714,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-32	Pierce Dash	2000	19	2,000	500	49,158	966	324	5	2	$ 650,000	27	8		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962	$ -
YVFD	Engine	Engine-33	Pierce Dash	2007	12	2,000	500	36,706	2,779	285	6	3	$ 650,000	28	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Hose Tender	Hose Tender-6	Ford Middlesex	1983	36	1,250	0	25,607	2,035	50	1	1	$ 425,000	30	1		$ 435,625	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Rescue	Rescue-5	SVI/Spartan	2010	19	N/A	N/A	9,578	1,563	225	5	3	$ 800,000	28	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090	$ -
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	Freightliner	2006	13	N/A	N/A	7,582	898			2	$ 800,000	30	17		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Rescue	Rescue-2	GMC Ranger	1981	38	N/A	N/A	24,124	N/A	113	In process	0	$ 336,000	29	1	$ 336,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Rescue	Rescue-3	Mack R-Model	1989	30	N/A	N/A	33,684	1,861	162	2	1	$ 1,150,000	29	1		$ 1,178,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		HYPOTHETICAL REDUCTIONS															**$ (500,000)**	**$ (700,000)**							**$ (800,000)**	
Estimated Funding Uses																$ 2,815,000	$ 1,780,625	$ 713,090	$ -	$ 717,478	$ 905,127	$ 753,801	$ -	$ 791,962	$ 1,010,851	$ -
Funding Sources																										
Bond - 2017																$ 2,815,000										
New Bonds																	$ 1,800,000	$ 200,000			$ -	$ -			$ -	$ -
Capital																		$ 550,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
Grant																										
Total Funding Sources																$ 2,815,000	$ 1,800,000	$ 750,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
Difference																$ -	$ 19,375	$ 36,910	$ 563,750	$ (139,634)	$ (312,837)	$ (146,704)	$ 622,274	$ (154,131)	$ (357,074)	$ 670,121
Cumulative																$ -	$ 19,375	$ 56,285	$ 620,035	$ 480,401	$ 167,564	$ 20,860	$ 643,134	$ 489,003	$ 131,929	$ 802,050
General Fund Appropriations Impact																										
Principal on hypothetical new bond issues																		$ 90,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Interest on hypothetical new bond issues																		$ 72,000	$ 93,500	$ 90,500	$ 85,500	$ 80,500	$ 75,500	$ 70,500	$ 65,500	$ 60,500
Capital																		$ 550,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
																		$ 712,000	$ 757,250	$ 768,344	$ 777,790	$ 787,597	$ 797,774	$ 808,331	$ 819,277	$ 830,621

City of Norwich
Fire Apparatus Funding Schedule **WITH 4 H**
Last updated: 8/15/2019

			11	12	13	14	15	16	17	18	19	20	
Department	**Type**	**APPARATUS**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**20-Year Total**
EGPVFD	Aerial Ladder	Ladder-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 905,127
NFD	Aerial Ladder	Truck-1	$ -	$ -	$ 1,378,511	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,378,511
NFD	Aerial Ladder	Truck-2 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	$ 1,312,087	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,312,087
EGPVFD	Engine	Engine Tank-51	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 702,000
EGPVFD	Engine	Engine-52	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 682,906
LHVFD	Engine	Engine-62	$ -	$ -	$ -	$ -	$ 941,394	$ -	$ -	$ -	$ -	$ -	$ 941,394
LHVFD	Engine	Engine-61	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 366,000
NFD	Engine	Squad-A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 730,184
NFD	Engine	Engine-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761
NFD	Engine	Engine-3	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
NFD	Engine	Engine-4 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 666,250
OVFD	Engine	Engine-42	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 753,801
TVFD	Engine	Engine Tank-21	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 697,000
TVFD	Engine	Engine Tank-22	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 717,478
YVFD	Engine	Engine-31	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 714,000
YVFD	Engine	Engine-32	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962
YVFD	Engine	Engine-33	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
LHVFD	Hose Tender	Hose Tender-6	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 435,625
EGPVFD	Rescue	Rescue-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,217,295	$ -	$ -	$ -	$ 1,217,295
TVFD	Rescue	Rescue-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 336,000
YVFD	Rescue	Rescue-3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,178,750
		HYPOTHETICAL REDU						**$ (950,000)**					**$ (2,950,000)**
		Estimated Funding Uses	$ 1,312,087	$ -	$ 1,378,511	$ -	$ 941,394	$ 979,858	$ 1,217,295	$ -	$ -	$ -	$ 15,317,079
		Funding Sources											$ -
		Bond - 2017											$ 2,815,000
		New Bonds			$ -			$ -	$ -	$ -			$ 2,000,000
		Capital	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811	$ 13,170,294
		Grant											$ -
		Total Funding Sources	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811	$ 17,985,294
		Difference	$ (625,213)	$ 704,046	$ (656,864)	$ 739,688	$ (183,214)	$ (202,723)	$ (420,732)	$ 816,477	$ 836,889	$ 857,811	
		Cumulative	$ 176,837	$ 880,883	$ 224,019	$ 963,707	$ 780,493	$ 577,770	$ 157,038	$ 973,515	$ 1,810,404	$ 2,668,215	$ 2,668,215

General Fund Appropriations Impact

Principal on hypothetical new bond issues	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	
Interest on hypothetical new bond issues	$ 55,500	$ 50,500	$ 45,500	$ 40,500	$ 35,500	$ 30,500	$ 25,500	$ 20,500	$ 15,500	$ 10,500	
Capital	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811	
	$ 842,374	$ 854,546	$ 867,147	$ 880,188	$ 893,680	$ 907,635	$ 922,063	$ 936,977	$ 952,389	$ 968,311	

Attachment 3

Hypothetical 5 Vehicle Reductions

City of Norwich
Fire Apparatus Funding Schedule
Last updated: 8/15/2019

WITH 5 HYPOTHETICAL REDUCTIONS

Useful Life Estimate:	
1	0-5 Years
2	5-10 Years
3	10-15 Years
4	15+ Years

																1	2	3	4	5	6	7	8	9	10
Department	**Type**	**APPARATUS**	**MAKE/MODEL**	**YEAR**	**AGE**	**PUMP CAPACITY**	**TANK CAPACITY**	**MILEAGE**	**HOURS**	**ANNUAL RUNS (3-yr avg)**	**PRIORITY OF REPLACEMENT**	**USEFUL LIFE (see above)**	**Est Repl Cost (2019 Dollars)**	**Life (see Assumptions)**	**Remaining Life (if less than zero, "1" will be entered)**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
EGPVFD	Aerial Ladder	Ladder-5	Smeal	2001	18	1,500	500	3,440	4,897	275	2	2	$ 800,000	23	5		$ -	$ -	$ -	$ -	$ 905,127	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-1	Pierce	2010	9	N/A	N/A	21,859	3,179/1,031	385	3	2	$ 1,000,000	22	13		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Aerial Ladder	Truck-2 (reserve)	Simon LTI	1995	24	1500	300	36,859	3259/2,226*		3**	2	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	Ferrara Inferno	2006	13	N/A	N/A	14,580	2,174	155	3	3	$ 1,000,000	24	11		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine Tank-51	PemFab/Ranger	1988	31	1,500	2000	36,263	4,147	250	1a in process	in process	$ 702,000	28	1	$ 702,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Engine	Engine-52	PemFab/Ranger	1993	26	1,500	1000	37,408	788*	300	1a	1	$ 650,000	28	2		$ -	$ 682,906	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-62	Ferrara HME	2004	15	1,500	500	27,962	2,065	91	4	4	$ 650,000	30	15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Engine	Engine-61	Mack CV686F	1984	35	1,500	500	48,650	4,446	91	in process	in process	$ 366,000	30	1	$ 366,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Squad-A	Ferrara Inferno	2001	18	2,000	500	98,825	10,159	1059	1a	1	$ 695,000	20	2		$ -	$ 730,184	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-2	Ferrara Ignitor	2007	12	1,500	750	74,411	7,845	988	2	2	$ 650,000	21	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761	$ -
NFD	Engine	Engine-3	Ferrara Ignitor	2013	6	1,500	500	23,333	2,908	862	4	3	$ 650,000	22	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NFD	Engine	Engine-4 (reserve)	E-One Cyclone	1995	24	1500	750	90,241	5,873		1a**	1	RESERVE	N/A	N/A		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	Pierce Lane	1991	28	1,500	750	33,600	2,590	125	1	1	$ 650,000	29	1		$ 666,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-42	Ferrara	1997	22	1,500	1,000	52,258	2,495	220	2	2	$ 650,000	28	6		$ -	$ -	$ -	$ -	$ -	$ 753,801	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-21	Pierce Dash	1986	33	1,500	1,000	61,028	5,565	350	In process	4	$ 697,000	27	1	$ 697,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Engine	Engine Tank-22	Pierce Lane	1995	24	1,500	1,000	36,931	3,274	300	1	1	$ 650,000	28	4		$ -	$ -	$ -	$ 717,478	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-31	Mack CF	1979	40	1,250	650	66,087	5,697	187	In process	4	$ 714,000	29	1	$ 714,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Engine	Engine-32	Pierce Dash	2000	19	2,000	500	49,158	966	324	5	2	$ 650,000	27	8		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962	$ -	$ -
YVFD	Engine	Engine-33	Pierce Dash	2007	12	2,000	500	36,706	2,779	285	6	3	$ 650,000	28	16		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LHVFD	Hose Tender	Hose Tender-6	Ford Middlesex	1983	36	1,250	0	25,607	2,035	50	1	1	$ 425,000	30	1		$ 435,625	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EGPVFD	Rescue	Rescue-5	SVI/Spartan	2010	19	N/A	N/A	9,578	1,563	225	5	3	$ 800,000	28	9		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090	$ -
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	Freightliner	2006	13	N/A	N/A	7,582	898			2	$ 800,000	30	17		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Rescue	Rescue-2	GMC Ranger	1981	38	N/A	N/A	24,124	N/A	113	In process	0	$ 336,000	29	1	$ 336,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
YVFD	Rescue	Rescue-3	Mack R-Model	1989	30	N/A	N/A	33,684	1,861	162	2	1	$ 1,150,000	29	1		$ 1,178,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		HYPOTHETICAL REDUCTIONS															**$ (1,000,000)**	**$ (700,000)**							**$ (800,000)**	
Estimated Funding Uses																$ 2,815,000	$ 1,280,625	$ 713,090	$ -	$ 717,478	$ 905,127	$ 753,801	$ -	$ 791,962	$ 1,010,851	$ -
Funding Sources																										
Bond - 2017																$ 2,815,000										
New Bonds																	$ 1,500,000	$ -			$ -	$ -			$ -	$ -
Capital																		$ 550,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
Grant																										
Total Funding Sources																$ 2,815,000	$ 1,500,000	$ 550,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
Difference																$ -	$ 219,375	$ (163,090)	$ 563,750	$ (139,634)	$ (312,837)	$ (146,704)	$ 622,274	$ (154,131)	$ (357,074)	$ 670,121
Cumulative																$ -	$ 219,375	$ 56,285	$ 620,035	$ 480,401	$ 167,564	$ 20,860	$ 643,134	$ 489,003	$ 131,929	$ 802,050
General Fund Appropriations Impact																										
Principal on hypothetical new bond issues																		$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000
Interest on hypothetical new bond issues																		$ 60,000	$ 71,250	$ 67,500	$ 63,750	$ 60,000	$ 56,250	$ 52,500	$ 48,750	$ 45,000
Capital																		$ 550,000	$ 563,750	$ 577,844	$ 592,290	$ 607,097	$ 622,274	$ 637,831	$ 653,777	$ 670,121
																		$ 685,000	$ 710,000	$ 720,344	$ 731,040	$ 742,097	$ 753,524	$ 765,331	$ 777,527	$ 790,121

City of Norwich
Fire Apparatus Funding Schedule **WITH 5 H**
Last updated: 8/15/2019

			11	12	13	14	15	16	17	18	19	20	
Department	**Type**	**APPARATUS**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**20-Year Total**
EGPVFD	Aerial Ladder	Ladder-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 905,127
NFD	Aerial Ladder	Truck-1	$ -	$ -	$ 1,378,511	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,378,511
NFD	Aerial Ladder	Truck-2 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TVFD	Aerial Ladder	Tower-25	$ 1,312,087	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,312,087
EGPVFD	Engine	Engine Tank-51	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 702,000
EGPVFD	Engine	Engine-52	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 682,906
LHVFD	Engine	Engine-62	$ -	$ -	$ -	$ -	$ 941,394	$ -	$ -	$ -	$ -	$ -	$ 941,394
LHVFD	Engine	Engine-61	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 366,000
NFD	Engine	Squad-A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 730,184
NFD	Engine	Engine-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 811,761
NFD	Engine	Engine-3	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
NFD	Engine	Engine-4 (reserve)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OVFD	Engine	Engine-41	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 666,250
OVFD	Engine	Engine-42	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 753,801
TVFD	Engine	Engine Tank-21	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 697,000
TVFD	Engine	Engine Tank-22	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 717,478
YVFD	Engine	Engine-31	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 714,000
YVFD	Engine	Engine-32	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 791,962
YVFD	Engine	Engine-33	$ -	$ -	$ -	$ -	$ -	$ 964,929	$ -	$ -	$ -	$ -	$ 964,929
LHVFD	Hose Tender	Hose Tender-6	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 435,625
EGPVFD	Rescue	Rescue-5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 999,090
NFD	Rescue	Rescue-1 (formerly Hazmat-1)	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,217,295	$ -	$ -	$ -	$ 1,217,295
TVFD	Rescue	Rescue-2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 336,000
YVFD	Rescue	Rescue-3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,178,750
		HYPOTHETICAL REDU						**$ (950,000)**					**$ (3,450,000)**
		Estimated Funding Uses	$ 1,312,087	$ -	$ 1,378,511	$ -	$ 941,394	$ 979,858	$ 1,217,295	$ -	$ -	$ -	$ 14,817,079
		Funding Sources											$ -
		Bond - 2017											$ 2,815,000
		New Bonds			$ -			$ -	$ -	$ -			$ 1,500,000
		Capital	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811	$ 13,170,294
		Grant											$ -
		Total Funding Sources	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811	$ 17,485,294
		Difference	$ (625,213)	$ 704,046	$ (656,864)	$ 739,688	$ (183,214)	$ (202,723)	$ (420,732)	$ 816,477	$ 836,889	$ 857,811	
		Cumulative	$ 176,837	$ 880,883	$ 224,019	$ 963,707	$ 780,493	$ 577,770	$ 157,038	$ 973,515	$ 1,810,404	$ 2,668,215	$ 2,668,215

General Fund Appropriations Impact

Principal on hypothetical new bond issues	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	
Interest on hypothetical new bond issues	$ 41,250	$ 37,500	$ 33,750	$ 30,000	$ 26,250	$ 22,500	$ 18,750	$ 15,000	$ 11,250	$ 7,500		
Capital	$ 686,874	$ 704,046	$ 721,647	$ 739,688	$ 758,180	$ 777,135	$ 796,563	$ 816,477	$ 836,889	$ 857,811		
	$ 803,124	$ 816,546	$ 830,397	$ 844,688	$ 859,430	$ 874,635	$ 890,313	$ 906,477	$ 923,139	$ 940,311		

Attachment 4

Replacement Schedule Assumptions

City of Norwich
Fire Apparatus Replacement Schedule
Assumptions

Assumes that all non-reserve apparatus will be replaced according to the replacement schedule below

Life
Average Number of Runs Per Year

Apparatus other than aerial ladders

Number of Runs		Life
> or =	**<**	**(in Years)**
0	100	30
101	200	29
201	300	28
301	400	27
401	500	26
501	600	25
601	700	24
701	800	23
801	900	22
901	1000	21
1001	1100	20
1101	1200	19
1201	1300	18

Aerial ladders

Number of Runs		Life
> or =	**<**	**(in Years)**
0	100	25
101	200	24
201	300	23
301	400	22
401	500	21
501	600	20
601	700	19
701	800	18

Inflation	2.50%
Interest rate on bonds	4.00%
Bond amort period	20 years

City will budget a certain amount each year towards fire apparatus replacement, indexed by inflation. This funding will need to be augmented by bond ordinances from time to time