MILFORD FIRE DEPARTMENT

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MILFORD, MASSACHUSETTS 01757

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The Milford Fire Department would like to take this opportunity to elaborate on the current town meeting article which proposes to purchase a new aerial ladder for the Town of Milford.

The need for an aerial ladder in Milford has existed since the buildings in town exceeded the reach of our ground ladders. The older buildings in the center of town, the churches, Milford Regional Medical Center, the six hotels and the proposed 5 story 40b development are all examples of buildings which require an aerial ladder to access the upper floors and roof.

This vehicle first appeared on our Capital Improvement list as a long range purchase back prior to FY 2012. The estimated price back then proved to be fairly accurate (one million dollars), we are seeking 1.1 million dollars. Your current truck is 20 years old this month and should be replaced. The proposed new truck will mirror our present truck in design with some additional options. It will also have a number of safety features and advancements in technology that were not available when our present truck was built, for example air bags in the passenger compartment and the ability to use the aerial below horizontal. This truck will be built with the intent of it serving the town for the next 20 years.

Keep in mind that a purchase made in the coming months would result in a new vehicle being delivered in early 2018 at which point your present truck would be 22 years old. Your current truck has served the town well but is getting old. It should be replaced due to wear and tear, the concern of metal fatigue and increasing maintenance costs.

After reviewing the attached information, myself or Deputy Chief Nelson will be more than happy to answer any remaining questions. We hope you look favorably on this article.

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Milford Ladder 1: Replace with New, Refurbish, or Continue Use

The ladder truck currently owned by the Town of Milford, known as Ladder-1, was purchased new and placed in service during September 1996. At that time, it replaced a 1968 Maxim 100-foot aerial. That truck was sold to the Town of Hopkinton but prior to the sale we had to have it reduced in length to an 85-foot ladder to get it pass its inspection. This month, Ladder-1 is twenty years old and the time has come to explore the town's options relative to replacing this aging truck. Keep in mind that the current wait time on a custom built truck is between 12 and 14 months. Unfortunately, the FEMA Assistance to Firefighters Grant we had applied for was not successful. This grant would have covered half the cost of a new vehicle. Ladder 1 is a 1996 E-ONE 100-foot heavy duty aerial ladder. As of 9/12/16 the truck had 51,602.2 miles as well as 9,843.7 engine hours and 1,973.4 aerial hours.

The Fire Department administration understands the significance of this capital expenditure and would like to offer three options:

1. Replace with a new truck. (Recommended)
2. Refurbish the current truck. (Not Recommended)
3. Continue to use the current truck without replacement. (1-2 Year Maximum)

Option 1

We met with a local fire apparatus vendor on August 29 to discuss options and pricing through two current state bid choices available. Preliminary conversations with the vendor indicated the 1-million-dollar cost estimate to be accurate, but increased depending on options and equipment. He stated that annual cost increases in the industry have ranged from 4 to 7% in recent years. It is important to note the current design of our truck has served the community successfully. Many options exist for aerial apparatus, but we feel the best configuration mirrors what we have; at least 100 feet, heavy duty, custom designed, rear mount, and no platform. There are some options which can improve our capabilities and effectiveness at fire and rescue incidents. Adding a pump with a water tank will be considered.

Two documents researched to provide guidance were *NFPA 1901: Standard for Automotive Fire Apparatus, 2016 Edition, Annex D Guidelines for First-Line and Reserve Fire Apparatus* and Fire Apparatus Magazine, which used a point system for evaluation sourced from the American Public Works Association.

NFPA provided the following information. "Because the changes, upgrades, and fine tuning to NFPA 1901 have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to fire fighters of keeping fire apparatus more than 15 years old in first-line service."

"It is recommended that apparatus more than 15 years' old that have been properly maintained and that are still in serviceable condition be placed in reserve status." Ladder-1 has been properly maintained, tested annually, and repaired when necessary. There is no option for aerial reserve status, like our engines, because we only own one.

"Apparatus that were not manufactured to the applicable NFPA fire apparatus standards or that are over 25 years old should be replaced." Our truck is 20 years old, but will be at least 21 years old before delivery of a new truck.

Ladder-1 was also evaluated using a point system from APWA described in *Fire Apparatus Magazine*. Conservatively, our truck scored 28 points, Condition IV, and indicated a need for immediate consideration for replacement.

Sample Replacement Point System

The following is an example of a replacement point system used by Charleston County, South Carolina, for an old pumper.

Fire Engine Replacement Guidelines *(Source: APWA Vehicle Replacement Guide)*

Factor	**Points**		
Age	One point for every year of chronological age, based on in-service date.		
Miles/Hours	One point for each 10,000 miles or 1,000 engine hours of use.		
Type of Service	One, three, or five points are assigned based on the type of service the unit is exposed to. For instance, fire pumpers would be given a five because it is classified as severe duty service. In contrast, an administrative sedan would be given a one.		
Reliability	Points are assigned as one, three, or five depending on the frequency that a vehicle is in the shop for repair. A five would be assigned to a vehicle in the shop two or more times per month on average, while a one would be assigned to a vehicle in the shop an average of once every three months or less.		
M&R Costs	One to five points are assigned based on total life M&R costs (not including repair of accident damage). A five is assigned to a vehicle with life M&R costs equal to or greater than the vehicle's original purchase price, while a one is given to a vehicle with life M&R costs equal to 20 percent or less than its original purchase cost.		
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, and so on. A scale of one to five points is used with five being poor condition.		
Point Ranges	Fewer than 18 Points	Condition I	Excellent
	18 to 22 points	Condition II	Good
	23 to 27 points	Condition III	Qualifies for replacement
	28 points and above	Condition IV	Needs immediate consideration

Option 2

Due to the price of a new ladder truck, we briefly discussed refurbishing Ladder-1. NFPA provided the following information. "Fire department administrators and fire chiefs should exercise special care when evaluating the cost of refurbishing or updating an apparatus versus the cost of a new fire apparatus. Apparatus that are refurbished should comply with the requirements of NFPA 1912. A thorough cost–benefit analysis of the value of upgrading or refurbishing a fire apparatus should be conducted. In many instances, it will be found that refurbishing costs will greatly exceed the current value of similar apparatus."

"A refurbished 15-year-old apparatus still has 15-year-old parts in it. How long could the fire department operate without the apparatus if it suddenly needed major repairs?" In our case, the truck would have components that exceed 20 years. Our community needs a ladder truck with minimal out of service time. Significant repair costs have been encountered over the years, including a partial engine rebuild and new hydraulic pistons. The most recent repair, which included a motor and battery for the nozzle on the aerial, exceeded $2,000.

Each year Ladder 1 is tested and certified for use. The test evaluates all aspects of the vehicle which are rated from 1 to 4. A rating of 1 recommends shut down and out of service. A rating of 2 recommends shut down and use with caution. Ladder 1 during our last test in February 2016 scored 3's and 4's, which was excellent news. Those numbers indicate repairs will be needed soon or at next maintenance or that a component was checked satisfactorily. Although the truck passed its annual test, according to our maintenance vendor, refurbishment is not a viable option due its age. The cost simply would not be worth it.

Option 3

The Fire Department can continue to operate Ladder-1 if absolutely necessary. We will continue to maintain and repair the truck, but prioritize what is absolutely necessary. Items involving safety as always are repaired immediately. Other items, such as air conditioning which requires repairs, will be addressed after a purchase decision is made. We suspect that some current scores of 3 during annual testing may be downgraded to scores of 2 in future tests, which would mean a recommendation of shut down. While the truck has not been unreliable or unsafe, we know that we are exceeding recommendations of NFPA. This truck had it been in a larger municipality that follows NFPA standards would have been placed in reserve status 5 years ago. One additional year of service equates to a second year due to manufacturing timelines. Also, the ladder truck is not our only focus in the fleet. The rescue truck is due for replacement in 2018. We hope to have funding appropriated for replacement of Ladder-1 in October and take delivery by the end of 2017.

In conclusion, we recommend a new truck purchase so we can continue our daily operations with the best equipment available. When we replaced our 1968 truck in September 1996, there was a need and we received support to improve our fleet. We hope to receive the same support to move forward with this major purchase.

Maintenance and Repairs from October 2013 to December 2013

Replace oil pressure gauge	$	577.73
Chassis service and associated repairs	$	3,397.95
subtotal	*$*	*3,975.68*

Maintenance and Repairs from January 2014 to December 2014

Chassis service and associated repairs	$	4,367.56
Supercharger replacement	$	3,972.66
Replace rear accesory drive	$	3,520.87
Brakes all axles	$	4,207.29
Align microswitch for jack	$	46.95
Chassis service and 6 tires replaced	$	6,287.59
ECM replaced	$	5,176.55
subtotal	*$*	*27,579.47*

Maintenance and Repairs from January 2015 to December 2015

On-Spot actuator	$	182.98
Leaf springs and misc.	$	2,347.50
Chassis service	$	1,508.86
Chassis service and 4 tires	$	3,154.95
Brake chamber and On-Spot	$	1,971.47
Water way pin	$	195.99
Aerial test and muffler repair	$	950.74
subtotal	*$*	*10,312.49*

Maintenance and Repairs from January 2016 to September 2016

Chassis service	$	621.44
DOT Inspection	$	289.93
AC recharge	$	364.39
Batteries and starter solenoid	$	895.23
Waterway nozzle	$	2,153.13
Directional assembly	$	381.03
Aerial service and test	$	2,352.49
subtotal	*$*	*7,057.64*

3 Year Total	**$**	**48,925.28**
3 Year Average	**$**	**16,308.43**

Diagnosis and rims 9/22/16	$	975.18

EL DORADO HILLS FIRE DEPARTMENT

TRUCK 85
REPLACEMENT AND
RESEARCH GUIDE

2012

TABLE OF CONTENTS

INTRODUCTION

The Fire Department fleet serves a critical role in El Dorado Hills Fire Department's essential emergency service. A mechanically reliable fleet of apparatus and staff vehicles are imperative to getting our staff to the location of the emergency and to efficiently operate on scene. To effectively cover and protect the El Dorado Hills community, EDHFD has 1 quint (Truck 85), 9 engines, 2 JPA ambulances, 1 air unit and 1 water tender. (Refer to Appendix 2 and 3 for a summarized explanation of fire apparatus and staff vehicles.)

By following NFPA's guidelines and researching local Fire Department replacement policies, this replacement guide was created to give a description and a life expectancy for all El Dorado Hills Fire Department apparatus. This purpose of this assessment is to investigate and develop the most appropriate replacement parameters for the 2000 Spartan Quint known as Truck 85. Early research and planning is a key element of the fire apparatus purchase process as it can take up to two years to design, specify and build.

RESEARCH FINDINGS

Research on different publications like the NFPA Fire Protection Handbook, NFPA 1901Standard for Automotive Fire Apparatus and Fire Apparatus Purchasing Handbook (Fire Engineering) resulted in no set standard for replacement or studies. One factor for the absence of these studies is that the life expectancy of a fire apparatus has many variables and regional differences. Other variables such as weather, road conditions, run loads, and maintenance are reasons for the unavailability of any clear-cut information in this area. The life expectancy of a fire apparatus is broken into two periods: front line and reserve. Front line service life is the number of years the apparatus would be a primary unit to respond to calls. Reserve service life comes after a unit has completed its front line service years and is still reliable enough to play a secondary role. The apparatus is kept as a reserve unit which can be utilized for various reasons ranging from being a "stand-in" for an out-of-service front line apparatus to being a secondary response unit for Volunteer Firefighter Personnel.

Replacement guides and policies from neighboring Fire Districts (Folsom Fire, Sacramento Metropolitan Fire, Cosumnes Fire, Roseville Fire, etc.) produced similar information that was recommended by NFPA as guidelines. These policies or replacement guides were all based on years of service and or mileage. Additionally, they also included the statement or clause that would allow for earlier replacement or a longer use life based on maintenance and reliability.

Cosumnes Fire's guide cited the need to keep up with technology for Firefighter safety and to better perform the overall mission of the District:

> *"Suppression and other specialized large apparatus are placed into reserve status based on a number of conditions. Mileage is a significant factor. The Fleet Maintenance Division will begin comprehensive inspections every 6 months or 25,000 miles, whichever comes first, once the apparatus reaches 100,000 miles.*
>
> *<u>Factors to be considered in determining service life are:</u>*
>
> - *Total Years of Service – Typically a piece of apparatus will be near the end of its service life after 15 years.*
> - *Wear and Tear – The vehicle must have a professional and functional appearance and operate safely.*
> - *General Safety Feature Upgrades – There may be safety feature upgrades over the service life of an apparatus that require the District to consider replacement to improve employee safety or major NFPA standard changes that create a significant liability for the organization.*

Due to the economic downturn as of July 2010, Roseville Fire went from operating under 10 years front line and 3 to 5 years reserve to 13 years front line and 3 years reserve for all engines,

trucks and tractor drawn aerials (TDA). Folsom Fire has 10 years front line for engines and 12 years for trucks, although, it is important to note that they consider a quint as an engine using the guide of 10 years front line and 5 years reserve (refer to Appendix 2). To summarize, the local Fire District's replacement guides use 10 to15 years front line and 3 to 5 years reserve.

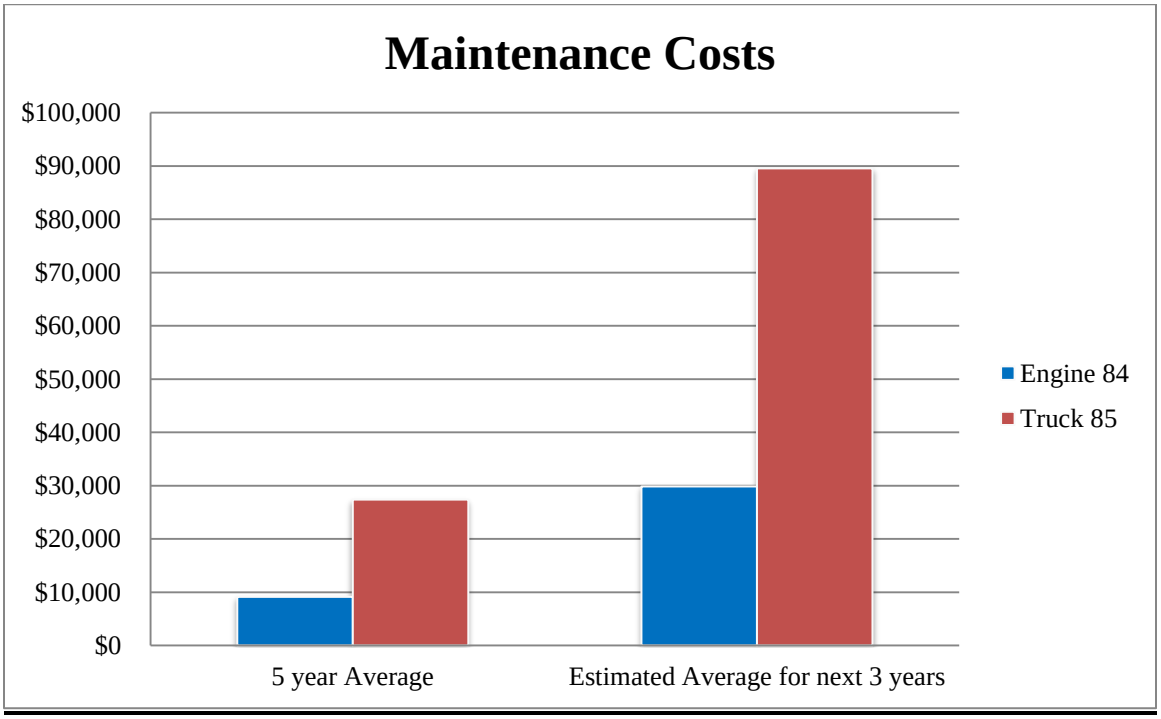
An NFPA guideline is that "no apparatus should be kept longer than 25 years based on uncertain reliability." NFPA further states the following, "In general, a 10 to 15 year life expectancy is considered normal for first line engines. First line trucks should have a normal life expectancy of at least 15 years." These requirements are based on truck companies not on quints. Truck or truck companies do not have a pump, tank or hose and are used primarily for structure fires and rescues. Quints are aerial ladder trucks with a pump, water tank and hose and are typically used on all incidents. Trucks companies will routinely only respond on about one third of the calls an engine or quint would.

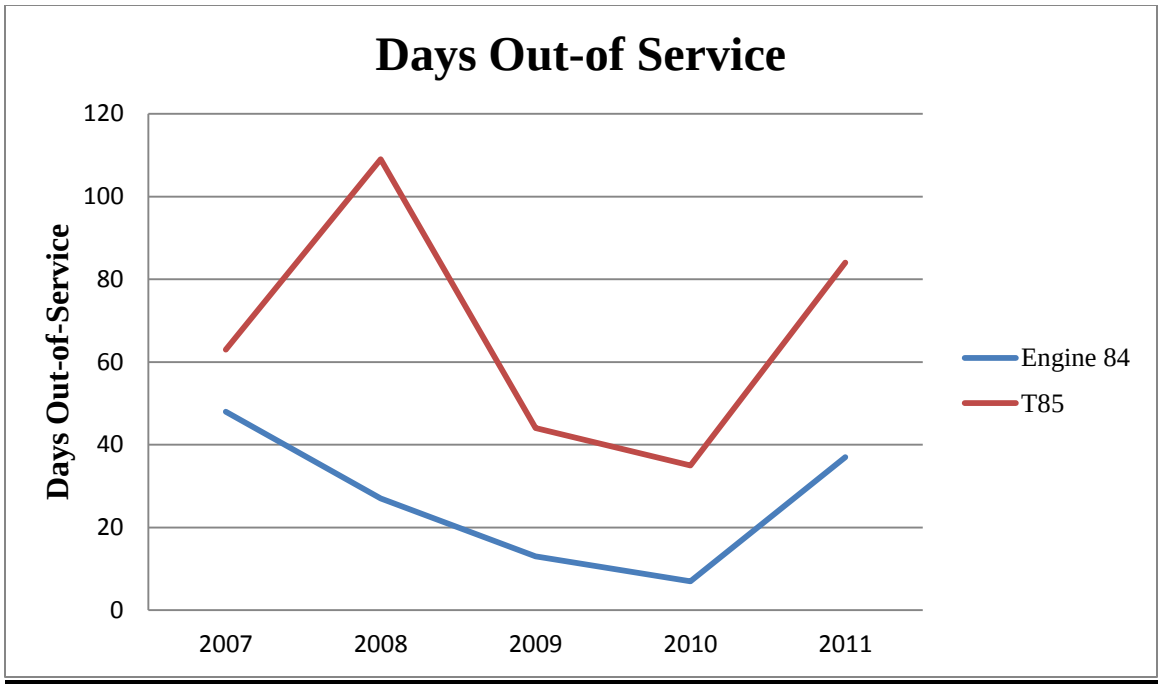
Based on the information found, EDHFD must maintain reliable, safe apparatus, provide up-to-date safety for personnel, comply with new national standards and keep maintenance costs from exceeding the value of the apparatus. EDHFD classifies the truck in the same category as an engine because of its equipment and capabilities; therefore, the replacement guide for engine companies is also used for Truck 85 (refer to Appendix 2).

ANYALSIS OF DATA

The following comparison shows the out-of-service time and maintenance costs between Truck 85 and a similar apparatus of EDHFD. Truck 85 (2000 Spartan Quint) and Engine 84 (2003 Spartan Pumper) are the most similar apparatus units owned by EDHFD. They have the same tank size, chassis and fire pump and are similar in mileage and age.

	Engine 84	**Truck 85**
Average mileage/year (Dec 2006-Dec 2011)	5,920	4,797
Mileage as of 1/1/2012	60,331	61,286
Recommended Replacement Fiscal Year	2017/18	2014/15
Average Maintenance cost/year over past 5 years	$9,126	$29,851
Out-of-service over past 5 years	132 days	335 days
Anticipated down time over next 3 years (based on 5 year history)	80 days	201 days
Anticipated maintenance cost over next 3 years (based on 5 year history)	$27,378	$89,553





The comparison shows that Truck 85's maintenance has incurred an average of 30% higher cost than Engine 84 while being out-of-service more than twice as often.

COST ANALYSIS

2000 Truck 85 (current)

- Original cost $656,000 @ 15 years of service = $43,733/year

2012 Straight Truck (Quint) w/2010 emissions

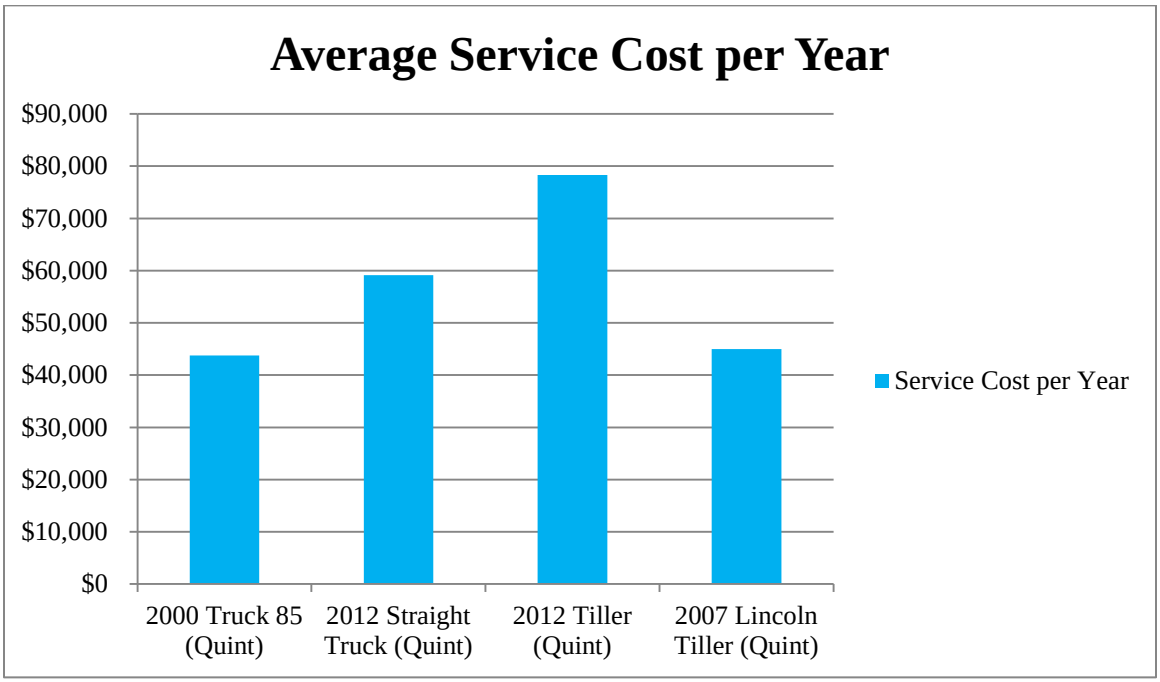
- Cost $887,000 @ 15 years of service = $59,134/year*
- *The estimated costs of a 2012 Truck was obtained from Ferrara Fire Apparatus (cost of similar 105ft. Quint sold in 2011 to Barona FD, CA).

2012 Tiller (Quint) w/2010 emissions

- Cost $1,175,000 @ 15 years of service = $78,334/year**
- **The estimated costs of a 2012 Tiller was obtained from Lincoln Fire Department (cost of the tiller as of January 2012).

2007 Lincoln Tiller (Quint)

- Potential purchase offer $450,000 @ 10 years of service = $45,000/year



VALIDATION

Apparatus is expensive but when amortized over the front line expected life, it is relatively inexpensive compared to other operational costs. This gets us back to our mission of getting Firefighters to the incident and fixing our customer's problem.

This Department's mission, "To Serve the Community of El Dorado Hills With Integrity and Excellence," requires trucks, engines, ambulances and staff vehicles along with all the equipment and personnel required to safely mitigate the wide variety of emergencies that occur within the District. The Apparatus Committee is tasked with evaluating all apparatus being replaced and purchased and understands the District's dynamics.

Prior to recommending a purchase, the Apparatus Committee will fully research all options and validate that the final recommendation meets all the needs of the District currently and into the future. It is recognized that any purchase of a new quint between now and 2015 would be slightly earlier than standard but considering current and projected maintenance costs and down-time, a purchase may be warranted. The Fire Chief and the Apparatus Committee make the replacement determinations based on the information researched. EDHFD's goal of arriving at scene 90% of the time at an established response time should also be the goal for apparatus dependability. An apparatus should be in service 90% of the time or greater. Based on historical records, our current Truck 85 is projected to be out of service almost 20% of the time over the next 3 years. All indicators are showing that Truck 85 is aging and the replacement process needs to begin now, not after our service to the community is affected.

CONCLUSION

This brings us to the conclusion that under normal circumstances, whether we place the quint into reserve status or simply replace it, both should take place between now and the Fiscal Year 2014/15.

The process for a truck replacement would normally start sometime in 2013 based on a development timeline of at least one year.

The Apparatus Committee is still processing all of the information, including the pros and cons of a TDA (tractor drawn aerial/tiller) vs. straight standard truck and what the current and future needs of the District are as it pertains to a new truck/quint (refer to Appendix 1 for Tractor Drawn Aerial Analysis).

The Apparatus Committee will have a Committee/Staff recommendation by the March Board of Directors' meeting.

APPENDIX 1

TRACTOR DRAWN AERIAL ANALYSIS

Qualifications for Operating:

1) Two personnel are required to operate a tiller (TDA): an Engineer driving in the cab and a tiller driver in the rear. Per California DMV, the Engineer only needs to possess a valid California Commercial or Firefighter restricted Class B license in order to operate the vehicle. Since the tiller driver is steering a non-drive axle, a Class C license is required by California DMV.

2) With research conducted through several other fire agencies, it seems that a majority of the agencies have similar means of training their Engineers and tiller driver. A few of the agencies, Los Angeles County and West Sacramento, have had a program in existence for quite some time as where other agencies, such as Rocklin and Lincoln, have had to start from the beginning. Once an agency has a program established, it seems that the transition to a smooth tiller training schedule works out well.

3) All agencies who were contacted stated they have a rigid training plan that is in place for the success of their employees. Most of the agencies interviewed had similar training requirements. Orange County Fire Authority (OCFA) has the following training requirements:

   A written test, general performance tasks, driving performance exercise, 20 hours of driving practice and incident response driving. A comprehensive 80% or better is required for passing. All training is to take place at the Battalion or station level. The program is composed of 3 basic components: A reading assignment, a rodeo/code 2 driving (day & night) and a written exam. In addition, a task book must be completed.

4) Los Angeles County has a 40 hour classroom and 40 hour Task Book training similar to OCFA's set up. *More information regarding LA County's training will be later in the report.*

Training Time and Costs:

1) Because this will possibly be a new program for the EDHFD, the initial costs will be higher until the program is well established. With the exception of one current line Firefighter (a tiller driver with a previous agency), this agency does not have anyone qualified to drive a TDA. In order to have a safe, rigid and productive training plan, our agency would have to contract with another agency to be educated on this type of program.

2) Chief John Heilmann and Liam McGregor with the City of West Sacramento Fire were instrumental in providing information, suggestions and general training cost statistics. Their recommendation was to invite as many as 5 EDHFD personnel to a 2 day, 16 hour class in West Sacramento utilizing their reserve Truck. They suggested a goal would be to cover a large amount of material to get each individual oriented to TDA driving and able to start an in-house training program at EDHFD. They also mentioned that they can provide a longer class with the goal set more along the lines of proficiency. The above recommendation is the bare minimum amount of time to get started. Ideally, EDHFD would have 15 personnel trained which would result in 3 of these courses.

   Cost breakdown:

(2) West Sacramento Trainers on OT X 48 hours	$ 4,565.00
360 gallons of Diesel @ $4.05/gallon	$ 1,458.00
15 EDHFD Firefighters OT @ two days	$11,002.00
Initial training cost for 15 EDHFD personnel	**$17,025.00**

3) Sacramento Regional EVOC training was another point of contact utilized to research TDAs. They currently do not have a structured TDA training plan but with the experience and knowledge level of the instructors, they are eager to work with us and provide a class. At this time, the actual cost of the program was not determined other than the cost would be similar to the price per student for an EVOC course (cost per person for 2008 EVOC was $350.00 per student).

   Cost breakdown:

Estimated course cost for 15 EDHFD Firefighters	$5,250.00
EDHFD Firefighters OT @ two days	$11,002.00
Initial training cost for 15 EDHFD personnel	**$16,252.00**

4) Los Angeles County Fire Department (LACFD) was another source used for researching this project. Engineer Tim McIntyre has developed a successful TDA curriculum for his agency and the California State Fire Marshal is looking to adopt it for the upcoming Driver/Operator 2A program. Currently, LACFD calls the TDA program D/O 1C. Engineer McIntyre stated that he applied for a grant that would allow his Department to teach the TDA curriculum to 330 students at no cost. The grant was approved and is underway. For more information, visit www.lacountyFirefighters.org. The last class will be held on May 14 and 15 and either May 21 and 22 or May 23 and 24, 2012. The class is a 40 hour course; 20 hours academic and 20 hours manipulative. It covers vehicle accident prevention, maintenance and lubrication, aerial apparatus operation, pre-trip inspection procedures, ladder operations and apparatus placement.

5) Whether a TDA is recommended or not for the EDHFD, this class could be an excellent training opportunity. Since the course is free and Los Angles is within driving distance, the only costs associated with this training would be fuel, food, lodging and overtime. It would be beneficial if several Firefighters or Engineers and the 2 EDHFD EVOC instructors attended. Then EDHFD could have a Train-the-Trainer Program and the costs could be reduced if we continue the training in-house. Note: EDHFD has secured four positions in this class.

Estimated cost to send four EDHFD personnel:

Overtime	$11,760.00
Food/Lodging	$ 4,450.00
Fuel	$ 1,350.00
Total	**$17,560.00**

Reduced Staffing Options:

1) The current staffing for the EDHFD Truck Company is four personnel. NFPA (National Fire Protection Agency) states that this is the recommended staffing level for this type of apparatus (truck or quint) based on safety and work performance. Although technically only two people are needed to operate a TDA, four person staffing is paramount and still the recommended staffing to safely and efficiently operate per NFPA. With that said, operating a TDA or a quint can be accomplished with three personnel as per the staffing option in the current MOU.

Cross-staffing:

1) Currently, at Station 85, if a wildland response is dispatched, the truck crew will cross-staff to the Type 1 Engine and respond.

2) OCFA stated that they have a TDA/engine house (full time staffing for both apparatus at one station) so the engine responds while the TDA stays in quarters. LACFD explained that if it's a TDA/Engine house, just the engine will respond. If it's a TDA/Paramedic Squad house, the truck will go; however, they will park out of the affected area and be used as manpower only. Basically, LACFD only use their TDA's for structure fires. West Sacramento stated they will cross-staff to another engine.

3) After researching cross-staffing during wildland season with several agencies, it appears that the purchase of a TDA will not eliminate cross-staffing, particularly at Station 85. We would continue to operate as we have in the past.

Alternative Staffing:

1) Just like the Water Tender and Air Unit, an individual would need to be qualified in order to drive in the tiller position. If we decided to go with a TDA, it is this Committee's recommendation that we require all four station 85 Paramedic Firefighters on each shift to be tiller qualified. This would alleviate the majority of scheduling issues. We would also require all Engineers to become TDA qualified.

2) If on the rare occasion a callback, specifically for a tiller driver was required, EDHFD would need to establish verbiage in Telestaff so that only qualified people are called in to operate the TDA.

3) Regarding wildland incidents, it appears that operations would stay the same; cross-staff to the Type 1 Engine.

4) Volunteer coverage would be similar as to what it is now, baring a few changes. It appears that a Volunteer would be able to fill in the Firefighter seat in the main cab until a paid Firefighter comes to relieve him/her.

Impact on Future Labor Negotiations and Cost:

Agencies were questioned about the following impacts: labor negotiations, pay increase for the tiller driver and, if budget cuts occurred, what would happen to the TDA program. The following were the responses:

1) OCFA stated that they have never had a problem with labor negotiations in regards to the tiller program. The tiller driver's position is a Firefighter's spot; there is no pay increase or special rating for that seat. If budget cuts were to occur, there would not be an issue. Since they have always run with a least 4 person Truck, they have constant staffing so they are compliant with NFPA.

2) LACFD stated no labor issues have occurred nor do they see any in the future. The tiller driver is also a Firefighter and no pay increase or bonus is involved. They mentioned that since the TDA/trucks were so important to their operations, if cuts were to occur, they would not be affected.

Detailed Cost of Operations/Uptime Analysis:

1) All Departments stated that obtaining this information is a very time-consuming task and they would not be able to provide due to time constraints and budgetary issues.

Advantages or Disadvantages Over Traditional Quint:

1) Nine agencies* were interviewed and gave two main reasons why they would choose a TDA versus a traditional quint:

    a) The turning ability/access:
        i. The Committee confirmed that the TDA can access all areas that our current quint can.

    b) The advantage of more cubic feet for equipment storage:
        i. Ours is an equipment intensive job. We need to have it all there when we need it. There is no way to plan for what equipment will be needed on an emergency call. Having it all there at one time is a definite benefit to our operations.

c) The TDA is designed to do what we are asking it to do.
    i. It is built for hauling the weight and more importantly stopping the weight.
    ii. Lower profile – the overall height of the TDA is lower.

*Only 3 of the 9 were quints (tank and pump) while the rest were straight trucks (no tank or pump).

Common Maintenance Issues:

Whether it's a TDA or a command vehicle, there will always be maintenance issues and associated costs.

1) Most agencies have stated that the most common and expensive maintenance issue with a TDA is the tire replacement which is also a major cost on a quint.

2) OCFA had an issue where the tiller driver, on several occasions, had clipped a vehicle or an object while responding to emergencies. They also stated that it was a training issue and not a maintenance issue. After installing small cameras above the tiller wheel wells so the tiller driver has a better view below him, the issue has been resolved.

3) Lodi Fire stated that they are not fans of all the plastic parts because they seem to break often. They explained that they also realize that plastic is cheap to make and lightweight and that any apparatus purchased today will have these issues.

APPENDIX 2

ENGINE – TYPE 1

A Type 1 is a vehicle with a permanently mounted fire pump, water tank and hose. The primary purpose of this type of apparatus is to combat structural and associated fires. This vehicle also responds to hazardous conditions, medical aids, vehicle accidents, and public service calls. This apparatus is normally staffed with three or four personnel.

This vehicle meets all the requirements of NFPA 1901 Standard for Automotive Fire Apparatus.

This unit has 15 years front line and 5 years reserve with an estimated 80,000 mile operational life. A maximum service life of 20 years with a replacement cost of $450,000 each has been established.

ENGINE – TYPE 3

A Type 3 is a vehicle with pump and roll capabilities, a water tank, and hose and various hand tools for fighting wildland fires. Primary purpose of this vehicle is to respond to wildland fires. This vehicle also has limited abilities for structural or other types of fires and responds seasonally to medical aids or public service calls.

This vehicle meets all the requirements of NFPA 1906 Standard for Wildland Fire Apparatus.

This unit has 15 years front line and 5 years reserve with an estimated 80,000 mile operational life. A maximum service life of 20 years with a replacement cost of $350,000 each has been established.

TRUCK – QUINT

Truck 85 is a vehicle equipped with an aerial ladder or platform, numerous ground ladders and tools that are designed to support firefighting and rescue operations. This unit may also have a fire pump, water tank and hose. The primary purpose of this apparatus is to combat structural fires, perform rescues and vehicle extrication. As a quint, it also responds to hazardous conditions, medical aids and public service calls. This apparatus is staffed with four personnel. This vehicle meets the requirement of a quint under NFPA 1901, Chapter 9.

This unit has 15 years front line and 5 years reserve with an estimated 80,000 mile operational life. A maximum service life of 20 years with a replacement cost of $850,000 has been established.
*Note: If this unit is not used in a reserve status, the replacement should be at 15 years.

AIR / LIGHT SUPPORT

The Air Unit is a vehicle used to refill self-contained breathing apparatus or supply breathing air for other functions. This vehicle is also used for lighting and as a support/rehab unit.

This unit is expected to have a 20 to 25 year operational life, approximately 15 to 20 years front line and 5 years in reserve with a replacement cost of $250,000.

ADMINISTRATIVE SUPPORT / STAFF VEHICLES

These vehicles include pick-ups, utilities, SUV's, etc. in a configuration necessary to meet the needs of the District.

These vehicles generally have a 10 year or approximately 100,000 mile operational life with an average replacement cost of $45,000 each.

ADDITIONAL / MISCELLANEOUS

The District operates two SA-7 County ambulances. The ambulances are replaced by the County and under their guidelines.

The District also operates an OES water tender. The water tender is replaced by the State and under State guidelines.

APPENDIX 3

El Dorado Hills Fire Department
Apparatus/Equipment List

Apparatus

	Year	Chassis	Builder	Engine	EDH ID#	Replacement
Engine 284	1995	International	West-Mark 4x4	Int	8560	2011/12
*Engine 285	1996	International	West-Mark 4x4	Int	8561	2011/12
Engine 85	1996	HME	Hi Tech	Detroit	8571	2010/11
*Engine 385	1999	HME	Westates	Cummins	8572	2013/14
Truck 85	2000	Spartan	Marion105'AI	Detroit	8591	2014/15
Air 85	2002	International	Hackney air/light	Int	8551	2017/18
Engine 84	2003	Spartan	Ferrara	Cummins	8570	2018/19
Engine 287	2004	International	West-Mark 4x4	Int	8562	2019/20
Engine 286	2007	International	West-Mark 4x4	Int	8563	2022/23
Engine 86	2007	Spartan	Ferrara	Cummins	8574	2022/23
Engine 87	2010	Ferrara/Igniter	Ferrara	Cummins	8576	2024/25

Utilities

	Year	Make/Model	Details	EDH ID#	Replacement
Utility	1999	Ford F350	Utility bed	8542	2009/10
Staff	2003	Ford Exp		8544	2013/14
Staff	2003	Ford Exp		8546	2013/14
Staff	2003	Ford Exp		8548	2013/14
Duty Chief	2003	Ford Exp	Command	8549	2013/14
Utility	2005	Ford F350	Pick-Up	8539	2015/16
Staff	2005	Ford Exp		8540	2015/16
Utility	2006	Ford F350	Pick-Up	8541	2016/17

SA 7 Ambulance

	Year	Make/Model	Builder	EDH ID#
Medic 285	2004	Ford F450	Wheeled Coach 4x4	0201
Medic 85	2010	Dodge	Med Tech 4x4	3246

CAL EMA Water Tender

	Year	Make/Model	Builder	Engine	EDH ID#
Water Tender	2002	Freightliner	Westates	Mercedes	OES41

APPENDIX 4

Additional Information

EDHFD's mechanic, Doug Veerkamp General Engineering, Inc., recommended replacing/selling the 1999 HME at the earliest convenience and also recommended replacing/selling the 1996 International before replacing/selling the 1995 International.

8571/Engine 85, a 1996 HME-HiTech, is the first due engine from Station 85 and can be cross-staffed with Truck 85. Engine 85's current mileage is 67,825 and is 16 years old.

8573/1990 Spartan, with approximately 79,730 miles and was 20 years old, was sold to Sutter Creek Fire Department during 2010/11 fiscal year.

MUNICIPALITY OF MT. LEBANON

FLEET MANAGEMENT DOCUMENTS

PROPOSED FLEET REPLACEMENT SCHEDULES 2013 - 2017

October 2**, 2012**

FLEET & EQUIPMENT MANAGEMENT

Background: The Mt. Lebanon Department of Public Works is assigned the overall responsibility for managing the Municipality's fleet of vehicles and construction/maintenance equipment. The Public Works Department works in conjunction with the Police and Fire Departments (Fleet Management Team) to: develop vehicle and equipment specifications; develop vehicle and equipment replacement schedules; acquire vehicles and equipment; and reassign and dispose of vehicles and equipment. The vehicle and equipment maintenance functions are assigned solely to the Public Works Department. The public works maintenance garage is located at 1250 Lindendale Drive and two full-time mechanics are employed to maintain 111 vehicles and equipment units with a replacement cost of over $9.5Million. The annual appropriations for operations, maintenance, repair and fueling for Police, Fire, Recreation, Inspections, Administration and Public Works vehicles and equipment is budgeted in the Public Works Operating Budget. The appropriations to replace vehicles and equipment is budgeted either in the annual Operating Budgets of the departments listed above or in the Capital Budget. A complete listing of the vehicles and equipment maintained by the public works mechanics is listed as an attachment to this report.

The purpose of this document is to propose a vehicle replacement plan for the next five years, and the specific vehicle and equipment needs and requirements of the three departments that make up the Fleet Management Team. This document reflects the vision of the Fleet Management Team to create a multi year vehicle and equipment replacement plan that will serve as a guide in providing direction to meet needs. This is a living document that will be modified and updated annually to reflect changes in the Municipality's organizational climate, the changing needs of our internal customers, and changes in the automotive and equipment industry.

The review of the Municipality's Fleet Management functions by the Matrix Group pointed out that an effective fleet management program should include policies and procedures on acquisition, maintenance, replacement and disposal of vehicles.

Acquisition: The goal of the Municipality's acquisition practices is to obtain the lowest possible price and the highest possible quality. Currently the Municipality purchases through State and Council of Government Contracts to achieve the lowest price possible to acquire the highest possible quality. All purchases of vehicles and equipment will follow the applicable Municipal Purchasing Codes. Annually before the preparation of the Operating and Capital Budgets the Police and Fire Chiefs meet with the Public Works Director to review the vehicle replacement schedule and plan for the acquisition of replacement vehicles and equipment. Any request for new equipment that would increase the size of the fleet must be cost justified to the Manager and

Finance Director. The recommendation to lease or purchase equipment and vehicles is made by the Finance Director.

Maintenance: The goal of Public Works vehicle and equipment maintenance practices is to keep vehicles and equipment in sound operating condition. Preventive maintenance routines and intervals followed by our mechanics and are based on local driving conditions and manufacturer's recommendations, for each type of vehicle or equipment and each type of maintenance service. Maintenance costs represent a significant portion of the total cost to own and operate a vehicle or piece of heavy equipment and tend to increase as a vehicle or equipment ages. Escalating maintenance costs are a key factor in determining when to replace a fleet vehicle. In addition to the added cost of maintenance as a vehicle ages, there is an additional cost to the municipality when a vehicle is in the garage receiving maintenance and not available for use. Preventive maintenance is the key to avoiding the repair or replacement of costly major vehicle components such as engines, transmissions and drive trains. Our mechanics make adjustments to the manufacturer's recommendations based on the specific vehicle's use. For example, a police vehicle may idle for an extended period of time while an officer monitors a high-risk area. When an engine idles, it incurs wear and tear that will require future maintenance. So the maintenance schedule for a vehicle that runs idle 50 percent of the time may be as frequent as that of a comparable one that drives more miles.

Accurate and complete vehicle maintenance records are a key tool for making fleet management decisions. Vehicle maintenance costs are variable and distinct to each vehicle. Pertinent records maintained for each vehicle are:

- vehicle maintenance logs
- fuel usage logs
- Cumulative costs of parts, labor, and overhead by a vehicle over its life.

While we currently collect this information we lack automated systems that can produce information in a timely manner. Overly frequent or delinquent preventive maintenance intervals are counter productive to controlling costs.

Replacement: As with other aspects of fleet management, replacing a vehicle too soon or too late wastes money. Together with the Police and Fire Departments we are developing replacement standards based on APWA, industry guidelines and years of experience in operating and maintaining vehicles and equipment. The goal is to analyze the costs associated with a vehicle and identifying the point when, on average, a vehicle is reasonably depreciated but not yet incurring significant maintenance costs. By replacing vehicles at this point, we can avoid escalating maintenance costs and optimize vehicle resale value. The three criteria that we considered when establishing the vehicle replacement schedule were vehicle mileage, age and use. Because each municipality's fleet and usage is unique, a universal management guide does not exist that can be applied to all types of fleets for every locality. For example, a police vehicle has a different maintenance demand and useful life than a pickup truck in the department of

public works. A police vehicle in Mt. Lebanon (an urban setting) has requirements different from a rural county sheriff's vehicle. Likewise, a dump truck that is not used to haul salt and plow streets during the winter can not be compared to the same piece of equipment in Florida. Even within a single department, a vehicle used by a detective is maintained and replaced on a different schedule than that of a patrol car.

Reassignment and Disposal of Vehicles and Equipment: The vehicle and equipment fleet is sized to meet the current needs of the Municipality. Fleet vehicles and heavy equipment will not be reassigned unless it is used to replace unit currently assigned to other departments. In those instances the older units will be disposed. Annually before Operating and Capital Budgets are prepared, the Police and Fire Chiefs will meet with the Public Works Director to review the vehicle and equipment replacement schedule, and plan for the reassignment or disposal of vehicles and equipment that have reached their age, and mileage thresholds and will be replaced in the next budget cycle. Police sedans may be reassigned to the Inspection Office for field work or to the Recreation Department and assigned to the support staff. Four Wheel Drive Sport Utility vehicles may be reassigned to the Public Works Department for field work. The majority of vehicles selected for replacement will be sent to the public auction. Public works dump trucks may be reassigned to the Golf Course and Recreation Center to replace similar units that are currently assigned to those locations. Sealed bids, internet auctions, trade journal advertisements, and public auctions will be utilized for the disposal of fire and public works heavy equipment.

MISSION STATEMENT AND REPLACEMENT SCHEDULE

Mission Statement:
To establish efficient and effective delivery of municipal services by providing customer departments with safe, reliable, economical and environmentally sound transportation and related support services that are responsive to their needs and that preserve vehicle value and equipment investment.

Objectives:
Our primary objective is to control the overall cost of operating and maintaining the Municipal fleet of vehicles and equipment, to maintain vehicles and equipment in a manner that extends their useful life, to control the growth in size of the fleet, to standardize the composition of the fleet and to accurately budget for maintenance and replacement costs. All new purchases for vehicles and equipment are part of the budget cycle and are coordinated through Fleet Management team for recommendation.

We Will:
Provide vehicles that are safe, reliable, and environmentally-sound, at competitive prices.
Provide honest, responsive, effective and efficient fleet services to our customers.
Maximize the return on investment (ROI), and the long-term value of the fleet investment.
Maintain high quality internal and external services.
Know and respond to fleet customer desires, needs, and requirements.

Key Customers:
- Police
- Fire
- Public Works
- Inspections
- Recreations
- Administration

Definition of Product/Services:
- Maintenance and repair of over 100 vehicles and pieces of field equipment
- Management of fueling locations and parts inventories
- Assist in purchasing and up-fitting of new vehicles for user departments

Vehicle and Equipment Replacement Program
The objective of the vehicle replacement program is to promote an orderly system of purchasing and funding a standardized fleet and heavy equipment replacement process and to plan future departmental transportation requirements.

All vehicles acquired and maintained by the Municipality are recommended for replacement in accordance with adopted guidelines/procedures and all departments are responsible for complying with these guidelines/procedures.

Development of Guidelines/Procedures

The Police Chief, Fire Chief and Public Works Director (Fleet Management Team) have inventoried existing vehicles and equipment and have prepared a replacement schedule for all public works, police and fire vehicles and equipment. The schedule will be updated annually and will be used as the basis for planning for the replacement of vehicles and equipment through the operating and capital budgets. The vehicle and equipment replacement schedule will include the following information for each vehicle or unit of capital equipment:

a. Age in years also known as life.
b. Usage in hours or miles.
c. Useful life (based on commonly used standards for municipal vehicles and equipment)
d. Cost of Maintenance.
e. Overall condition: mechanical, operating, safety, or appearance.
f. Downtime
g. Availability of replacement parts
h. Funding

The guidelines for vehicles considered for replacement are based on vehicles meeting predetermined age and/hour/or mileage criteria. Additional consideration is given to functionality and overall condition of the vehicle. Priority is given to those departments whose services relate to public health and safety and law enforcement.

As vehicles reach the threshold miles or age of replacement criteria, a vehicle maintenance evaluation is performed by the Chief Mechanic of the Public Works Department (Evaluation Form attached). The Evaluation Forms will be provided to the Fleet Management Team for further review and consideration. If the evaluation proves the vehicle would be economical to retain for an additional year, the vehicle will be targeted for retention or reassignment. In some cases, it may be reassigned to other departments with "low usage" requirements or to a loaner pool. The Fleet Management Team will jointly review and approve all specifications for new purchases of Municipal vehicles and motorized equipment. Depending on the availability of funds, vehicles and equipment will be replaced when they are at the end of their economic life, no longer safe to operate, not reliable enough to perform their intended function, or there is a demonstrated cost saving to the Municipality of Mt. Lebanon.

Vehicle Categories: For the purposes of this review the Municipal fleet has been grouped into fourteen distinct categories. Each category is described below, and the number of units currently on hand, replacement cost and useful life range for each category is summarized below in Chart 1.

Four Wheel Drive Sports Utility (4WD SUV)-these vehicles are larger than, and provide more passenger room and better off road performance than traditional sedans or pick up trucks. Because of their size SUVs' are highly visible and provide the operator

with better visibility than sedans. Currently the Municipality owns eleven (14) 4WD SUVs' with a replacement value of $404,000. Useful lives for this class of vehicle depends on duty assignment and range from 8 to 12 years. In the past some of these vehicles have been reassigned to the public works department. These vehicles are maintained by the public works department. Purchases are made through the annual Operating Budget.

Field Equipment-equipment of this class includes tractors, trucksters and motorized mowing equipment. At the time of this analysis eleven (12) pieces of field equipment valued at $288,285 were included in the inventory. Useful lives range between 10 to 15 years. This equipment is maintained by public works. Purchases are made through the annual Operating Budget.

Fire Equipment-Highly specialized equipment used to respond to emergency situations. Equipment contains many other pieces of smaller highly specialized pieces of equipment required to fight all types of fires, free victims entrapped in vehicles, and conduct other related emergency responses. Currently the Municipality owns seven (7) units with a replacement value of over $3.7 Million. Useful lives range between 15 to 20 years. Purchases are made through the Capital Budget. This equipment is maintained by the public works department and outside service providers. See Attachment "A" for additional details specific to this equipment.

Heavy Dump Trucks-these vehicles have a gross vehicle weight (GVW) of at least 33,000 Lbs and load carrying capacity of five tons. Heavy dump trucks are used to tow leaf vacuum and leaf boxes during the fall and large loads of rock salt during the winter and throughout the year haul heavy loads and tow equipment trailers. At least six heavy dump trucks are required during the fall and winter for leaf and snow plowing/salting. Currently there are six units on hand. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. The current replacement value for the six heavy dump trucks is $781,380. Heavy dump trucks have a useful life of twelve years and one is replaced every two years. Purchases are made through the Capital Budget. These vehicles are maintained by the public works department. See Attachment "C" for information of replacement schedules for public works vehicles and equipment.

Heavy Equipment-This is mobile on the road and off road equipment that is used to dig, load trucks and carry large loads over a short distance. The inventory includes two Caterpillar backhoes and one Caterpillar front end loader. The backhoes are used to plant trees and maintain underground assets, and to load leaves onto trucks in the fall and clear snow from the business district during emergencies. The front end loader is used to maintain the compost sites, load salt and remove trees. These units have a replacement value of $300,000 and useful lives of 15 years. This equipment is maintained by the public works department. Replacement would be made through the Capital Budget. In

previous years grant funding from the PA DEP has been available to cover 35% of the purchase price.

Heavy Truck- One armored heavy truck is operated by the Police Department. This truck provides tactical support for police officers and is 14 years old with a replacement value of $350,000.00. The Police Department intends to keep this vehicle for an indefinite period of time. Truck is maintained by public works and would be replaced through the Capital Budget.

Light Dump Trucks- This class of vehicle has a gross vehicle weight of 17,000 lbs and is equipped with four wheel drive. These vehicles are the work horses of the public works department and are used to haul personnel, materials and equipment to on and off the road work sites. During the fall and winter these vehicles haul loads of wet leaves, and plow and salt residential streets. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. These are relatively small and maneuverable trucks that can navigated through tight streets. There are currently 10 light dumps; 8 are assigned to public works, and 2 are assigned to the recreation department for use at the recreation center and the golf course. The useful life for a light dump is 10 years. As light dumps are replaced the older units are assigned to the recreation department and the older units at recreation are sent to auction. The replacement value of the 10 units is $848,500. These trucks are maintained by the public works department and are purchased through the annual Operating Budget-one truck is replaced each year.

Pick up Trucks- This class of vehicle may be equipped with either two or four wheel drive and may have an extended cab capable of carrying a crew of five personnel along with light hand equipment or materials. Pick up trucks may pull a trailer for the police, fire or public works departments. The Municipality owns six pick up trucks with a replacement value of $177,500. The typical useful life of a pick up truck is 10 years. These trucks are maintained by the public works department and purchased through the annual Operating Budget.

Sedans- This class of vehicle is the work horse of the Police Department. Sedans are used as patrol vehicles, traffic vehicles and unit vehicles. Police sedans are more than a means of transportation they are the lifeline for the community and its police force. The vehicles must be maintained to respond to any emergency situation encountered by an officer. Police sedans are up fitted with computers, gps systems, and video systems as well as sirens and emergency lighting. After three years of continuous service these Patrol Vehicles are ready to be replaced. Some police sedans are reassigned to the Building Inspections and Recreation Departments. Currently there are nineteen (19) sedans with a replacement value of $486,000. These vehicles are maintained by the public works department and purchased through the annual Operating Budget. See Attachment “B” for additional detail on police vehicles and replacement criteria.

Specialty Equipment-Equipment in this category typical has a specialized use and performs a function that cannot be duplicated by one of the other categories of vehicles and equipment. Equipment included in this category is: leaf vacuums, street sweeper, grinder, chipper, sewer flusher, stump grinder, root cutter and air compressor. The useful life range for this equipment is from 6 years for leaf vacuums to 20 years for a stump grinder. Small pieces of specialty equipment (leaf vacuums) are purchased through the annual Operating Budget, and larger equipment like the grinder has been purchased through the Capital Budget. Currently there are fifteen (15) pieces of specialty equipment and the current replacement value is $1,205,930. This equipment is maintained by the public works department. Equipment purchases under $90,000 are funded through the Operating Budget. Purchases greater than $90,000 are purchased through the Capital Budget. Grant funding is often available to purchase leaf vacuuming equipment.

Specialty Trucks- These are trucks that are equipped with special bodies that are required to provide a specific service. These vehicles include: Forestry truck, lift truck for signal maintenance, sewer camera van, and the carpenters van. These vehicles have a useful life ranging from 10 to 12 years. The Municipality owns six specialty trucks with a replacement value of $708,560. These vehicles may be purchased through the operating or capital budget and are maintained by public works.

Trailers-These are licensed, motor-less tow behind units that are used to move equipment, other vehicles and materials. These units are towed by pick up and light dump trucks and are maintained by public works. The Municipality has three trailers with a replacement value of $21,000.00. The average useful life is 15 years. Trailers are purchased through the Operating Budget.

Utility Trucks-These are truck chassis cabs that are fitted with various bodies e.g. Animal Control Boxes, and tool and storage beds. These vehicles are limited in their use but are used daily to perform a specific task. Currently there are four (4) utility trucks. Three are assigned to the Police Department for Animal Control and one is assigned to the Public Works Department and is used as a tool and materials truck for the plumber. The replacement value for all four vehicles is $107,000 and the useful life range is between 3 and 12 years. These vehicles are purchased through the annual Operating Budget and the purchase and operating costs of the Animal Control trucks is shared with the SHACOG communities.

Vans- These vehicles are used to carry personnel and equipment. Vans sizes range from the large extended window van used by the Municipal carpenter to the small min-vans assigned to the Recreation Department. Currently there are five vehicles in the van category with a replacement value of $153,000. Vans are maintained by the public works department and the useful lives range between 10 and 12 years.

Chart 1. Summary of Vehicles and Equipment Currently on Hand

Vehicle Categories	Current Inventory	Current Replacement Cost	Useful Life Range
4WD Sports Utility	14	$ 404,000	5-12
Field Equipment	12	$ 288,285	10-15
Fire Equipment	7	$ 3,745,000	15-20
Heavy Dump	6	$ 781,380	10-12
Heavy Equipment	3	$ 300,000	15
Heavy Truck	1	$ 350,000	10
Light Dump	10	$ 848,500	10
Pick up Truck	6	$ 177,500	10
Sedan	19	$ 486,000	3-10
Specialty Equipment	15	$ 1,205,930	8-20
Specialty Truck	6	$ 780,560	10-12
Trailer	3	$ 21,000	15
Utility Truck	4	$ 107,000	3-12
Van	5	$ 153,000	10-12
Total	111	$ 9,576,155	

Multi Year Vehicle and Equipment Schedules- The following charts on pages 11 through 15 present the vehicle and equipment replacement schedules for the next five years, 2013 through 2017. These schedules are based on the current replacement values of the individual vehicles and equipment units that are currently included in our fleet. Replacements are based on the year the unit was placed in service plus the unit's useful life. For example a heavy dump truck placed into service in 2001 has a useful live of 12 years and would be evaluated for replacement in 2013. Similarly a police sedan placed in service as a patrol vehicle in service since 2010 has a useful life of 3 years and would be evaluated for replacement in 2013. For additional information please refer to the "Replacement" Section on page 3 and Attachments 1, 2 and 3. Also attached to this document is an inventory of the current fleet.

2013 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2013
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 24,840
S-87	2008	Sedan	Police	3	$ 26,000	$ 26,910
S-93	2009	Sedan	Police	3	$ 26,000	$ 26,910
S-97	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-98	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-88	2008	4WD Sports Utility	Police	5	$ 30,000	$ 31,050
CAR-01	2007	4WD Sports Utility	Fire Dept.	10	$ 33,000	$ 34,155
252	1996	Utility Truck** Plumbers Truck	Public Works	10	$ 35,000	$ 35,000
LK-#7	2003	Specialty Equipment Leaf Vac.*	Public Works	7	$ 40,000	$ 40,000
SE2	1972	Specialty Equipment Stump Grinder	Public Works	20	$ 40,000	$ 40,000
228	2000	Light Dump	Public Works	10	$ 84,850	$ 87,820
233	2001	Specialty Truck-Signal Truck	Public Works	10	$ 120,560	$ 120,560
						$ 521,065

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2014 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2014
TRL-#1	1989	Trailer	Public Works	15	$ 7,000	$ 7,490
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 25,680
S-99	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-01	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-02	2011	Sedan	Police	3	$ 26,000	$ 27,820
302	2011	Van	Recreation	10	$ 26,000	$ 27,820
T-94	2009	Pickup Truck	Police	5	$ 30,000	$ 32,100
UTL-2-1997	1997	Pickup Truck	Fire Dept.	12	$ 38,500	$ 41,195
LK-#8	2003	Specialty Equipment Leaf Vac. *	Public Works	7	$ 40,000	$ 42,800
SE3	2001	Specialty Equipment Chipper	Public Works	12	$ 65,000	$ 69,550
224	2003	Light Dump	Public Works	10	$ 84,850	$ 90,790
216	2001	Heavy Dump	Public Works	12	$ 130,230	$ 139,346
255	2001	Specialty Equipment**	Public Works	10	$ 180,930	$ 199,000
256	1997	Specialty Equipment Aquatech**	Public Works	10	$ 328,000	$ 350,960
						$ 1,110,191

*Funded through Recycling Grant Funds.

**Funded through Sanitary and Storm Sewer Funds.

2015 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2015
TRL-#3	1995	Trailer	Public Works	15	$ 7,000	$ 7,735
FE3	2000	Field Equipment	Public Works	15	$ 21,000	$ 23,205
363	2012	Utility Truck	Police AC	3	$ 24,000	$ 26,520
S-84	2007	Sedan	Police	3	$ 26,000	$ 28,730
S-91	2008	Sedan	Police	3	$ 26,000	$ 28,730
S-92	2009	Sedan	Police	3	$ 26,000	$ 28,730
S-05	2012	Sedan	Police	3	$ 26,000	$ 28,730
S-81	2006	Sedan	Police	9	$ 26,000	$ 28,730
S-03	2012	4WD Sports Utility	Police	8	$ 30,000	$ 33,150
FE1	2005	Field Equipment	Public Works	10	$ 30,000	$ 33,150
UTL-3-2003	2003	4WD Sports Utility	Fire Dept.	12	$ 32,000	$ 36,800
LK-#9	2003	Specialty Equipment* Leaf Vac	Public Works	7	$ 40,000	$ 44,200
211	2001	Heavy Dump	Public Works	12	$ 130,230	$ 143,904
257	1998	Specialty Truck Camera Van.**	Public Works	10	$ 150,000	$ 165,750
						$ 658,064

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2016 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2016
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 27,360
S-87	2008	Sedan	Police	3	$ 26,000	$ 29,640
S-93	2009	Sedan	Police	3	$ 26,000	$ 29,640
S-97	2011	Sedan	Police	3	$ 26,000	$ 29,640
S-98	2011	Sedan	Police	3	$ 26,000	$ 29,640
TRL-#2	2000	Trailer	Public Works	15	$ 7,000	$ 7,980
SE5	1988	Specialty Equipment	Public Works	20	$ 8,000	$ 9,120
SE4	1988	Specialty Equipment	Public Works	20	$ 36,000	$ 41,040
LK-#11	2004	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 45,600
225	2006	Light Dump	Public Works	10	$ 84,850	$ 96,729
215	2003	Heavy Dump	Public Works	12	$ 130,230	$ 149,765
						$ 496,154

* Funded through Recycling Grant Funds.

2017 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2017
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 28,200
S-99	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-01	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-02	2011	Sedan	Police	3	$ 26,000	$ 30,550
C1	1995	Specialty Equipment	Public Works	20	$ 18,000	$ 21,150
FE2	1990	Field Equipment	Public Works	15	$ 22,000	$ 25,850
FE4	2001	Field Equipment	Public Works	15	$ 25,000	$ 29,375
FE5	2005	Field Equipment	Public Works	15	$ 25,000	$ 29,375
LK-#12	2007	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 47,000
223	2007	Light Dump	Public Works	10	$ 84,850	$ 99,699
B-#1	2002	Heavy Equipment Back Hoe	Public Works	15	$ 80,000	$ 115,000
						$ 487,299

* Funded through Recycling Grant Funds.

VEHICLE EVALUATION FORM

VEHICLE/EQUIPMENT EVALUATION FORM

Vehicle or Equipment VIN or Serial#_____

Vehicle or Equipment #:_____ Department Assigned to: _____

Make:_____ Model:_____ Year:_____

Mileage:_____ Hours of Operation:_____

Date of Evaluation:_____ Evaluator:_____

System	Diagnosis	Estimated Repair Cost
Engine		
Transmission		
Drive Line		
Differential		
Exhaust		
Pumping System		
Hydraulic System		
Electrical System		
Brakes		
Tires		
Body		
Interior/Exterior		
Front End/Suspension		
Air Conditioning		
Other		
Total Estimated Repair Cost		

Diagnosis Code	Code Description
Good 3	System is functioning well, and no repairs expected at this time
Fair 2	Minor Repairs required
Poor 1	Major repairs needed as soon as possible – consider replacing

Evaluators Comments:_____

_____

_____

_____

_____

VEHICLE/EQUIPMENT EVALUATION SUMMARY REPORT

Vehicle or Equipment #:_____ VIN or Serial #:_____

Department Assigned to:_____

Make:_____ Model:_____ Year:_____

Description of use:_____

SUMMARY OF VALUES

YEARS OF SERVICE_____USEFUL LIFE_____YEARS OVER OR UNDER_____

CURRENT MILEAGE_____MILEAGE THRESHOLD_____MILES OVER OR UNDER_____

CURRENT HOURS_____THRESHOLD HOURS_____HOURS OVER OR UNDER_____

MAINTENANCE/REPAIR COSTS TO DATE: (ATTACHED)

PURCHASE COST:_____ REPAIR COST:_____

REPLACEMENT COST:_____ TRADE IN VALUE:_____

COMMENTS AND OTHER
CONSIDERATIONS:_____
_____
_____
_____
_____
_____
_____

RECOMMENDATIONS:_____
_____
_____
_____
_____
_____
_____

ATTACHMENT “A”

FIRE EQUIPMENT

2012

Fire Apparatus Replacement Program

MUNICIPALITY OF MT. LEBANON

9/27/2012

Mt. Lebanon Fire Department
Apparatus Replacement Program

To meet community risks, maximize fire fighter capabilities, minimize risk of injuries to fire department personnel and the public, and meet Insurance Services Office (ISO) apparatus requirements, the Mt. Lebanon Fire Department maintains three first-line engines, one reserve engine, a ladder truck, and a heavy rescue truck, a command vehicle, and several utility vehicles Historically, since 1951, the Municipality has replaced major apparatus on a five-year rotation (Table 1):

Table 1: Mt. Lebanon Historical Replacement of Fire Apparatus

Unit	Year Purchased	Age at Replacement
Truck	**1951**	
Engine	**1955**	
Engine	**1961**	
Engine	**1968**	
Truck	**1971**	**20 years**
Engine	**1975**	**20 years**
Engine	**1982**	**21 years**
Rescue	**1985**	
Engine	**1987**	**19 years**
Truck	**1992**	**21 years**
Engine	**1995**	**20 years**
Engine	**2002**	**20 years**
Engine	**2002**	**15 years**
Rescue	**2008**	**23 years**

Overall, the fire department agrees with the Matrix recommendation that the Municipality use a 15-year plan for front line fire apparatus; however, the department believes that Matrix failed to address the status of reserve fire apparatus and the long-term costs associated with the department's fleet replacement program in accordance with National Fire Protection Association (NFPA) Standards and Insurance Services Office (ISO) requirements.

The Matrix study cites that "Most agencies use a 15-year replacement target for fire engines and trucks" and that "Even large agencies like Phoenix, Sacramento, and El Paso do not follow a 10-year replacement plan." The reason that most agencies, in addition to the very progressive agencies referenced, utilize a 15-year replacement cycle for fire engines and trucks is based on NFPA recommendations.

The National Fire Protection Association (NFPA) Standard on Automotive Fire Apparatus, Guidelines for First-Line and Reserve Fire Apparatus, recommends that apparatus greater than 15 years be placed in reserve status and upgraded to incorporate as many features as possible of the current fire apparatus standard. The recommended age for reserve apparatus is between twenty and twenty-three years, with applicable upgrades.

Definition of first-line fire apparatus: First-line fire apparatus must be manufactured to NFPA 1901, 1991 (2003 editions) and must be maintained in accordance with NFPA 1912 and 1915.

Definition of reserve fire apparatus: Reserve fire apparatus is defined as apparatus manufactured to applicable NFPA 1901 editions, after 1979 and prior to the 1991 edition. Such apparatus must have been **upgraded to include as many of the features as possible** found in 1991 or newer units.

The fire department's current apparatus replacement plan maintains two front-line engines at a maximum of ten-years old, one-front-line engine at a maximum of twenty years old, a reserve engine at a maximum of twenty years old, and a ladder truck at a maximum of twenty years old. Under the current replacement plan, one front-line engine and the ladder truck are not in compliance with the NFPA Standard or the Matrix recommendation that the Municipality use a 15 year plan for first-line fire apparatus.

The following table is the Department's current apparatus replacement schedule, approved in June of 1999:

Table 2: Current Apparatus Replacement Program

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Engine 4	**1995**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**2022**	**$500,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,480,000**

Table 3 represents an apparatus replacement schedule for all Mt. Lebanon fire apparatus based on the recommendation that the "Municipality should use a 15-year plan for front line fire apparatus," meeting NFPA standards (no front-line apparatus over 15-years old and no reserve apparatus over 20 years old):

Table 3: Matrix Replacement Schedule Incorporating NFPA Standards

Unit	Year	Replacement	Cost	Age at Replacement
Engine 1	**1982**	**2010**	**$500,000**	**28 years**
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 4	**1995**	**2015**	**$500,000**	**20 years**
Engine 2	**2002**	**2017**	**$500,000**	**15 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Engine 1	**2010**	**2025**	**$500,000**	**15 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,860,000**	

Table 4 represents an apparatus replacement schedule, incorporating the Matrix recommendation with the assumption that the Municipality will continue to purchase apparatus on a five-year rotation.

Table 4: 15 – year replacement cycle based on Matrix recommendation that the Municipality should also use a 15 year plan for front line fire apparatus."

Unit	Year	Replacement	Cost	Age at Replacement
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 1	**1982**	**2017**	**$500,000**	**35 years**
Engine 4	**1995**	**2017**	**$500,000**	**22 years**
Engine 2	**2002**	**2022**	**$500,000**	**20 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,560,000**	

In order to meet the intent of the Matrix recommendation (savings), while meeting NFPA Standards, the fire department is proposing the following apparatus replacement schedule:

Table 5: Proposed Fire Department apparatus replacement plan – 15-year front line service with elimination of one engine – NFPA Compliant.

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 4	**1995**	**2017**	**$500,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**None**	**$0**
Truck	**2012**	**2027**	**$930,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,910,000**

Note: The elimination of the reserve engine will lose the department one point in its ISO rating; however, should not be significant enough to affect the community's overall fire protection classification.

It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage and engine hours, quality of the preventative maintenance program, quality of the driver training program, usage, workmanship, climate, and terrain, to name a few. In the fire service, there are apparatus with 8 to 10 years of service that are simply worn out. There are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are still serviceable after 20 years of service. In preparing the current fire department apparatus replacement plan, however, it is apparent the

majority of fire department follow the NFPA Standard as a guideline for apparatus replacement guidance.

While NFPA Standards are not mandatory, they establish a datum point for age of apparatus and updating guidelines. Fire Departments that do not follow NFPA Guidelines assume full liability of retaining known deficient apparatus in service. To knowingly operate or approve of the operation of a vehicle that could kill or injure the public or a fire fighter severely exposes the fire department officials to liability.

Table 4: Apparatus Replacement Schedules for Other U.S. Fire Departments

City	Population	Apparatus Type	First-Line	Reserve
Pittsburgh, PA	330,000	Engines & Trucks	15 years	N/A
Winston-Salem, NC	299,000	Engines	10 years	5 years
		Trucks	15 Years	5 years
Albemarle County, VA	92,000	Engines & Trucks	12 – 15 years	5 years
San Francisco, CA	809,000	Engines	10 years	5 years
		Trucks	15 years	5 years
Montgomery County, MD	950,000	Engines & Trucks	12 years	15 years
Flint, MI	125,000	Engines	10 years	5 years
		Trucks	12 years	8 years
Boulder, CO	280,000	Engines	10 years	10 years
		Trucks	10 years	7 years
Tualatin Valley, OR	23,000	Engines & Trucks	15 years	N/A
River Edge, NJ	11,000	Engines	15 years	8 years
Hilton Head, NC	35,000	Engines & Trucks	12 years	5 years
Richmond, IN	48,000	Engines & Trucks	15 years	5 years
Sand Springs, OK	19,000	Engines	10 years	10 years
		Trucks	15 years	N/A
Charlottesville, VA	45,000	Engines	12 years	5 Years
Roanoke, VA	97,000	Engines	10 years	5 years
		Trucks	12 years	5 years
Mountain Brook, AL	23,000	Engines & Trucks	15 years	5 years
Palm Beach, FL	11,000	Engines & Trucks	15 years	N/A
Staunton, VA	25,000	Engines & Trucks	20 years	3-5 years
Sand Springs, OK	35,000	Engines & Trucks	10 years	5 years
Park Ridge, IL	38,000	Engines & Trucks	15 years	5 years
Lighthouse Point, FL	13,000	Engines & Trucks	20 years	N/A
Miramar, CA	85,000	Engines	6 years	4 years
		Trucks	10 years	5 years
Gainesville, FL	99,000	Engines & Trucks	15 years	5 years
Alexandria, VA	125,000	Engines & Trucks	10 years	5 years
Richmond, VA	198,000	Engines	12 years	N/A
		Trucks	12 years	N/A

Based on the Matrix recommendations and additional research, as well as Mt. Lebanon Fire Department historical fire apparatus replacement schedules and usage, the Department proposes the following replacement for major apparatus:

Engines:

- 15-years of first –line service per NFPA Standards.
- Maintaining three engines to meet ISO and service demand requirements.
- Purchase of one new engine every five years.
- Elimination of reserve engine.

Truck:

- 15-years of first-line service per NFPA Standards.
- Purchase of a new truck every fifteen years.
- Adoption of the quint concept to allow for greater versatility and usage of the truck while alleviating some of the service demands placed on the engines.

Rescue:

- Maintain 20-year replacement cycle (specialty vehicle).

Command Vehicle:

- Maintain 25-year replacement cycle (specialty vehicle).

Squads and Utilities:

- Maximum 12-year replacement cycle.

Chief's Vehicle:

- 5-year replacement cycle; vehicle will be used for additional five-years as an additional staff vehicle.

Mt. Lebanon Fire Department

Standard Operating Guideline

Apparatus Replacement Policy

Number	Date	Page
110	7/10/09	1 of 1

1.0 General

1.1 Purpose. This standard operating guideline is to outline the replacement guidelines for fire and rescue apparatus and vehicles.

2.0 Procedure

2.1 To ensure the safest and most efficient use of Mt. Lebanon Fire Department resources, the following fire department apparatus and vehicle replacement guidelines shall be standard practice:

2.2 The Department shall maintain and adequate number of first-line apparatus to meet ISO requirements and service demands.

2.3 The goal of this guideline is to have heavy apparatus (engines and trucks) replaced after fifteen years of first-line service, the rescue replaced after twenty years of first-line service, the command vehicle replaced after twenty-five years of front-line service, and light vehicles (squads and utilities) replaced after a maximum of twelve years of service.

Unit	Year	Replacement
Pickup	**1997**	**2011**
Engine 1	**1982**	**2012**
Truck	**1992**	**2012**
Squad	**2003**	**2015**
Engine 4	**1995**	**2017**
Engine 2	**2002**	**2022**
Engine 3	**2002**	**None**
Pickup	**2011**	**2023**
Squad	**2015**	**2027**
Truck	**2012**	**2027**
Rescue	**2008**	**2028**

ATTACHMENT “B”

POLICE VEHICLES

MT. LEBANON POLICE DEPARTMENT (MLPD) FLEET ROTATION POLICY

MLPD fleet rotation is a fluid process based on safety concerns, performance, usage, mileage and assignment. Police vehicles are much more than a simple means of transportation for police officers; they are instead lifelines for the community and its police officers. Because of the critical nature of policing and the necessity for instant emergency response, the MLPD fleet must maintain performance as an absolute. Regular, consistent maintenance, as well as regular replacement of police vehicles so that operating capabilities (e.g. acceleration, braking, and dynamics) are not jeopardized, is paramount to saving officer and citizen lives, and protecting the municipality from surrounding liability. Moreover, police vehicles are "mobile offices" in which officers spend a significant percentage of their working hours. Because they provide platforms to support mobile data terminals (MDTs), in-car video cameras, emergency lighting systems, radios, rifles, shotguns and additional emergency equipment, police vehicles serve a purpose that distinguishes them from vehicles assigned to other components of municipal government.

As a result of their varied usage patterns, rotation policies for police vehicles must consider not only mileage and age, but also must take into consideration the nature of police vehicle operation. For example, because police vehicles must idle to keep MDTs "booted up" for rapid access to incident and CAD information, GPS data, and for efficient powering of emergency lighting systems, industry experts acknowledge an advanced rate of wear and tear on police vehicles, and the necessity to factor idling time and driving conditions into a rotation policy. Experienced fleet managers for large police departments recommend a formula that estimates every hour of engine idling is equivalent to 33 driving miles. It is easy to see why a MLPD vehicle with 100,000 miles on its odometer could be comparable to a family car with 200,000 miles on its odometer, given stop and go driving conditions, high idling times, excessive wear and tear on brake systems and suspensions, and the relatively harsh year round climate in southwestern Pennsylvania.

Normal MLPD annually scheduled purchases include three (3) police vehicles. Per the above considerations, the regular rotation schedule varies according to the type of vehicle and its common usage:

1. **Patrol Vehicles (PV)**
    a. The need for reliable and safe patrol vehicles cannot be overstated. On many occasions, engines in our Ford Crown Victorias and Dodge Chargers run for 24 hours per day, seven days a week. Given the number of hours and the nature of their operation, it is imperative that these sedans are rotated out of the patrol vehicle fleet **every three (3) years.**
    b. Sport Utility Vehicles and patrol vehicles assigned to K-9 officers, though assigned for patrol usage, have fewer officers assigned per vehicle. As a result, these vehicles have a **five (5) year rotation schedule**.

2. Specialty Vehicles (SV)

a. Specialty vehicles, such as the Mobile Command Post, DUI trailer, armored car, U.S. Army utility pickup truck, etc., were purchased with grant funding or through federal surplus programs, or were donated to the department at no cost to the municipality.

b. These vehicles have limitations on their usage, and as a result their rotation cannot be based on age, but instead is driven by **mileage and mechanical condition.**

3. Unit Vehicles (UV)

a. Unit vehicles include vehicles assigned to Administration, Crime Prevention, Investigative Services, Traffic Services and Animal Control.

b. Unit vehicles are generally used in and around Mt. Lebanon and surrounding municipalities, and usually operate under ordinary urban and suburban driving conditions.

c. *Administration*- the Chief of Police's (COP) vehicle is rotated at the end of a 3 year lease to own period. The COP vehicle is then assigned to a Deputy Chief of Police (DCOP) for three (3) more years. After three more years, DCOP vehicles are assigned to Investigative Services for an additional 3-4 years.

d. *Traffic Services* - a Traffic Services vehicle is also on a 3 year rotation of lease to own. At the end of that 3 year period, the vehicle is then assigned to a DCOP or to investigative Services for an additional 3-4 years.

e. *Crime Prevention (CPU)* - the unit normally has two vehicles assigned: a SUV previously assigned to either Traffic Services or Patrol, and a sedan previously assigned to either Police Administration or the Municipal Manager. The SUV remains with CPU for an additional 3-5 years, and the sedan remains for 3-4 years.

f. *Investigative Services* - undercover vehicles are assigned on a maintenance dependent rotation, and three (3) unmarked cars are used in the course of general investigations. These three cars, previously assigned to Police Administration, will remain in service for 3-4 additional years.

g. *Animal Control* – Animal Control trucks are on a 3 year rotation schedule, set by the SHCAC co-operative, with one truck purchased every year and the costs shared by the member communities.

All vehicle rotations take into consideration the practical useful life of the outgoing vehicle. If a vehicle has low mileage and low maintenance, it is standing practice to reassign the vehicle to other municipal departments, such as Inspections, Recreation, or Public Works. If other municipal departments have no need for a particular vehicle, the vehicle is either sold outright per established municipal policy or sent to auction. The recovered funds are used to offset expenditures for the given budget year.

ATTACHMENT “C”

PUBLIC WORKS EQUIPMENT

PUBLIC WORKS FLEET REPLACEMENT PROGRAM

A sound vehicle and equipment replacement schedule is important to the functioning of the Mt. Lebanon Public Works Department. Reliable vehicle and equipment in good working order are essential to our day to day operations and are critical when responding to snow and ice emergencies, removing fallen trees, sanitary and storm sewer overflows and flooding and the removal of leaves from community streets, and performing countless other activities that ensure public services of all sorts are available to citizens in a timely and professional manner.

Trucks and heavy equipment that break down frequently due to age or excessive use, interfere with workforce planning and can lead to disrupted and failed services. In today's rapidly changing technological world, older equipment quickly becomes obsolete and difficult to maintain. Good, dependable working equipment enables trained public works crews to respond quickly and professionally to emergency situations and reflects well on the stature of the community and its elected officials.

Our vehicle and equipment fleet is nothing more than a tool for the provision of services to the general public by municipal employees. When the tool, wear out become obsolete or requires repetitive upkeep, our ability to provide necessary services to our residents suffers. An essential component of effective fleet management is the commitment to replace vehicles and equipment before service delivery is impaired or diminished. A fleet replacement schedule can accomplish the following:

- Less vehicle downtime and lower operating and maintenance cost by the elimination of high cost, maintenance vehicles
- Assurance to elected officials that we are doing our best to plan for the replacement of vehicles and equipment before critical failure
- A streamlined fleet achieved through the elimination of unnecessary spares no longer needed to fill in for vehicle down time for recurring repairs

Many municipal governments react to the need for vehicle and equipment replacements either based on available funding or when no other choice exists. For example when ample funds are

available vehicles get replaced. Or, if a crisis exists such as a blown engine or a vehicle is wrecked beyond repair, a case for immediate replacement can be made. However, best practices require vehicles and equipment to be replaced according to sound principals and in accordance with a formal replacement schedule. Additionally the age of the fleet and its condition have a significant impact on the municipality's image and the morale of its employees.

When to replace a vehicle is a significant decision. The fleet replacement policy must mesh with our organizational goals and the need to meet the priorities of our customers (residents). There are more advantages to operating a newer fleet of vehicles than an aged fleet. These advantages are:

- The ability to minimize safety risks by driving vehicles with state-of-the-art safety equipment and newer components.
- Reduced downtime for employees driving vehicles that require minimal repair and maintenance.
- Enhanced employee morale and organizational image.
- A reduction in the expense incurred to maintain and repair vehicles.

REPLACEMENT CRITERIA

Eventually, all vehicles and equipment wears out. As they wear, they become increasingly expensive to operate and maintain and less reliable and safe to use. They become more expensive, in part because major components and systems, which are costly to repair or replace, cease to function properly or at all. They also become more expensive because component failure tends to be unpredictable, and unplanned repairs are more likely to interfere with vehicle use, impose uneven demands on maintenance resources and ultimately may lead to the disruption and delay of municipal services.

Most fleet organizations (private and public) establish formal replacement criteria in terms of vehicle age and/or usage (in terms of miles or engine hours) in order to forecast replacement funding requirements, develop budgets, and to trigger the examination of specific units for potential replacement. Some vehicles do not wear out as quickly as others, perhaps because their usage is lower in intensity than of other vehicles of their type. Some vehicles need to be replaced sooner than others because they experience above average wear and tear.

Below are the age and mileage standards that are being used by other municipalities to plan for the replacement of their vehicle and equipment fleets. Once the vehicles and equipment units reach the age and mileage/hour thresholds they are carefully inspected and evaluated to ensure that they are in safe working order and free of major defects. Vehicles that fail the evaluation are scheduled for replacement. Mt. Lebanon uses a similar age and use criteria and constantly evaluates the condition of its fleet. Our goal is to plan for the replacement of fleet

assets and avoid the dangers of keeping vehicles and equipment beyond reasonable life cycles which will cause total vehicle costs to rise, making our fleet more costly to own and operate.

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Light Dump Truck	7 - 10	80,000
Heavy Dump Truck	7 - 10	80,000
Pick Up Truck	7	80,000
Utility Truck	7 - 10	80,000
Street Sweeper	7	90,000
Back Hoes	8-10	
Front end loader	8 - 10	
Field Tractors	6 - 8	

Source: City of Pittsburgh Vehicle Replacement Schedule, Jake Harvey, General Manager

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Administrative Sedans	5	75,000-100,000
Emergency Sedans	3	85,000-100,000
Pickup Trucks	7	100,000-120,000
Dump Trucks, Diesel	7 - 10	150,000
Backhoes, Loaders	7 - 10	6,000 -7,500 hrs

Source: American Public Works Association Vehicle Replacement Guide

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Sedans	3	60,000
Ambulances	7	60,000
Pickup Trucks	6	50,000
Light Dump Trucks	7	60,000
Heavy Dump Trucks	9	80,000
4-Wheel Drive Vehicles	6	40,000

Source: Federal Minimum Replacement Standards 41CFR 102-34.280

ATTACHMENT “D”

VEHICLE & EQUIPMENT DATA

Veh.#	Year	Model Type	Category	Assignment	Useful Life Years	Replacement Year	Notes	Current Replacement Cost	2013	2014	2015	2016	2017
361	2010	Utility Truck	Utility Truck	Police AC	3	2013		$ 24,000	$ 24,840			$ 27,360	
S-87	2008	Sedan	Sedan	Police	3	2011		$ 26,000	$ 26,910			$ 29,640	
S-93	2009	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-97	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-98	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-88	2008	4WD Sport Utility	4WD Sports Utility	Police	5	2013		$ 30,000	$ 31,050				
CAR-01	2007	4WD Sport Utility	4WD Sports Utility	Fire Dept.	10	2013		$ 33,000	$ 34,155				
252	1996	Sierra Utility Tk.	Utility Truck	Public Works	10	2008		$ 35,000	$ 35,000				
LK-#7	2003	Leaf King Trailer	Specialty Equipment Leaf Vac*	Public Works	7	2010		$ 40,000	$ 40,000				
SE2	1972	Stump Grinder	Specialty Equipment Stump Grinder	Public Works	20	1992		$ 40,000	$ 40,000				
228	2000	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2010		$ 84,850	$ 87,820				
233	2001	F-550 Utility / Lift Tk.	Specialty Truck	Public Works	10	2011		$ 120,560	$ 120,560				
TRL-#1	1989	Trailer	Trailer	Public Works	15	2004		$ 7,000		$ 7,490			
362	2011	Utility Truck	Utility Truck	Police AC	3	2014		$ 24,000		$ 25,680			$ 28,200
S-99	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-01	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-02	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
302	2011	Mini Van	Van	Recreation	10	2014		$ 26,000		$ 27,820			
T-94	2009	Truck	Pick up Truck	Police	5	2014		$ 30,000		$ 32,100			
UTL-2-1997	1997	F-350 4x4	Pick up Truck	Fire Dept.	12	2011		$ 38,500		$ 41,195			
LK-#8	2003	Leaf King Trailer	Specialty Equipment	Public Works	7	2010		$ 40,000		$ 42,800			

SE3	2001	Brush Bandit	Specialty Equipment Chipper	Public Works	12	2013		$ 65,000		$ 69,550			
224	2003	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2013		$ 84,850		$ 90,790			
216	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230		$ 139,346			
255	2001	Elgin Sweeper	Specialty Equipment	Public Works	10	2011		$ 180,930		$ 199,000			
256	1997	FL-80 Sewer Tk.	Specialty Equipment Aquatech**	Public Works	10	2007		$ 328,000		$ 350,960			
TRL-#3	1995	Trailer	Trailer	Public Works	15	2010		$ 7,000			$ 7,735		
FE3	2000	Sand Pro Tractor	Field Equipment	Public Works	15	2012		$ 21,000			$ 23,205		
363	2012	Utility Truck	Utility Truck	Police AC	3	2015		$ 24,000			$ 26,520		
S-84	2007	Sedan	Sedan	Police	3	2012		$ 26,000			$ 28,730		
S-91	2008	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-92	2009	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-05	2012	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-81	2006	Sedan	Sedan	Police	9	2012	K-9	$ 26,000			$ 28,730		
S-03	2012	4WD Sport Utility	4WD Sports Utility	Police	8	2015	C	$ 30,000			$ 33,150		
FE1	2005	2WD Tractor	Field Equipment	Public Works	10	2015		$ 30,000			$ 33,150		
UTL-3-2003	2003	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2015		$ 32,000			$ 36,800		
LK-#9	2003	Leaf King Trailer	Specialty Equipment* Leaf Vac	Public Works	7	2010		$ 40,000			$ 44,200		
211	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230			$ 143,904		
257	1998	Econoline Box Van Camera Van	Specialty Truck Camera Van.**	Public Works	10	2008		$ 150,000			$ 165,750		
TRL-#2	2000	Trailer	Trailer	Public Works	15	2015		$ 7,000				$ 7,980	
SE5	1988	Roller	Specialty Equipment	Public Works	20	2005		$ 8,000				$ 9,120	
SE4	1988	Root Cutter	Specialty Equipment	Public Works	20	2005		$ 36,000				$ 41,040	
LK-#11	2004	Leaf King Trailer	Specialty Equipment	Public Works	7	2011		$ 40,000				$ 45,600	

225	2006	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2016		$ 84,850				$ 96,729	
215	2003	7400 Dump Tk	Heavy Dump	Public Works	12	2015		$ 130,230				$ 149,765	
C1	1995	Air Compressor	Specialty Equipment	Public Works	20	2015		$ 18,000					$ 21,150
FE2	1990	Truckster	Field Equipment	Public Works	15	2002		$ 22,000					$ 25,850
FE4	2001	Tractor	Field Equipment	Public Works	15	2013		$ 25,000					$ 29,375
FE5	2005	Tractor	Field Equipment	Public Works	15	2017		$ 25,000					$ 29,375
LK-#12	2007	Leaf King Trailer	Specialty Equipment	Public Works	7	2014		$ 40,000					$ 47,000
223	2007	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2017		$ 84,850					$ 99,699
B-#1	2002	4WD - Backhoe	Heavy Equipment	Public Works	15	2017		$ 80,000					$ 115,000
UTL-4-2008	2008	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2018	C	$ 28,000					
S-95	2009	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 30,000					
P-1	2006	4WD Sport Utility	4WD Sports Utility	Public Works	9		**	$ 28,000					
P-2	2005	Ford Escape	4WD Sports Utility	Public Works	10		**	$ 25,000					
202	2003	4WD Sport Utility	4WD Sports Utility	Public Works	10		***	$ 28,000					
201	2012	4WD Sport Utility	4WD Sports Utility	Public Works	9	2018		$ 28,000					
S-04	2012	Traverse SUV	4WD Sports Utility	Administration	10	2015	C	$ 28,000					
S-71	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-72	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-96	2010	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
FE11	2011	Hydroseeder	Field Equipment	Public Works	15	2025		$ 26,285					
FE6	2006	Infield Pro Tractor	Field Equipment	Public Works	15	2018		$ 21,000					
FE7	2008	Infield Pro Tractor	Field Equipment	Public Works	15	2020		$ 21,000					
FE8	2009	Truckster	Field Equipment	Public Works	15	2021		$ 21,000					
FE9	1978	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE10	1982	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE12	2012	M640 Tractor	Field Equipment	Public Works	15	2027		$ 26,000					

ENG-2-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
ENG-3-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
2011	2011	Aerial Ladder	Fire Equipment	Fire Dept.	15	2026		$ 1,000,000					
RESCU-2008	2008	Rescue Tk.	Fire Equipment	Fire Dept.	20	2028		$ 650,000					
2008	2005	Command post	Fire Equipment	Fire Dept.	25	2030		$ 275,000					
FSH-01	2005	Fire Safety Trailer	Fire Equipment	Fire Dept.	15	2018		$ 70,000					
CRU	1996	Collapse Trailer	Fire Equipment	Fire Dept.	15	2009	Shared						
217	2008	7900 Dump Tk.	Heavy Dump	Public Works	12	2020		$ 130,230					
212	2011	4900 Dump Tk.	Heavy Dump	Public Works	12	2023		$ 130,230					
214	2012	7400	Heavy Dump	Public Works	12	2024		$ 130,230					
386	2004	Loader Front End	Heavy Equipment	Public Works	15	2019		$ 140,000					
B-#2	2005	4WD - Backhoe	Heavy Equipment	Public Works	15	2020		$ 80,000					
SP1	1995	Truck	Heavy Truck	Police	10		**	$ 350,000					
221	2011	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2021		$ 84,850					
222	2012	5500 4WD Dump Tk.	Light Dump	Public Works	10	2022		$ 84,850					
227	2008	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2018		$ 84,850					
311	1999	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
312	2001	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
226	2008	F-550 4WD Dump	Light Dump	Public Works	10	2018		$ 84,850					
P-3	2012	F-350 Pick Up	Pick up Truck	Public Works	10	2022		$ 25,000					
P-4	2010	F-150 Pick Up	Pick up Truck	Public Works	10	2020		$ 28,000					
253	2009	Ford F-150	Pick up Truck	Public Works	10	2019		$ 28,000					

401	2002	Silverado 1500	Pick up Truck	Public Works	10		***	$ 28,000					
S-83	2008	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-75	2005	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-86	2008	Sedan	Sedan	Police	8		R	$ 30,000					
S-79	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-78	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-73	2005	Sedan	Sedan	Police	8		R	$ 24,000					
SP6	2005	Sedan	Sedan	Police	8		**	$ 24,000					
SE1	2002	Grinder	Specialty Equipment	Public Works	20	2022		$ 250,000					
LK-#6	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
LK-#10	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
SP3	1995	Truck	Specialty Truck	Police	10		**	$ 100,000					
218	2000	F-750 Chipper Tk.	Specialty Truck	Public Works	12		**	$ 145,000					
219	2012	4300 Chipper Boom Tk.	Specialty Truck	Public Works	12	2024		$ 160,000					
ENG-4-1995	1995	Pumper	Fire Equipment	Fire Dept.	15	2012		$ 550,000					
231	2011	E-150 Van Paint Crew	Specialty Truck	Public Works	10	2021		$ 33,000					
258	2011	Trades Van	Van	Public Works	10	2021		$ 43,000					
301	2008	Mini Van	Van	Recreation	10		***	$ 26,000					
SP4	1991	Van	Van	Police	10		**	$ 32,000					
UTL-1-1996	1996	Mini Van	Van	Fire Dept.	12	2006	**	$ 26,000					
								$ 9,576,155	$ 521,065	$ 1,110,191	$ 658,064	$ 496,154	$ 487,299

****Note**S-71, S-91 & S-92 will be sold and replaced by S-06, S-07 & S-08 in late 2012.**

R Will be shifted to different units in the Police Department or to another department and will not be replaced.

** Will be used until no longer servicable

C Chiefs or Managers Vehicle will be replaced every 3 years. Old vehicle will be reassigned

*** Will be replaced by a reassigned vehicle

**** Volunteer Owned

MUNICIPALITY OF MT. LEBANON

FLEET MANAGEMENT DOCUMENTS

PROPOSED FLEET REPLACEMENT SCHEDULES 2013 - 2017

October 2**, 2012**

FLEET & EQUIPMENT MANAGEMENT

Background: The Mt. Lebanon Department of Public Works is assigned the overall responsibility for managing the Municipality's fleet of vehicles and construction/maintenance equipment. The Public Works Department works in conjunction with the Police and Fire Departments (Fleet Management Team) to: develop vehicle and equipment specifications; develop vehicle and equipment replacement schedules; acquire vehicles and equipment; and reassign and dispose of vehicles and equipment. The vehicle and equipment maintenance functions are assigned solely to the Public Works Department. The public works maintenance garage is located at 1250 Lindendale Drive and two full-time mechanics are employed to maintain 111 vehicles and equipment units with a replacement cost of over $9.5Million. The annual appropriations for operations, maintenance, repair and fueling for Police, Fire, Recreation, Inspections, Administration and Public Works vehicles and equipment is budgeted in the Public Works Operating Budget. The appropriations to replace vehicles and equipment is budgeted either in the annual Operating Budgets of the departments listed above or in the Capital Budget. A complete listing of the vehicles and equipment maintained by the public works mechanics is listed as an attachment to this report.

The purpose of this document is to propose a vehicle replacement plan for the next five years, and the specific vehicle and equipment needs and requirements of the three departments that make up the Fleet Management Team. This document reflects the vision of the Fleet Management Team to create a multi year vehicle and equipment replacement plan that will serve as a guide in providing direction to meet needs. This is a living document that will be modified and updated annually to reflect changes in the Municipality's organizational climate, the changing needs of our internal customers, and changes in the automotive and equipment industry.

The review of the Municipality's Fleet Management functions by the Matrix Group pointed out that an effective fleet management program should include policies and procedures on acquisition, maintenance, replacement and disposal of vehicles.

Acquisition: The goal of the Municipality's acquisition practices is to obtain the lowest possible price and the highest possible quality. Currently the Municipality purchases through State and Council of Government Contracts to achieve the lowest price possible to acquire the highest possible quality. All purchases of vehicles and equipment will follow the applicable Municipal Purchasing Codes. Annually before the preparation of the Operating and Capital Budgets the Police and Fire Chiefs meet with the Public Works Director to review the vehicle replacement schedule and plan for the acquisition of replacement vehicles and equipment. Any request for new equipment that would increase the size of the fleet must be cost justified to the Manager and

Finance Director. The recommendation to lease or purchase equipment and vehicles is made by the Finance Director.

Maintenance: The goal of Public Works vehicle and equipment maintenance practices is to keep vehicles and equipment in sound operating condition. Preventive maintenance routines and intervals followed by our mechanics and are based on local driving conditions and manufacturer's recommendations, for each type of vehicle or equipment and each type of maintenance service. Maintenance costs represent a significant portion of the total cost to own and operate a vehicle or piece of heavy equipment and tend to increase as a vehicle or equipment ages. Escalating maintenance costs are a key factor in determining when to replace a fleet vehicle. In addition to the added cost of maintenance as a vehicle ages, there is an additional cost to the municipality when a vehicle is in the garage receiving maintenance and not available for use. Preventive maintenance is the key to avoiding the repair or replacement of costly major vehicle components such as engines, transmissions and drive trains. Our mechanics make adjustments to the manufacturer's recommendations based on the specific vehicle's use. For example, a police vehicle may idle for an extended period of time while an officer monitors a high-risk area. When an engine idles, it incurs wear and tear that will require future maintenance. So the maintenance schedule for a vehicle that runs idle 50 percent of the time may be as frequent as that of a comparable one that drives more miles.

Accurate and complete vehicle maintenance records are a key tool for making fleet management decisions. Vehicle maintenance costs are variable and distinct to each vehicle. Pertinent records maintained for each vehicle are:

- vehicle maintenance logs
- fuel usage logs
- Cumulative costs of parts, labor, and overhead by a vehicle over its life.

While we currently collect this information we lack automated systems that can produce information in a timely manner. Overly frequent or delinquent preventive maintenance intervals are counter productive to controlling costs.

Replacement: As with other aspects of fleet management, replacing a vehicle too soon or too late wastes money. Together with the Police and Fire Departments we are developing replacement standards based on APWA, industry guidelines and years of experience in operating and maintaining vehicles and equipment. The goal is to analyze the costs associated with a vehicle and identifying the point when, on average, a vehicle is reasonably depreciated but not yet incurring significant maintenance costs. By replacing vehicles at this point, we can avoid escalating maintenance costs and optimize vehicle resale value. The three criteria that we considered when establishing the vehicle replacement schedule were vehicle mileage, age and use. Because each municipality's fleet and usage is unique, a universal management guide does not exist that can be applied to all types of fleets for every locality. For example, a police vehicle has a different maintenance demand and useful life than a pickup truck in the department of

public works. A police vehicle in Mt. Lebanon (an urban setting) has requirements different from a rural county sheriff's vehicle. Likewise, a dump truck that is not used to haul salt and plow streets during the winter can not be compared to the same piece of equipment in Florida. Even within a single department, a vehicle used by a detective is maintained and replaced on a different schedule than that of a patrol car.

Reassignment and Disposal of Vehicles and Equipment: The vehicle and equipment fleet is sized to meet the current needs of the Municipality. Fleet vehicles and heavy equipment will not be reassigned unless it is used to replace unit currently assigned to other departments. In those instances the older units will be disposed. Annually before Operating and Capital Budgets are prepared, the Police and Fire Chiefs will meet with the Public Works Director to review the vehicle and equipment replacement schedule, and plan for the reassignment or disposal of vehicles and equipment that have reached their age, and mileage thresholds and will be replaced in the next budget cycle. Police sedans may be reassigned to the Inspection Office for field work or to the Recreation Department and assigned to the support staff. Four Wheel Drive Sport Utility vehicles may be reassigned to the Public Works Department for field work. The majority of vehicles selected for replacement will be sent to the public auction. Public works dump trucks may be reassigned to the Golf Course and Recreation Center to replace similar units that are currently assigned to those locations. Sealed bids, internet auctions, trade journal advertisements, and public auctions will be utilized for the disposal of fire and public works heavy equipment.

MISSION STATEMENT AND REPLACEMENT SCHEDULE

Mission Statement:
To establish efficient and effective delivery of municipal services by providing customer departments with safe, reliable, economical and environmentally sound transportation and related support services that are responsive to their needs and that preserve vehicle value and equipment investment.

Objectives:
Our primary objective is to control the overall cost of operating and maintaining the Municipal fleet of vehicles and equipment, to maintain vehicles and equipment in a manner that extends their useful life, to control the growth in size of the fleet, to standardize the composition of the fleet and to accurately budget for maintenance and replacement costs. All new purchases for vehicles and equipment are part of the budget cycle and are coordinated through Fleet Management team for recommendation.

We Will:
Provide vehicles that are safe, reliable, and environmentally-sound, at competitive prices.
Provide honest, responsive, effective and efficient fleet services to our customers.
Maximize the return on investment (ROI), and the long-term value of the fleet investment.
Maintain high quality internal and external services.
Know and respond to fleet customer desires, needs, and requirements.

Key Customers:
- Police
- Fire
- Public Works
- Inspections
- Recreations
- Administration

Definition of Product/Services:
- Maintenance and repair of over 100 vehicles and pieces of field equipment
- Management of fueling locations and parts inventories
- Assist in purchasing and up-fitting of new vehicles for user departments

Vehicle and Equipment Replacement Program
The objective of the vehicle replacement program is to promote an orderly system of purchasing and funding a standardized fleet and heavy equipment replacement process and to plan future departmental transportation requirements.

All vehicles acquired and maintained by the Municipality are recommended for replacement in accordance with adopted guidelines/procedures and all departments are responsible for complying with these guidelines/procedures.

Development of Guidelines/Procedures

The Police Chief, Fire Chief and Public Works Director (Fleet Management Team) have inventoried existing vehicles and equipment and have prepared a replacement schedule for all public works, police and fire vehicles and equipment. The schedule will be updated annually and will be used as the basis for planning for the replacement of vehicles and equipment through the operating and capital budgets. The vehicle and equipment replacement schedule will include the following information for each vehicle or unit of capital equipment:

a. Age in years also known as life.
b. Usage in hours or miles.
c. Useful life (based on commonly used standards for municipal vehicles and equipment)
d. Cost of Maintenance.
e. Overall condition: mechanical, operating, safety, or appearance.
f. Downtime
g. Availability of replacement parts
h. Funding

The guidelines for vehicles considered for replacement are based on vehicles meeting predetermined age and/hour/or mileage criteria. Additional consideration is given to functionality and overall condition of the vehicle. Priority is given to those departments whose services relate to public health and safety and law enforcement.

As vehicles reach the threshold miles or age of replacement criteria, a vehicle maintenance evaluation is performed by the Chief Mechanic of the Public Works Department (Evaluation Form attached). The Evaluation Forms will be provided to the Fleet Management Team for further review and consideration. If the evaluation proves the vehicle would be economical to retain for an additional year, the vehicle will be targeted for retention or reassignment. In some cases, it may be reassigned to other departments with "low usage" requirements or to a loaner pool. The Fleet Management Team will jointly review and approve all specifications for new purchases of Municipal vehicles and motorized equipment. Depending on the availability of funds, vehicles and equipment will be replaced when they are at the end of their economic life, no longer safe to operate, not reliable enough to perform their intended function, or there is a demonstrated cost saving to the Municipality of Mt. Lebanon.

Vehicle Categories: For the purposes of this review the Municipal fleet has been grouped into fourteen distinct categories. Each category is described below, and the number of units currently on hand, replacement cost and useful life range for each category is summarized below in Chart 1.

Four Wheel Drive Sports Utility (4WD SUV)-these vehicles are larger than, and provide more passenger room and better off road performance than traditional sedans or pick up trucks. Because of their size SUVs' are highly visible and provide the operator

with better visibility than sedans. Currently the Municipality owns eleven (14) 4WD SUVs' with a replacement value of $404,000. Useful lives for this class of vehicle depends on duty assignment and range from 8 to 12 years. In the past some of these vehicles have been reassigned to the public works department. These vehicles are maintained by the public works department. Purchases are made through the annual Operating Budget.

Field Equipment-equipment of this class includes tractors, trucksters and motorized mowing equipment. At the time of this analysis eleven (12) pieces of field equipment valued at $288,285 were included in the inventory. Useful lives range between 10 to 15 years. This equipment is maintained by public works. Purchases are made through the annual Operating Budget.

Fire Equipment-Highly specialized equipment used to respond to emergency situations. Equipment contains many other pieces of smaller highly specialized pieces of equipment required to fight all types of fires, free victims entrapped in vehicles, and conduct other related emergency responses. Currently the Municipality owns seven (7) units with a replacement value of over $3.7 Million. Useful lives range between 15 to 20 years. Purchases are made through the Capital Budget. This equipment is maintained by the public works department and outside service providers. See Attachment "A" for additional details specific to this equipment.

Heavy Dump Trucks-these vehicles have a gross vehicle weight (GVW) of at least 33,000 Lbs and load carrying capacity of five tons. Heavy dump trucks are used to tow leaf vacuum and leaf boxes during the fall and large loads of rock salt during the winter and throughout the year haul heavy loads and tow equipment trailers. At least six heavy dump trucks are required during the fall and winter for leaf and snow plowing/salting. Currently there are six units on hand. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. The current replacement value for the six heavy dump trucks is $781,380. Heavy dump trucks have a useful life of twelve years and one is replaced every two years. Purchases are made through the Capital Budget. These vehicles are maintained by the public works department. See Attachment "C" for information of replacement schedules for public works vehicles and equipment.

Heavy Equipment-This is mobile on the road and off road equipment that is used to dig, load trucks and carry large loads over a short distance. The inventory includes two Caterpillar backhoes and one Caterpillar front end loader. The backhoes are used to plant trees and maintain underground assets, and to load leaves onto trucks in the fall and clear snow from the business district during emergencies. The front end loader is used to maintain the compost sites, load salt and remove trees. These units have a replacement value of $300,000 and useful lives of 15 years. This equipment is maintained by the public works department. Replacement would be made through the Capital Budget. In

previous years grant funding from the PA DEP has been available to cover 35% of the purchase price.

Heavy Truck- One armored heavy truck is operated by the Police Department. This truck provides tactical support for police officers and is 14 years old with a replacement value of $350,000.00. The Police Department intends to keep this vehicle for an indefinite period of time. Truck is maintained by public works and would be replaced through the Capital Budget.

Light Dump Trucks- This class of vehicle has a gross vehicle weight of 17,000 lbs and is equipped with four wheel drive. These vehicles are the work horses of the public works department and are used to haul personnel, materials and equipment to on and off the road work sites. During the fall and winter these vehicles haul loads of wet leaves, and plow and salt residential streets. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. These are relatively small and maneuverable trucks that can navigated through tight streets. There are currently 10 light dumps; 8 are assigned to public works, and 2 are assigned to the recreation department for use at the recreation center and the golf course. The useful life for a light dump is 10 years. As light dumps are replaced the older units are assigned to the recreation department and the older units at recreation are sent to auction. The replacement value of the 10 units is $848,500. These trucks are maintained by the public works department and are purchased through the annual Operating Budget-one truck is replaced each year.

Pick up Trucks- This class of vehicle may be equipped with either two or four wheel drive and may have an extended cab capable of carrying a crew of five personnel along with light hand equipment or materials. Pick up trucks may pull a trailer for the police, fire or public works departments. The Municipality owns six pick up trucks with a replacement value of $177,500. The typical useful life of a pick up truck is 10 years. These trucks are maintained by the public works department and purchased through the annual Operating Budget.

Sedans- This class of vehicle is the work horse of the Police Department. Sedans are used as patrol vehicles, traffic vehicles and unit vehicles. Police sedans are more than a means of transportation they are the lifeline for the community and its police force. The vehicles must be maintained to respond to any emergency situation encountered by an officer. Police sedans are up fitted with computers, gps systems, and video systems as well as sirens and emergency lighting. After three years of continuous service these Patrol Vehicles are ready to be replaced. Some police sedans are reassigned to the Building Inspections and Recreation Departments. Currently there are nineteen (19) sedans with a replacement value of $486,000. These vehicles are maintained by the public works department and purchased through the annual Operating Budget. See Attachment “B” for additional detail on police vehicles and replacement criteria.

Specialty Equipment-Equipment in this category typical has a specialized use and performs a function that cannot be duplicated by one of the other categories of vehicles and equipment. Equipment included in this category is: leaf vacuums, street sweeper, grinder, chipper, sewer flusher, stump grinder, root cutter and air compressor. The useful life range for this equipment is from 6 years for leaf vacuums to 20 years for a stump grinder. Small pieces of specialty equipment (leaf vacuums) are purchased through the annual Operating Budget, and larger equipment like the grinder has been purchased through the Capital Budget. Currently there are fifteen (15) pieces of specialty equipment and the current replacement value is $1,205,930. This equipment is maintained by the public works department. Equipment purchases under $90,000 are funded through the Operating Budget. Purchases greater than $90,000 are purchased through the Capital Budget. Grant funding is often available to purchase leaf vacuuming equipment.

Specialty Trucks- These are trucks that are equipped with special bodies that are required to provide a specific service. These vehicles include: Forestry truck, lift truck for signal maintenance, sewer camera van, and the carpenters van. These vehicles have a useful life ranging from 10 to 12 years. The Municipality owns six specialty trucks with a replacement value of $708,560. These vehicles may be purchased through the operating or capital budget and are maintained by public works.

Trailers-These are licensed, motor-less tow behind units that are used to move equipment, other vehicles and materials. These units are towed by pick up and light dump trucks and are maintained by public works. The Municipality has three trailers with a replacement value of $21,000.00. The average useful life is 15 years. Trailers are purchased through the Operating Budget.

Utility Trucks-These are truck chassis cabs that are fitted with various bodies e.g. Animal Control Boxes, and tool and storage beds. These vehicles are limited in their use but are used daily to perform a specific task. Currently there are four (4) utility trucks. Three are assigned to the Police Department for Animal Control and one is assigned to the Public Works Department and is used as a tool and materials truck for the plumber. The replacement value for all four vehicles is $107,000 and the useful life range is between 3 and 12 years. These vehicles are purchased through the annual Operating Budget and the purchase and operating costs of the Animal Control trucks is shared with the SHACOG communities.

Vans- These vehicles are used to carry personnel and equipment. Vans sizes range from the large extended window van used by the Municipal carpenter to the small min-vans assigned to the Recreation Department. Currently there are five vehicles in the van category with a replacement value of $153,000. Vans are maintained by the public works department and the useful lives range between 10 and 12 years.

Chart 1. Summary of Vehicles and Equipment Currently on Hand

Vehicle Categories	Current Inventory	Current Replacement Cost	Useful Life Range
4WD Sports Utility	14	$ 404,000	5-12
Field Equipment	12	$ 288,285	10-15
Fire Equipment	7	$ 3,745,000	15-20
Heavy Dump	6	$ 781,380	10-12
Heavy Equipment	3	$ 300,000	15
Heavy Truck	1	$ 350,000	10
Light Dump	10	$ 848,500	10
Pick up Truck	6	$ 177,500	10
Sedan	19	$ 486,000	3-10
Specialty Equipment	15	$ 1,205,930	8-20
Specialty Truck	6	$ 780,560	10-12
Trailer	3	$ 21,000	15
Utility Truck	4	$ 107,000	3-12
Van	5	$ 153,000	10-12
Total	111	$ 9,576,155	

Multi Year Vehicle and Equipment Schedules- The following charts on pages 11 through 15 present the vehicle and equipment replacement schedules for the next five years, 2013 through 2017. These schedules are based on the current replacement values of the individual vehicles and equipment units that are currently included in our fleet. Replacements are based on the year the unit was placed in service plus the unit's useful life. For example a heavy dump truck placed into service in 2001 has a useful live of 12 years and would be evaluated for replacement in 2013. Similarly a police sedan placed in service as a patrol vehicle in service since 2010 has a useful life of 3 years and would be evaluated for replacement in 2013. For additional information please refer to the "Replacement" Section on page 3 and Attachments 1, 2 and 3. Also attached to this document is an inventory of the current fleet.

2013 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2013
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 24,840
S-87	2008	Sedan	Police	3	$ 26,000	$ 26,910
S-93	2009	Sedan	Police	3	$ 26,000	$ 26,910
S-97	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-98	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-88	2008	4WD Sports Utility	Police	5	$ 30,000	$ 31,050
CAR-01	2007	4WD Sports Utility	Fire Dept.	10	$ 33,000	$ 34,155
252	1996	Utility Truck** Plumbers Truck	Public Works	10	$ 35,000	$ 35,000
LK-#7	2003	Specialty Equipment Leaf Vac.*	Public Works	7	$ 40,000	$ 40,000
SE2	1972	Specialty Equipment Stump Grinder	Public Works	20	$ 40,000	$ 40,000
228	2000	Light Dump	Public Works	10	$ 84,850	$ 87,820
233	2001	Specialty Truck-Signal Truck	Public Works	10	$ 120,560	$ 120,560
						$ 521,065

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2014 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2014
TRL-#1	1989	Trailer	Public Works	15	$ 7,000	$ 7,490
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 25,680
S-99	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-01	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-02	2011	Sedan	Police	3	$ 26,000	$ 27,820
302	2011	Van	Recreation	10	$ 26,000	$ 27,820
T-94	2009	Pickup Truck	Police	5	$ 30,000	$ 32,100
UTL-2-1997	1997	Pickup Truck	Fire Dept.	12	$ 38,500	$ 41,195
LK-#8	2003	Specialty Equipment Leaf Vac. *	Public Works	7	$ 40,000	$ 42,800
SE3	2001	Specialty Equipment Chipper	Public Works	12	$ 65,000	$ 69,550
224	2003	Light Dump	Public Works	10	$ 84,850	$ 90,790
216	2001	Heavy Dump	Public Works	12	$ 130,230	$ 139,346
255	2001	Specialty Equipment**	Public Works	10	$ 180,930	$ 199,000
256	1997	Specialty Equipment Aquatech**	Public Works	10	$ 328,000	$ 350,960
						$ 1,110,191

*Funded through Recycling Grant Funds.

**Funded through Sanitary and Storm Sewer Funds.

2015 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2015
TRL-#3	1995	Trailer	Public Works	15	$ 7,000	$ 7,735
FE3	2000	Field Equipment	Public Works	15	$ 21,000	$ 23,205
363	2012	Utility Truck	Police AC	3	$ 24,000	$ 26,520
S-84	2007	Sedan	Police	3	$ 26,000	$ 28,730
S-91	2008	Sedan	Police	3	$ 26,000	$ 28,730
S-92	2009	Sedan	Police	3	$ 26,000	$ 28,730
S-05	2012	Sedan	Police	3	$ 26,000	$ 28,730
S-81	2006	Sedan	Police	9	$ 26,000	$ 28,730
S-03	2012	4WD Sports Utility	Police	8	$ 30,000	$ 33,150
FE1	2005	Field Equipment	Public Works	10	$ 30,000	$ 33,150
UTL-3-2003	2003	4WD Sports Utility	Fire Dept.	12	$ 32,000	$ 36,800
LK-#9	2003	Specialty Equipment* Leaf Vac	Public Works	7	$ 40,000	$ 44,200
211	2001	Heavy Dump	Public Works	12	$ 130,230	$ 143,904
257	1998	Specialty Truck Camera Van.**	Public Works	10	$ 150,000	$ 165,750
						$ 658,064

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2016 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2016
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 27,360
S-87	2008	Sedan	Police	3	$ 26,000	$ 29,640
S-93	2009	Sedan	Police	3	$ 26,000	$ 29,640
S-97	2011	Sedan	Police	3	$ 26,000	$ 29,640
S-98	2011	Sedan	Police	3	$ 26,000	$ 29,640
TRL-#2	2000	Trailer	Public Works	15	$ 7,000	$ 7,980
SE5	1988	Specialty Equipment	Public Works	20	$ 8,000	$ 9,120
SE4	1988	Specialty Equipment	Public Works	20	$ 36,000	$ 41,040
LK-#11	2004	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 45,600
225	2006	Light Dump	Public Works	10	$ 84,850	$ 96,729
215	2003	Heavy Dump	Public Works	12	$ 130,230	$ 149,765
						$ 496,154

* Funded through Recycling Grant Funds.

2017 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2017
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 28,200
S-99	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-01	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-02	2011	Sedan	Police	3	$ 26,000	$ 30,550
C1	1995	Specialty Equipment	Public Works	20	$ 18,000	$ 21,150
FE2	1990	Field Equipment	Public Works	15	$ 22,000	$ 25,850
FE4	2001	Field Equipment	Public Works	15	$ 25,000	$ 29,375
FE5	2005	Field Equipment	Public Works	15	$ 25,000	$ 29,375
LK-#12	2007	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 47,000
223	2007	Light Dump	Public Works	10	$ 84,850	$ 99,699
B-#1	2002	Heavy Equipment Back Hoe	Public Works	15	$ 80,000	$ 115,000
						$ 487,299

* Funded through Recycling Grant Funds.

VEHICLE EVALUATION FORM

VEHICLE/EQUIPMENT EVALUATION FORM

Vehicle or Equipment VIN or Serial#_____

Vehicle or Equipment #:_____ Department Assigned to: _____

Make:_____ Model:_____ Year:_____

Mileage:_____ Hours of Operation:_____

Date of Evaluation:_____ Evaluator:_____

System	Diagnosis	Estimated Repair Cost
Engine		
Transmission		
Drive Line		
Differential		
Exhaust		
Pumping System		
Hydraulic System		
Electrical System		
Brakes		
Tires		
Body		
Interior/Exterior		
Front End/Suspension		
Air Conditioning		
Other		
Total Estimated Repair Cost		

Diagnosis Code	Code Description
Good 3	System is functioning well, and no repairs expected at this time
Fair 2	Minor Repairs required
Poor 1	Major repairs needed as soon as possible – consider replacing

Evaluators Comments:_____

_____

_____

_____

_____

VEHICLE/EQUIPMENT EVALUATION SUMMARY REPORT

Vehicle or Equipment #:_____ VIN or Serial #:_____

Department Assigned to:_____

Make:_____ Model:_____ Year:_____

Description of use:_____

SUMMARY OF VALUES

YEARS OF SERVICE_____USEFUL LIFE_____YEARS OVER OR UNDER_____

CURRENT MILEAGE_____MILEAGE THRESHOLD_____MILES OVER OR UNDER_____

CURRENT HOURS_____THRESHOLD HOURS_____HOURS OVER OR UNDER_____

MAINTENANCE/REPAIR COSTS TO DATE: (ATTACHED)

PURCHASE COST:_____ REPAIR COST:_____

REPLACEMENT COST:_____ TRADE IN VALUE:_____

COMMENTS AND OTHER
CONSIDERATIONS:_____
_____
_____
_____
_____
_____
_____

RECOMMENDATIONS:_____
_____
_____
_____
_____
_____
_____

ATTACHMENT “A”

FIRE EQUIPMENT

2012

Fire Apparatus Replacement Program

MUNICIPALITY OF MT. LEBANON

9/27/2012

Mt. Lebanon Fire Department
Apparatus Replacement Program

To meet community risks, maximize fire fighter capabilities, minimize risk of injuries to fire department personnel and the public, and meet Insurance Services Office (ISO) apparatus requirements, the Mt. Lebanon Fire Department maintains three first-line engines, one reserve engine, a ladder truck, and a heavy rescue truck, a command vehicle, and several utility vehicles Historically, since 1951, the Municipality has replaced major apparatus on a five-year rotation (Table 1):

Table 1: Mt. Lebanon Historical Replacement of Fire Apparatus

Unit	Year Purchased	Age at Replacement
Truck	**1951**	
Engine	**1955**	
Engine	**1961**	
Engine	**1968**	
Truck	**1971**	**20 years**
Engine	**1975**	**20 years**
Engine	**1982**	**21 years**
Rescue	**1985**	
Engine	**1987**	**19 years**
Truck	**1992**	**21 years**
Engine	**1995**	**20 years**
Engine	**2002**	**20 years**
Engine	**2002**	**15 years**
Rescue	**2008**	**23 years**

Overall, the fire department agrees with the Matrix recommendation that the Municipality use a 15-year plan for front line fire apparatus; however, the department believes that Matrix failed to address the status of reserve fire apparatus and the long-term costs associated with the department's fleet replacement program in accordance with National Fire Protection Association (NFPA) Standards and Insurance Services Office (ISO) requirements.

The Matrix study cites that "Most agencies use a 15-year replacement target for fire engines and trucks" and that "Even large agencies like Phoenix, Sacramento, and El Paso do not follow a 10-year replacement plan." The reason that most agencies, in addition to the very progressive agencies referenced, utilize a 15-year replacement cycle for fire engines and trucks is based on NFPA recommendations.

The National Fire Protection Association (NFPA) Standard on Automotive Fire Apparatus, Guidelines for First-Line and Reserve Fire Apparatus, recommends that apparatus greater than 15 years be placed in reserve status and upgraded to incorporate as many features as possible of the current fire apparatus standard. The recommended age for reserve apparatus is between twenty and twenty-three years, with applicable upgrades.

Definition of first-line fire apparatus: First-line fire apparatus must be manufactured to NFPA 1901, 1991 (2003 editions) and must be maintained in accordance with NFPA 1912 and 1915.

Definition of reserve fire apparatus: Reserve fire apparatus is defined as apparatus manufactured to applicable NFPA 1901 editions, after 1979 and prior to the 1991 edition. Such apparatus must have been **upgraded to include as many of the features as possible** found in 1991 or newer units.

The fire department's current apparatus replacement plan maintains two front-line engines at a maximum of ten-years old, one-front-line engine at a maximum of twenty years old, a reserve engine at a maximum of twenty years old, and a ladder truck at a maximum of twenty years old. Under the current replacement plan, one front-line engine and the ladder truck are not in compliance with the NFPA Standard or the Matrix recommendation that the Municipality use a 15 year plan for first-line fire apparatus.

The following table is the Department's current apparatus replacement schedule, approved in June of 1999:

Table 2: Current Apparatus Replacement Program

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Engine 4	**1995**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**2022**	**$500,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,480,000**

Table 3 represents an apparatus replacement schedule for all Mt. Lebanon fire apparatus based on the recommendation that the "Municipality should use a 15-year plan for front line fire apparatus," meeting NFPA standards (no front-line apparatus over 15-years old and no reserve apparatus over 20 years old):

Table 3: Matrix Replacement Schedule Incorporating NFPA Standards

Unit	Year	Replacement	Cost	Age at Replacement
Engine 1	**1982**	**2010**	**$500,000**	**28 years**
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 4	**1995**	**2015**	**$500,000**	**20 years**
Engine 2	**2002**	**2017**	**$500,000**	**15 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Engine 1	**2010**	**2025**	**$500,000**	**15 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,860,000**	

Table 4 represents an apparatus replacement schedule, incorporating the Matrix recommendation with the assumption that the Municipality will continue to purchase apparatus on a five-year rotation.

Table 4: 15 – year replacement cycle based on Matrix recommendation that the Municipality should also use a 15 year plan for front line fire apparatus."

Unit	Year	Replacement	Cost	Age at Replacement
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 1	**1982**	**2017**	**$500,000**	**35 years**
Engine 4	**1995**	**2017**	**$500,000**	**22 years**
Engine 2	**2002**	**2022**	**$500,000**	**20 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,560,000**	

In order to meet the intent of the Matrix recommendation (savings), while meeting NFPA Standards, the fire department is proposing the following apparatus replacement schedule:

Table 5: Proposed Fire Department apparatus replacement plan – 15-year front line service with elimination of one engine – NFPA Compliant.

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 4	**1995**	**2017**	**$500,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**None**	**$0**
Truck	**2012**	**2027**	**$930,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,910,000**

Note: The elimination of the reserve engine will lose the department one point in its ISO rating; however, should not be significant enough to affect the community's overall fire protection classification.

It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage and engine hours, quality of the preventative maintenance program, quality of the driver training program, usage, workmanship, climate, and terrain, to name a few. In the fire service, there are apparatus with 8 to 10 years of service that are simply worn out. There are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are still serviceable after 20 years of service. In preparing the current fire department apparatus replacement plan, however, it is apparent the

majority of fire department follow the NFPA Standard as a guideline for apparatus replacement guidance.

While NFPA Standards are not mandatory, they establish a datum point for age of apparatus and updating guidelines. Fire Departments that do not follow NFPA Guidelines assume full liability of retaining known deficient apparatus in service. To knowingly operate or approve of the operation of a vehicle that could kill or injure the public or a fire fighter severely exposes the fire department officials to liability.

Table 4: Apparatus Replacement Schedules for Other U.S. Fire Departments

City	Population	Apparatus Type	First-Line	Reserve
Pittsburgh, PA	330,000	Engines & Trucks	15 years	N/A
Winston-Salem, NC	299,000	Engines	10 years	5 years
		Trucks	15 Years	5 years
Albemarle County, VA	92,000	Engines & Trucks	12 – 15 years	5 years
San Francisco, CA	809,000	Engines	10 years	5 years
		Trucks	15 years	5 years
Montgomery County, MD	950,000	Engines & Trucks	12 years	15 years
Flint, MI	125,000	Engines	10 years	5 years
		Trucks	12 years	8 years
Boulder, CO	280,000	Engines	10 years	10 years
		Trucks	10 years	7 years
Tualatin Valley, OR	23,000	Engines & Trucks	15 years	N/A
River Edge, NJ	11,000	Engines	15 years	8 years
Hilton Head, NC	35,000	Engines & Trucks	12 years	5 years
Richmond, IN	48,000	Engines & Trucks	15 years	5 years
Sand Springs, OK	19,000	Engines	10 years	10 years
		Trucks	15 years	N/A
Charlottesville, VA	45,000	Engines	12 years	5 Years
Roanoke, VA	97,000	Engines	10 years	5 years
		Trucks	12 years	5 years
Mountain Brook, AL	23,000	Engines & Trucks	15 years	5 years
Palm Beach, FL	11,000	Engines & Trucks	15 years	N/A
Staunton, VA	25,000	Engines & Trucks	20 years	3-5 years
Sand Springs, OK	35,000	Engines & Trucks	10 years	5 years
Park Ridge, IL	38,000	Engines & Trucks	15 years	5 years
Lighthouse Point, FL	13,000	Engines & Trucks	20 years	N/A
Miramar, CA	85,000	Engines	6 years	4 years
		Trucks	10 years	5 years
Gainesville, FL	99,000	Engines & Trucks	15 years	5 years
Alexandria, VA	125,000	Engines & Trucks	10 years	5 years
Richmond, VA	198,000	Engines	12 years	N/A
		Trucks	12 years	N/A

Based on the Matrix recommendations and additional research, as well as Mt. Lebanon Fire Department historical fire apparatus replacement schedules and usage, the Department proposes the following replacement for major apparatus:

Engines:

- 15-years of first –line service per NFPA Standards.
- Maintaining three engines to meet ISO and service demand requirements.
- Purchase of one new engine every five years.
- Elimination of reserve engine.

Truck:

- 15-years of first-line service per NFPA Standards.
- Purchase of a new truck every fifteen years.
- Adoption of the quint concept to allow for greater versatility and usage of the truck while alleviating some of the service demands placed on the engines.

Rescue:

- Maintain 20-year replacement cycle (specialty vehicle).

Command Vehicle:

- Maintain 25-year replacement cycle (specialty vehicle).

Squads and Utilities:

- Maximum 12-year replacement cycle.

Chief's Vehicle:

- 5-year replacement cycle; vehicle will be used for additional five-years as an additional staff vehicle.

Mt. Lebanon Fire Department

Standard Operating Guideline

Apparatus Replacement Policy

Number	Date	Page
110	7/10/09	1 of 1

1.0 General

1.1 Purpose. This standard operating guideline is to outline the replacement guidelines for fire and rescue apparatus and vehicles.

2.0 Procedure

2.1 To ensure the safest and most efficient use of Mt. Lebanon Fire Department resources, the following fire department apparatus and vehicle replacement guidelines shall be standard practice:

2.2 The Department shall maintain and adequate number of first-line apparatus to meet ISO requirements and service demands.

2.3 The goal of this guideline is to have heavy apparatus (engines and trucks) replaced after fifteen years of first-line service, the rescue replaced after twenty years of first-line service, the command vehicle replaced after twenty-five years of front-line service, and light vehicles (squads and utilities) replaced after a maximum of twelve years of service.

Unit	Year	Replacement
Pickup	**1997**	**2011**
Engine 1	**1982**	**2012**
Truck	**1992**	**2012**
Squad	**2003**	**2015**
Engine 4	**1995**	**2017**
Engine 2	**2002**	**2022**
Engine 3	**2002**	**None**
Pickup	**2011**	**2023**
Squad	**2015**	**2027**
Truck	**2012**	**2027**
Rescue	**2008**	**2028**

ATTACHMENT “B”

POLICE VEHICLES

MT. LEBANON POLICE DEPARTMENT (MLPD) FLEET ROTATION POLICY

MLPD fleet rotation is a fluid process based on safety concerns, performance, usage, mileage and assignment. Police vehicles are much more than a simple means of transportation for police officers; they are instead lifelines for the community and its police officers. Because of the critical nature of policing and the necessity for instant emergency response, the MLPD fleet must maintain performance as an absolute. Regular, consistent maintenance, as well as regular replacement of police vehicles so that operating capabilities (e.g. acceleration, braking, and dynamics) are not jeopardized, is paramount to saving officer and citizen lives, and protecting the municipality from surrounding liability. Moreover, police vehicles are "mobile offices" in which officers spend a significant percentage of their working hours. Because they provide platforms to support mobile data terminals (MDTs), in-car video cameras, emergency lighting systems, radios, rifles, shotguns and additional emergency equipment, police vehicles serve a purpose that distinguishes them from vehicles assigned to other components of municipal government.

As a result of their varied usage patterns, rotation policies for police vehicles must consider not only mileage and age, but also must take into consideration the nature of police vehicle operation. For example, because police vehicles must idle to keep MDTs "booted up" for rapid access to incident and CAD information, GPS data, and for efficient powering of emergency lighting systems, industry experts acknowledge an advanced rate of wear and tear on police vehicles, and the necessity to factor idling time and driving conditions into a rotation policy. Experienced fleet managers for large police departments recommend a formula that estimates every hour of engine idling is equivalent to 33 driving miles. It is easy to see why a MLPD vehicle with 100,000 miles on its odometer could be comparable to a family car with 200,000 miles on its odometer, given stop and go driving conditions, high idling times, excessive wear and tear on brake systems and suspensions, and the relatively harsh year round climate in southwestern Pennsylvania.

Normal MLPD annually scheduled purchases include three (3) police vehicles. Per the above considerations, the regular rotation schedule varies according to the type of vehicle and its common usage:

1. **Patrol Vehicles (PV)**
    a. The need for reliable and safe patrol vehicles cannot be overstated. On many occasions, engines in our Ford Crown Victorias and Dodge Chargers run for 24 hours per day, seven days a week. Given the number of hours and the nature of their operation, it is imperative that these sedans are rotated out of the patrol vehicle fleet **every three (3) years.**
    b. Sport Utility Vehicles and patrol vehicles assigned to K-9 officers, though assigned for patrol usage, have fewer officers assigned per vehicle. As a result, these vehicles have a **five (5) year rotation schedule**.

2. Specialty Vehicles (SV)

a. Specialty vehicles, such as the Mobile Command Post, DUI trailer, armored car, U.S. Army utility pickup truck, etc., were purchased with grant funding or through federal surplus programs, or were donated to the department at no cost to the municipality.

b. These vehicles have limitations on their usage, and as a result their rotation cannot be based on age, but instead is driven by **mileage and mechanical condition.**

3. Unit Vehicles (UV)

a. Unit vehicles include vehicles assigned to Administration, Crime Prevention, Investigative Services, Traffic Services and Animal Control.

b. Unit vehicles are generally used in and around Mt. Lebanon and surrounding municipalities, and usually operate under ordinary urban and suburban driving conditions.

c. *Administration*- the Chief of Police's (COP) vehicle is rotated at the end of a 3 year lease to own period. The COP vehicle is then assigned to a Deputy Chief of Police (DCOP) for three (3) more years. After three more years, DCOP vehicles are assigned to Investigative Services for an additional 3-4 years.

d. *Traffic Services* - a Traffic Services vehicle is also on a 3 year rotation of lease to own. At the end of that 3 year period, the vehicle is then assigned to a DCOP or to investigative Services for an additional 3-4 years.

e. *Crime Prevention (CPU)* - the unit normally has two vehicles assigned: a SUV previously assigned to either Traffic Services or Patrol, and a sedan previously assigned to either Police Administration or the Municipal Manager. The SUV remains with CPU for an additional 3-5 years, and the sedan remains for 3-4 years.

f. *Investigative Services* - undercover vehicles are assigned on a maintenance dependent rotation, and three (3) unmarked cars are used in the course of general investigations. These three cars, previously assigned to Police Administration, will remain in service for 3-4 additional years.

g. *Animal Control* – Animal Control trucks are on a 3 year rotation schedule, set by the SHCAC co-operative, with one truck purchased every year and the costs shared by the member communities.

All vehicle rotations take into consideration the practical useful life of the outgoing vehicle. If a vehicle has low mileage and low maintenance, it is standing practice to reassign the vehicle to other municipal departments, such as Inspections, Recreation, or Public Works. If other municipal departments have no need for a particular vehicle, the vehicle is either sold outright per established municipal policy or sent to auction. The recovered funds are used to offset expenditures for the given budget year.

ATTACHMENT “C”

PUBLIC WORKS EQUIPMENT

PUBLIC WORKS FLEET REPLACEMENT PROGRAM

A sound vehicle and equipment replacement schedule is important to the functioning of the Mt. Lebanon Public Works Department. Reliable vehicle and equipment in good working order are essential to our day to day operations and are critical when responding to snow and ice emergencies, removing fallen trees, sanitary and storm sewer overflows and flooding and the removal of leaves from community streets, and performing countless other activities that ensure public services of all sorts are available to citizens in a timely and professional manner.

Trucks and heavy equipment that break down frequently due to age or excessive use, interfere with workforce planning and can lead to disrupted and failed services. In today's rapidly changing technological world, older equipment quickly becomes obsolete and difficult to maintain. Good, dependable working equipment enables trained public works crews to respond quickly and professionally to emergency situations and reflects well on the stature of the community and its elected officials.

Our vehicle and equipment fleet is nothing more than a tool for the provision of services to the general public by municipal employees. When the tool, wear out become obsolete or requires repetitive upkeep, our ability to provide necessary services to our residents suffers. An essential component of effective fleet management is the commitment to replace vehicles and equipment before service delivery is impaired or diminished. A fleet replacement schedule can accomplish the following:

- Less vehicle downtime and lower operating and maintenance cost by the elimination of high cost, maintenance vehicles
- Assurance to elected officials that we are doing our best to plan for the replacement of vehicles and equipment before critical failure
- A streamlined fleet achieved through the elimination of unnecessary spares no longer needed to fill in for vehicle down time for recurring repairs

Many municipal governments react to the need for vehicle and equipment replacements either based on available funding or when no other choice exists. For example when ample funds are

available vehicles get replaced. Or, if a crisis exists such as a blown engine or a vehicle is wrecked beyond repair, a case for immediate replacement can be made. However, best practices require vehicles and equipment to be replaced according to sound principals and in accordance with a formal replacement schedule. Additionally the age of the fleet and its condition have a significant impact on the municipality's image and the morale of its employees.

When to replace a vehicle is a significant decision. The fleet replacement policy must mesh with our organizational goals and the need to meet the priorities of our customers (residents). There are more advantages to operating a newer fleet of vehicles than an aged fleet. These advantages are:

- The ability to minimize safety risks by driving vehicles with state-of-the-art safety equipment and newer components.
- Reduced downtime for employees driving vehicles that require minimal repair and maintenance.
- Enhanced employee morale and organizational image.
- A reduction in the expense incurred to maintain and repair vehicles.

REPLACEMENT CRITERIA

Eventually, all vehicles and equipment wears out. As they wear, they become increasingly expensive to operate and maintain and less reliable and safe to use. They become more expensive, in part because major components and systems, which are costly to repair or replace, cease to function properly or at all. They also become more expensive because component failure tends to be unpredictable, and unplanned repairs are more likely to interfere with vehicle use, impose uneven demands on maintenance resources and ultimately may lead to the disruption and delay of municipal services.

Most fleet organizations (private and public) establish formal replacement criteria in terms of vehicle age and/or usage (in terms of miles or engine hours) in order to forecast replacement funding requirements, develop budgets, and to trigger the examination of specific units for potential replacement. Some vehicles do not wear out as quickly as others, perhaps because their usage is lower in intensity than of other vehicles of their type. Some vehicles need to be replaced sooner than others because they experience above average wear and tear.

Below are the age and mileage standards that are being used by other municipalities to plan for the replacement of their vehicle and equipment fleets. Once the vehicles and equipment units reach the age and mileage/hour thresholds they are carefully inspected and evaluated to ensure that they are in safe working order and free of major defects. Vehicles that fail the evaluation are scheduled for replacement. Mt. Lebanon uses a similar age and use criteria and constantly evaluates the condition of its fleet. Our goal is to plan for the replacement of fleet

assets and avoid the dangers of keeping vehicles and equipment beyond reasonable life cycles which will cause total vehicle costs to rise, making our fleet more costly to own and operate.

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Light Dump Truck	7 - 10	80,000
Heavy Dump Truck	7 - 10	80,000
Pick Up Truck	7	80,000
Utility Truck	7 - 10	80,000
Street Sweeper	7	90,000
Back Hoes	8-10	
Front end loader	8 - 10	
Field Tractors	6 - 8	

Source: City of Pittsburgh Vehicle Replacement Schedule, Jake Harvey, General Manager

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Administrative Sedans	5	75,000-100,000
Emergency Sedans	3	85,000-100,000
Pickup Trucks	7	100,000-120,000
Dump Trucks, Diesel	7 - 10	150,000
Backhoes, Loaders	7 - 10	6,000 -7,500 hrs

Source: American Public Works Association Vehicle Replacement Guide

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Sedans	3	60,000
Ambulances	7	60,000
Pickup Trucks	6	50,000
Light Dump Trucks	7	60,000
Heavy Dump Trucks	9	80,000
4-Wheel Drive Vehicles	6	40,000

Source: Federal Minimum Replacement Standards 41CFR 102-34.280

ATTACHMENT “D”

VEHICLE & EQUIPMENT DATA

Veh.#	Year	Model Type	Category	Assignment	Useful Life Years	Replacement Year	Notes	Current Replacement Cost	2013	2014	2015	2016	2017
361	2010	Utility Truck	Utility Truck	Police AC	3	2013		$ 24,000	$ 24,840			$ 27,360	
S-87	2008	Sedan	Sedan	Police	3	2011		$ 26,000	$ 26,910			$ 29,640	
S-93	2009	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-97	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-98	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-88	2008	4WD Sport Utility	4WD Sports Utility	Police	5	2013		$ 30,000	$ 31,050				
CAR-01	2007	4WD Sport Utility	4WD Sports Utility	Fire Dept.	10	2013		$ 33,000	$ 34,155				
252	1996	Sierra Utility Tk.	Utility Truck	Public Works	10	2008		$ 35,000	$ 35,000				
LK-#7	2003	Leaf King Trailer	Specialty Equipment Leaf Vac*	Public Works	7	2010		$ 40,000	$ 40,000				
SE2	1972	Stump Grinder	Specialty Equipment Stump Grinder	Public Works	20	1992		$ 40,000	$ 40,000				
228	2000	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2010		$ 84,850	$ 87,820				
233	2001	F-550 Utility / Lift Tk.	Specialty Truck	Public Works	10	2011		$ 120,560	$ 120,560				
TRL-#1	1989	Trailer	Trailer	Public Works	15	2004		$ 7,000		$ 7,490			
362	2011	Utility Truck	Utility Truck	Police AC	3	2014		$ 24,000		$ 25,680			$ 28,200
S-99	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-01	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-02	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
302	2011	Mini Van	Van	Recreation	10	2014		$ 26,000		$ 27,820			
T-94	2009	Truck	Pick up Truck	Police	5	2014		$ 30,000		$ 32,100			
UTL-2-1997	1997	F-350 4x4	Pick up Truck	Fire Dept.	12	2011		$ 38,500		$ 41,195			
LK-#8	2003	Leaf King Trailer	Specialty Equipment	Public Works	7	2010		$ 40,000		$ 42,800			

SE3	2001	Brush Bandit	Specialty Equipment Chipper	Public Works	12	2013		$ 65,000		$ 69,550			
224	2003	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2013		$ 84,850		$ 90,790			
216	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230		$ 139,346			
255	2001	Elgin Sweeper	Specialty Equipment	Public Works	10	2011		$ 180,930		$ 199,000			
256	1997	FL-80 Sewer Tk.	Specialty Equipment Aquatech**	Public Works	10	2007		$ 328,000		$ 350,960			
TRL-#3	1995	Trailer	Trailer	Public Works	15	2010		$ 7,000			$ 7,735		
FE3	2000	Sand Pro Tractor	Field Equipment	Public Works	15	2012		$ 21,000			$ 23,205		
363	2012	Utility Truck	Utility Truck	Police AC	3	2015		$ 24,000			$ 26,520		
S-84	2007	Sedan	Sedan	Police	3	2012		$ 26,000			$ 28,730		
S-91	2008	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-92	2009	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-05	2012	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-81	2006	Sedan	Sedan	Police	9	2012	K-9	$ 26,000			$ 28,730		
S-03	2012	4WD Sport Utility	4WD Sports Utility	Police	8	2015	C	$ 30,000			$ 33,150		
FE1	2005	2WD Tractor	Field Equipment	Public Works	10	2015		$ 30,000			$ 33,150		
UTL-3-2003	2003	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2015		$ 32,000			$ 36,800		
LK-#9	2003	Leaf King Trailer	Specialty Equipment* Leaf Vac	Public Works	7	2010		$ 40,000			$ 44,200		
211	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230			$ 143,904		
257	1998	Econoline Box Van Camera Van	Specialty Truck Camera Van.**	Public Works	10	2008		$ 150,000			$ 165,750		
TRL-#2	2000	Trailer	Trailer	Public Works	15	2015		$ 7,000				$ 7,980	
SE5	1988	Roller	Specialty Equipment	Public Works	20	2005		$ 8,000				$ 9,120	
SE4	1988	Root Cutter	Specialty Equipment	Public Works	20	2005		$ 36,000				$ 41,040	
LK-#11	2004	Leaf King Trailer	Specialty Equipment	Public Works	7	2011		$ 40,000				$ 45,600	

225	2006	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2016		$ 84,850				$ 96,729	
215	2003	7400 Dump Tk	Heavy Dump	Public Works	12	2015		$ 130,230				$ 149,765	
C1	1995	Air Compressor	Specialty Equipment	Public Works	20	2015		$ 18,000					$ 21,150
FE2	1990	Truckster	Field Equipment	Public Works	15	2002		$ 22,000					$ 25,850
FE4	2001	Tractor	Field Equipment	Public Works	15	2013		$ 25,000					$ 29,375
FE5	2005	Tractor	Field Equipment	Public Works	15	2017		$ 25,000					$ 29,375
LK-#12	2007	Leaf King Trailer	Specialty Equipment	Public Works	7	2014		$ 40,000					$ 47,000
223	2007	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2017		$ 84,850					$ 99,699
B-#1	2002	4WD - Backhoe	Heavy Equipment	Public Works	15	2017		$ 80,000					$ 115,000
UTL-4-2008	2008	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2018	C	$ 28,000					
S-95	2009	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 30,000					
P-1	2006	4WD Sport Utility	4WD Sports Utility	Public Works	9		**	$ 28,000					
P-2	2005	Ford Escape	4WD Sports Utility	Public Works	10		**	$ 25,000					
202	2003	4WD Sport Utility	4WD Sports Utility	Public Works	10		***	$ 28,000					
201	2012	4WD Sport Utility	4WD Sports Utility	Public Works	9	2018		$ 28,000					
S-04	2012	Traverse SUV	4WD Sports Utility	Administration	10	2015	C	$ 28,000					
S-71	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-72	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-96	2010	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
FE11	2011	Hydroseeder	Field Equipment	Public Works	15	2025		$ 26,285					
FE6	2006	Infield Pro Tractor	Field Equipment	Public Works	15	2018		$ 21,000					
FE7	2008	Infield Pro Tractor	Field Equipment	Public Works	15	2020		$ 21,000					
FE8	2009	Truckster	Field Equipment	Public Works	15	2021		$ 21,000					
FE9	1978	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE10	1982	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE12	2012	M640 Tractor	Field Equipment	Public Works	15	2027		$ 26,000					

ENG-2-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
ENG-3-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
2011	2011	Aerial Ladder	Fire Equipment	Fire Dept.	15	2026		$ 1,000,000					
RESCU-2008	2008	Rescue Tk.	Fire Equipment	Fire Dept.	20	2028		$ 650,000					
2008	2005	Command post	Fire Equipment	Fire Dept.	25	2030		$ 275,000					
FSH-01	2005	Fire Safety Trailer	Fire Equipment	Fire Dept.	15	2018		$ 70,000					
CRU	1996	Collapse Trailer	Fire Equipment	Fire Dept.	15	2009	Shared						
217	2008	7900 Dump Tk.	Heavy Dump	Public Works	12	2020		$ 130,230					
212	2011	4900 Dump Tk.	Heavy Dump	Public Works	12	2023		$ 130,230					
214	2012	7400	Heavy Dump	Public Works	12	2024		$ 130,230					
386	2004	Loader Front End	Heavy Equipment	Public Works	15	2019		$ 140,000					
B-#2	2005	4WD - Backhoe	Heavy Equipment	Public Works	15	2020		$ 80,000					
SP1	1995	Truck	Heavy Truck	Police	10		**	$ 350,000					
221	2011	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2021		$ 84,850					
222	2012	5500 4WD Dump Tk.	Light Dump	Public Works	10	2022		$ 84,850					
227	2008	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2018		$ 84,850					
311	1999	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
312	2001	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
226	2008	F-550 4WD Dump	Light Dump	Public Works	10	2018		$ 84,850					
P-3	2012	F-350 Pick Up	Pick up Truck	Public Works	10	2022		$ 25,000					
P-4	2010	F-150 Pick Up	Pick up Truck	Public Works	10	2020		$ 28,000					
253	2009	Ford F-150	Pick up Truck	Public Works	10	2019		$ 28,000					

401	2002	Silverado 1500	Pick up Truck	Public Works	10		***	$ 28,000					
S-83	2008	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-75	2005	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-86	2008	Sedan	Sedan	Police	8		R	$ 30,000					
S-79	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-78	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-73	2005	Sedan	Sedan	Police	8		R	$ 24,000					
SP6	2005	Sedan	Sedan	Police	8		**	$ 24,000					
SE1	2002	Grinder	Specialty Equipment	Public Works	20	2022		$ 250,000					
LK-#6	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
LK-#10	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
SP3	1995	Truck	Specialty Truck	Police	10		**	$ 100,000					
218	2000	F-750 Chipper Tk.	Specialty Truck	Public Works	12		**	$ 145,000					
219	2012	4300 Chipper Boom Tk.	Specialty Truck	Public Works	12	2024		$ 160,000					
ENG-4-1995	1995	Pumper	Fire Equipment	Fire Dept.	15	2012		$ 550,000					
231	2011	E-150 Van Paint Crew	Specialty Truck	Public Works	10	2021		$ 33,000					
258	2011	Trades Van	Van	Public Works	10	2021		$ 43,000					
301	2008	Mini Van	Van	Recreation	10		***	$ 26,000					
SP4	1991	Van	Van	Police	10		**	$ 32,000					
UTL-1-1996	1996	Mini Van	Van	Fire Dept.	12	2006	**	$ 26,000					
								$ 9,576,155	$ 521,065	$ 1,110,191	$ 658,064	$ 496,154	$ 487,299

****Note**S-71, S-91 & S-92 will be sold and replaced by S-06, S-07 & S-08 in late 2012.**

R Will be shifted to different units in the Police Department or to another department and will not be replaced.

** Will be used until no longer servicable

C Chiefs or Managers Vehicle will be replaced every 3 years. Old vehicle will be reassigned

*** Will be replaced by a reassigned vehicle

**** Volunteer Owned

MUNICIPALITY OF MT. LEBANON

FLEET MANAGEMENT DOCUMENTS

PROPOSED FLEET REPLACEMENT SCHEDULES 2013 - 2017

October 2**, 2012**

FLEET & EQUIPMENT MANAGEMENT

Background: The Mt. Lebanon Department of Public Works is assigned the overall responsibility for managing the Municipality's fleet of vehicles and construction/maintenance equipment. The Public Works Department works in conjunction with the Police and Fire Departments (Fleet Management Team) to: develop vehicle and equipment specifications; develop vehicle and equipment replacement schedules; acquire vehicles and equipment; and reassign and dispose of vehicles and equipment. The vehicle and equipment maintenance functions are assigned solely to the Public Works Department. The public works maintenance garage is located at 1250 Lindendale Drive and two full-time mechanics are employed to maintain 111 vehicles and equipment units with a replacement cost of over $9.5Million. The annual appropriations for operations, maintenance, repair and fueling for Police, Fire, Recreation, Inspections, Administration and Public Works vehicles and equipment is budgeted in the Public Works Operating Budget. The appropriations to replace vehicles and equipment is budgeted either in the annual Operating Budgets of the departments listed above or in the Capital Budget. A complete listing of the vehicles and equipment maintained by the public works mechanics is listed as an attachment to this report.

The purpose of this document is to propose a vehicle replacement plan for the next five years, and the specific vehicle and equipment needs and requirements of the three departments that make up the Fleet Management Team. This document reflects the vision of the Fleet Management Team to create a multi year vehicle and equipment replacement plan that will serve as a guide in providing direction to meet needs. This is a living document that will be modified and updated annually to reflect changes in the Municipality's organizational climate, the changing needs of our internal customers, and changes in the automotive and equipment industry.

The review of the Municipality's Fleet Management functions by the Matrix Group pointed out that an effective fleet management program should include policies and procedures on acquisition, maintenance, replacement and disposal of vehicles.

Acquisition: The goal of the Municipality's acquisition practices is to obtain the lowest possible price and the highest possible quality. Currently the Municipality purchases through State and Council of Government Contracts to achieve the lowest price possible to acquire the highest possible quality. All purchases of vehicles and equipment will follow the applicable Municipal Purchasing Codes. Annually before the preparation of the Operating and Capital Budgets the Police and Fire Chiefs meet with the Public Works Director to review the vehicle replacement schedule and plan for the acquisition of replacement vehicles and equipment. Any request for new equipment that would increase the size of the fleet must be cost justified to the Manager and

Finance Director. The recommendation to lease or purchase equipment and vehicles is made by the Finance Director.

Maintenance: The goal of Public Works vehicle and equipment maintenance practices is to keep vehicles and equipment in sound operating condition. Preventive maintenance routines and intervals followed by our mechanics and are based on local driving conditions and manufacturer's recommendations, for each type of vehicle or equipment and each type of maintenance service. Maintenance costs represent a significant portion of the total cost to own and operate a vehicle or piece of heavy equipment and tend to increase as a vehicle or equipment ages. Escalating maintenance costs are a key factor in determining when to replace a fleet vehicle. In addition to the added cost of maintenance as a vehicle ages, there is an additional cost to the municipality when a vehicle is in the garage receiving maintenance and not available for use. Preventive maintenance is the key to avoiding the repair or replacement of costly major vehicle components such as engines, transmissions and drive trains. Our mechanics make adjustments to the manufacturer's recommendations based on the specific vehicle's use. For example, a police vehicle may idle for an extended period of time while an officer monitors a high-risk area. When an engine idles, it incurs wear and tear that will require future maintenance. So the maintenance schedule for a vehicle that runs idle 50 percent of the time may be as frequent as that of a comparable one that drives more miles.

Accurate and complete vehicle maintenance records are a key tool for making fleet management decisions. Vehicle maintenance costs are variable and distinct to each vehicle. Pertinent records maintained for each vehicle are:

- vehicle maintenance logs
- fuel usage logs
- Cumulative costs of parts, labor, and overhead by a vehicle over its life.

While we currently collect this information we lack automated systems that can produce information in a timely manner. Overly frequent or delinquent preventive maintenance intervals are counter productive to controlling costs.

Replacement: As with other aspects of fleet management, replacing a vehicle too soon or too late wastes money. Together with the Police and Fire Departments we are developing replacement standards based on APWA, industry guidelines and years of experience in operating and maintaining vehicles and equipment. The goal is to analyze the costs associated with a vehicle and identifying the point when, on average, a vehicle is reasonably depreciated but not yet incurring significant maintenance costs. By replacing vehicles at this point, we can avoid escalating maintenance costs and optimize vehicle resale value. The three criteria that we considered when establishing the vehicle replacement schedule were vehicle mileage, age and use. Because each municipality's fleet and usage is unique, a universal management guide does not exist that can be applied to all types of fleets for every locality. For example, a police vehicle has a different maintenance demand and useful life than a pickup truck in the department of

public works. A police vehicle in Mt. Lebanon (an urban setting) has requirements different from a rural county sheriff's vehicle. Likewise, a dump truck that is not used to haul salt and plow streets during the winter can not be compared to the same piece of equipment in Florida. Even within a single department, a vehicle used by a detective is maintained and replaced on a different schedule than that of a patrol car.

Reassignment and Disposal of Vehicles and Equipment: The vehicle and equipment fleet is sized to meet the current needs of the Municipality. Fleet vehicles and heavy equipment will not be reassigned unless it is used to replace unit currently assigned to other departments. In those instances the older units will be disposed. Annually before Operating and Capital Budgets are prepared, the Police and Fire Chiefs will meet with the Public Works Director to review the vehicle and equipment replacement schedule, and plan for the reassignment or disposal of vehicles and equipment that have reached their age, and mileage thresholds and will be replaced in the next budget cycle. Police sedans may be reassigned to the Inspection Office for field work or to the Recreation Department and assigned to the support staff. Four Wheel Drive Sport Utility vehicles may be reassigned to the Public Works Department for field work. The majority of vehicles selected for replacement will be sent to the public auction. Public works dump trucks may be reassigned to the Golf Course and Recreation Center to replace similar units that are currently assigned to those locations. Sealed bids, internet auctions, trade journal advertisements, and public auctions will be utilized for the disposal of fire and public works heavy equipment.

MISSION STATEMENT AND REPLACEMENT SCHEDULE

Mission Statement:
To establish efficient and effective delivery of municipal services by providing customer departments with safe, reliable, economical and environmentally sound transportation and related support services that are responsive to their needs and that preserve vehicle value and equipment investment.

Objectives:
Our primary objective is to control the overall cost of operating and maintaining the Municipal fleet of vehicles and equipment, to maintain vehicles and equipment in a manner that extends their useful life, to control the growth in size of the fleet, to standardize the composition of the fleet and to accurately budget for maintenance and replacement costs. All new purchases for vehicles and equipment are part of the budget cycle and are coordinated through Fleet Management team for recommendation.

We Will:
Provide vehicles that are safe, reliable, and environmentally-sound, at competitive prices.
Provide honest, responsive, effective and efficient fleet services to our customers.
Maximize the return on investment (ROI), and the long-term value of the fleet investment.
Maintain high quality internal and external services.
Know and respond to fleet customer desires, needs, and requirements.

Key Customers:
- Police
- Fire
- Public Works
- Inspections
- Recreations
- Administration

Definition of Product/Services:
- Maintenance and repair of over 100 vehicles and pieces of field equipment
- Management of fueling locations and parts inventories
- Assist in purchasing and up-fitting of new vehicles for user departments

Vehicle and Equipment Replacement Program
The objective of the vehicle replacement program is to promote an orderly system of purchasing and funding a standardized fleet and heavy equipment replacement process and to plan future departmental transportation requirements.

All vehicles acquired and maintained by the Municipality are recommended for replacement in accordance with adopted guidelines/procedures and all departments are responsible for complying with these guidelines/procedures.

Development of Guidelines/Procedures

The Police Chief, Fire Chief and Public Works Director (Fleet Management Team) have inventoried existing vehicles and equipment and have prepared a replacement schedule for all public works, police and fire vehicles and equipment. The schedule will be updated annually and will be used as the basis for planning for the replacement of vehicles and equipment through the operating and capital budgets. The vehicle and equipment replacement schedule will include the following information for each vehicle or unit of capital equipment:

a. Age in years also known as life.
b. Usage in hours or miles.
c. Useful life (based on commonly used standards for municipal vehicles and equipment)
d. Cost of Maintenance.
e. Overall condition: mechanical, operating, safety, or appearance.
f. Downtime
g. Availability of replacement parts
h. Funding

The guidelines for vehicles considered for replacement are based on vehicles meeting predetermined age and/hour/or mileage criteria. Additional consideration is given to functionality and overall condition of the vehicle. Priority is given to those departments whose services relate to public health and safety and law enforcement.

As vehicles reach the threshold miles or age of replacement criteria, a vehicle maintenance evaluation is performed by the Chief Mechanic of the Public Works Department (Evaluation Form attached). The Evaluation Forms will be provided to the Fleet Management Team for further review and consideration. If the evaluation proves the vehicle would be economical to retain for an additional year, the vehicle will be targeted for retention or reassignment. In some cases, it may be reassigned to other departments with "low usage" requirements or to a loaner pool. The Fleet Management Team will jointly review and approve all specifications for new purchases of Municipal vehicles and motorized equipment. Depending on the availability of funds, vehicles and equipment will be replaced when they are at the end of their economic life, no longer safe to operate, not reliable enough to perform their intended function, or there is a demonstrated cost saving to the Municipality of Mt. Lebanon.

Vehicle Categories: For the purposes of this review the Municipal fleet has been grouped into fourteen distinct categories. Each category is described below, and the number of units currently on hand, replacement cost and useful life range for each category is summarized below in Chart 1.

Four Wheel Drive Sports Utility (4WD SUV)-these vehicles are larger than, and provide more passenger room and better off road performance than traditional sedans or pick up trucks. Because of their size SUVs' are highly visible and provide the operator

with better visibility than sedans. Currently the Municipality owns eleven (14) 4WD SUVs' with a replacement value of $404,000. Useful lives for this class of vehicle depends on duty assignment and range from 8 to 12 years. In the past some of these vehicles have been reassigned to the public works department. These vehicles are maintained by the public works department. Purchases are made through the annual Operating Budget.

Field Equipment-equipment of this class includes tractors, trucksters and motorized mowing equipment. At the time of this analysis eleven (12) pieces of field equipment valued at $288,285 were included in the inventory. Useful lives range between 10 to 15 years. This equipment is maintained by public works. Purchases are made through the annual Operating Budget.

Fire Equipment-Highly specialized equipment used to respond to emergency situations. Equipment contains many other pieces of smaller highly specialized pieces of equipment required to fight all types of fires, free victims entrapped in vehicles, and conduct other related emergency responses. Currently the Municipality owns seven (7) units with a replacement value of over $3.7 Million. Useful lives range between 15 to 20 years. Purchases are made through the Capital Budget. This equipment is maintained by the public works department and outside service providers. See Attachment "A" for additional details specific to this equipment.

Heavy Dump Trucks-these vehicles have a gross vehicle weight (GVW) of at least 33,000 Lbs and load carrying capacity of five tons. Heavy dump trucks are used to tow leaf vacuum and leaf boxes during the fall and large loads of rock salt during the winter and throughout the year haul heavy loads and tow equipment trailers. At least six heavy dump trucks are required during the fall and winter for leaf and snow plowing/salting. Currently there are six units on hand. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. The current replacement value for the six heavy dump trucks is $781,380. Heavy dump trucks have a useful life of twelve years and one is replaced every two years. Purchases are made through the Capital Budget. These vehicles are maintained by the public works department. See Attachment "C" for information of replacement schedules for public works vehicles and equipment.

Heavy Equipment-This is mobile on the road and off road equipment that is used to dig, load trucks and carry large loads over a short distance. The inventory includes two Caterpillar backhoes and one Caterpillar front end loader. The backhoes are used to plant trees and maintain underground assets, and to load leaves onto trucks in the fall and clear snow from the business district during emergencies. The front end loader is used to maintain the compost sites, load salt and remove trees. These units have a replacement value of $300,000 and useful lives of 15 years. This equipment is maintained by the public works department. Replacement would be made through the Capital Budget. In

previous years grant funding from the PA DEP has been available to cover 35% of the purchase price.

Heavy Truck- One armored heavy truck is operated by the Police Department. This truck provides tactical support for police officers and is 14 years old with a replacement value of $350,000.00. The Police Department intends to keep this vehicle for an indefinite period of time. Truck is maintained by public works and would be replaced through the Capital Budget.

Light Dump Trucks- This class of vehicle has a gross vehicle weight of 17,000 lbs and is equipped with four wheel drive. These vehicles are the work horses of the public works department and are used to haul personnel, materials and equipment to on and off the road work sites. During the fall and winter these vehicles haul loads of wet leaves, and plow and salt residential streets. These vehicles are up fitted with heavy duty aluminum dump bodies and hydraulic packages. These are relatively small and maneuverable trucks that can navigated through tight streets. There are currently 10 light dumps; 8 are assigned to public works, and 2 are assigned to the recreation department for use at the recreation center and the golf course. The useful life for a light dump is 10 years. As light dumps are replaced the older units are assigned to the recreation department and the older units at recreation are sent to auction. The replacement value of the 10 units is $848,500. These trucks are maintained by the public works department and are purchased through the annual Operating Budget-one truck is replaced each year.

Pick up Trucks- This class of vehicle may be equipped with either two or four wheel drive and may have an extended cab capable of carrying a crew of five personnel along with light hand equipment or materials. Pick up trucks may pull a trailer for the police, fire or public works departments. The Municipality owns six pick up trucks with a replacement value of $177,500. The typical useful life of a pick up truck is 10 years. These trucks are maintained by the public works department and purchased through the annual Operating Budget.

Sedans- This class of vehicle is the work horse of the Police Department. Sedans are used as patrol vehicles, traffic vehicles and unit vehicles. Police sedans are more than a means of transportation they are the lifeline for the community and its police force. The vehicles must be maintained to respond to any emergency situation encountered by an officer. Police sedans are up fitted with computers, gps systems, and video systems as well as sirens and emergency lighting. After three years of continuous service these Patrol Vehicles are ready to be replaced. Some police sedans are reassigned to the Building Inspections and Recreation Departments. Currently there are nineteen (19) sedans with a replacement value of $486,000. These vehicles are maintained by the public works department and purchased through the annual Operating Budget. See Attachment “B” for additional detail on police vehicles and replacement criteria.

Specialty Equipment-Equipment in this category typical has a specialized use and performs a function that cannot be duplicated by one of the other categories of vehicles and equipment. Equipment included in this category is: leaf vacuums, street sweeper, grinder, chipper, sewer flusher, stump grinder, root cutter and air compressor. The useful life range for this equipment is from 6 years for leaf vacuums to 20 years for a stump grinder. Small pieces of specialty equipment (leaf vacuums) are purchased through the annual Operating Budget, and larger equipment like the grinder has been purchased through the Capital Budget. Currently there are fifteen (15) pieces of specialty equipment and the current replacement value is $1,205,930. This equipment is maintained by the public works department. Equipment purchases under $90,000 are funded through the Operating Budget. Purchases greater than $90,000 are purchased through the Capital Budget. Grant funding is often available to purchase leaf vacuuming equipment.

Specialty Trucks- These are trucks that are equipped with special bodies that are required to provide a specific service. These vehicles include: Forestry truck, lift truck for signal maintenance, sewer camera van, and the carpenters van. These vehicles have a useful life ranging from 10 to 12 years. The Municipality owns six specialty trucks with a replacement value of $708,560. These vehicles may be purchased through the operating or capital budget and are maintained by public works.

Trailers-These are licensed, motor-less tow behind units that are used to move equipment, other vehicles and materials. These units are towed by pick up and light dump trucks and are maintained by public works. The Municipality has three trailers with a replacement value of $21,000.00. The average useful life is 15 years. Trailers are purchased through the Operating Budget.

Utility Trucks-These are truck chassis cabs that are fitted with various bodies e.g. Animal Control Boxes, and tool and storage beds. These vehicles are limited in their use but are used daily to perform a specific task. Currently there are four (4) utility trucks. Three are assigned to the Police Department for Animal Control and one is assigned to the Public Works Department and is used as a tool and materials truck for the plumber. The replacement value for all four vehicles is $107,000 and the useful life range is between 3 and 12 years. These vehicles are purchased through the annual Operating Budget and the purchase and operating costs of the Animal Control trucks is shared with the SHACOG communities.

Vans- These vehicles are used to carry personnel and equipment. Vans sizes range from the large extended window van used by the Municipal carpenter to the small min-vans assigned to the Recreation Department. Currently there are five vehicles in the van category with a replacement value of $153,000. Vans are maintained by the public works department and the useful lives range between 10 and 12 years.

Chart 1. Summary of Vehicles and Equipment Currently on Hand

Vehicle Categories	Current Inventory	Current Replacement Cost	Useful Life Range
4WD Sports Utility	14	$ 404,000	5-12
Field Equipment	12	$ 288,285	10-15
Fire Equipment	7	$ 3,745,000	15-20
Heavy Dump	6	$ 781,380	10-12
Heavy Equipment	3	$ 300,000	15
Heavy Truck	1	$ 350,000	10
Light Dump	10	$ 848,500	10
Pick up Truck	6	$ 177,500	10
Sedan	19	$ 486,000	3-10
Specialty Equipment	15	$ 1,205,930	8-20
Specialty Truck	6	$ 780,560	10-12
Trailer	3	$ 21,000	15
Utility Truck	4	$ 107,000	3-12
Van	5	$ 153,000	10-12
Total	111	$ 9,576,155	

Multi Year Vehicle and Equipment Schedules- The following charts on pages 11 through 15 present the vehicle and equipment replacement schedules for the next five years, 2013 through 2017. These schedules are based on the current replacement values of the individual vehicles and equipment units that are currently included in our fleet. Replacements are based on the year the unit was placed in service plus the unit's useful life. For example a heavy dump truck placed into service in 2001 has a useful live of 12 years and would be evaluated for replacement in 2013. Similarly a police sedan placed in service as a patrol vehicle in service since 2010 has a useful life of 3 years and would be evaluated for replacement in 2013. For additional information please refer to the "Replacement" Section on page 3 and Attachments 1, 2 and 3. Also attached to this document is an inventory of the current fleet.

2013 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2013
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 24,840
S-87	2008	Sedan	Police	3	$ 26,000	$ 26,910
S-93	2009	Sedan	Police	3	$ 26,000	$ 26,910
S-97	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-98	2011	Sedan	Police	3	$ 26,000	$ 26,910
S-88	2008	4WD Sports Utility	Police	5	$ 30,000	$ 31,050
CAR-01	2007	4WD Sports Utility	Fire Dept.	10	$ 33,000	$ 34,155
252	1996	Utility Truck** Plumbers Truck	Public Works	10	$ 35,000	$ 35,000
LK-#7	2003	Specialty Equipment Leaf Vac.*	Public Works	7	$ 40,000	$ 40,000
SE2	1972	Specialty Equipment Stump Grinder	Public Works	20	$ 40,000	$ 40,000
228	2000	Light Dump	Public Works	10	$ 84,850	$ 87,820
233	2001	Specialty Truck-Signal Truck	Public Works	10	$ 120,560	$ 120,560
						$ 521,065

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2014 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2014
TRL-#1	1989	Trailer	Public Works	15	$ 7,000	$ 7,490
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 25,680
S-99	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-01	2011	Sedan	Police	3	$ 26,000	$ 27,820
S-02	2011	Sedan	Police	3	$ 26,000	$ 27,820
302	2011	Van	Recreation	10	$ 26,000	$ 27,820
T-94	2009	Pickup Truck	Police	5	$ 30,000	$ 32,100
UTL-2-1997	1997	Pickup Truck	Fire Dept.	12	$ 38,500	$ 41,195
LK-#8	2003	Specialty Equipment Leaf Vac. *	Public Works	7	$ 40,000	$ 42,800
SE3	2001	Specialty Equipment Chipper	Public Works	12	$ 65,000	$ 69,550
224	2003	Light Dump	Public Works	10	$ 84,850	$ 90,790
216	2001	Heavy Dump	Public Works	12	$ 130,230	$ 139,346
255	2001	Specialty Equipment**	Public Works	10	$ 180,930	$ 199,000
256	1997	Specialty Equipment Aquatech**	Public Works	10	$ 328,000	$ 350,960
						$ 1,110,191

*Funded through Recycling Grant Funds.

**Funded through Sanitary and Storm Sewer Funds.

2015 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2015
TRL-#3	1995	Trailer	Public Works	15	$ 7,000	$ 7,735
FE3	2000	Field Equipment	Public Works	15	$ 21,000	$ 23,205
363	2012	Utility Truck	Police AC	3	$ 24,000	$ 26,520
S-84	2007	Sedan	Police	3	$ 26,000	$ 28,730
S-91	2008	Sedan	Police	3	$ 26,000	$ 28,730
S-92	2009	Sedan	Police	3	$ 26,000	$ 28,730
S-05	2012	Sedan	Police	3	$ 26,000	$ 28,730
S-81	2006	Sedan	Police	9	$ 26,000	$ 28,730
S-03	2012	4WD Sports Utility	Police	8	$ 30,000	$ 33,150
FE1	2005	Field Equipment	Public Works	10	$ 30,000	$ 33,150
UTL-3-2003	2003	4WD Sports Utility	Fire Dept.	12	$ 32,000	$ 36,800
LK-#9	2003	Specialty Equipment* Leaf Vac	Public Works	7	$ 40,000	$ 44,200
211	2001	Heavy Dump	Public Works	12	$ 130,230	$ 143,904
257	1998	Specialty Truck Camera Van.**	Public Works	10	$ 150,000	$ 165,750
						$ 658,064

* Funded through Recycling Grant Funds.
** Funded through Sanitary Sewer Funds.

2016 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2016
361	2010	Utility Truck	Police AC	3	$ 24,000	$ 27,360
S-87	2008	Sedan	Police	3	$ 26,000	$ 29,640
S-93	2009	Sedan	Police	3	$ 26,000	$ 29,640
S-97	2011	Sedan	Police	3	$ 26,000	$ 29,640
S-98	2011	Sedan	Police	3	$ 26,000	$ 29,640
TRL-#2	2000	Trailer	Public Works	15	$ 7,000	$ 7,980
SE5	1988	Specialty Equipment	Public Works	20	$ 8,000	$ 9,120
SE4	1988	Specialty Equipment	Public Works	20	$ 36,000	$ 41,040
LK-#11	2004	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 45,600
225	2006	Light Dump	Public Works	10	$ 84,850	$ 96,729
215	2003	Heavy Dump	Public Works	12	$ 130,230	$ 149,765
						$ 496,154

* Funded through Recycling Grant Funds.

2017 PROJECTED REPLACEMENT SCHEDULE

Veh.#	Year	Category	Assignment	Useful Life Years	Current Replacement Cost	2017
362	2011	Utility Truck	Police AC	3	$ 24,000	$ 28,200
S-99	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-01	2011	Sedan	Police	3	$ 26,000	$ 30,550
S-02	2011	Sedan	Police	3	$ 26,000	$ 30,550
C1	1995	Specialty Equipment	Public Works	20	$ 18,000	$ 21,150
FE2	1990	Field Equipment	Public Works	15	$ 22,000	$ 25,850
FE4	2001	Field Equipment	Public Works	15	$ 25,000	$ 29,375
FE5	2005	Field Equipment	Public Works	15	$ 25,000	$ 29,375
LK-#12	2007	Specialty Equipment* Leaf Vac.	Public Works	7	$ 40,000	$ 47,000
223	2007	Light Dump	Public Works	10	$ 84,850	$ 99,699
B-#1	2002	Heavy Equipment Back Hoe	Public Works	15	$ 80,000	$ 115,000
						$ 487,299

* Funded through Recycling Grant Funds.

VEHICLE EVALUATION FORM

VEHICLE/EQUIPMENT EVALUATION FORM

Vehicle or Equipment VIN or Serial#_____

Vehicle or Equipment #:_____ Department Assigned to: _____

Make:_____ Model:_____ Year:_____

Mileage:_____ Hours of Operation:_____

Date of Evaluation:_____ Evaluator:_____

System	Diagnosis	Estimated Repair Cost
Engine		
Transmission		
Drive Line		
Differential		
Exhaust		
Pumping System		
Hydraulic System		
Electrical System		
Brakes		
Tires		
Body		
Interior/Exterior		
Front End/Suspension		
Air Conditioning		
Other		
Total Estimated Repair Cost		

Diagnosis Code	Code Description
Good 3	System is functioning well, and no repairs expected at this time
Fair 2	Minor Repairs required
Poor 1	Major repairs needed as soon as possible – consider replacing

Evaluators Comments:_____

_____

_____

_____

_____

VEHICLE/EQUIPMENT EVALUATION SUMMARY REPORT

Vehicle or Equipment #:_____ VIN or Serial #:_____

Department Assigned to:_____

Make:_____ Model:_____ Year:_____

Description of use:_____

SUMMARY OF VALUES

YEARS OF SERVICE_____USEFUL LIFE_____YEARS OVER OR UNDER_____

CURRENT MILEAGE_____MILEAGE THRESHOLD_____MILES OVER OR UNDER_____

CURRENT HOURS_____THRESHOLD HOURS_____HOURS OVER OR UNDER_____

MAINTENANCE/REPAIR COSTS TO DATE: (ATTACHED)

PURCHASE COST:_____ REPAIR COST:_____

REPLACEMENT COST:_____ TRADE IN VALUE:_____

COMMENTS AND OTHER
CONSIDERATIONS:_____
_____
_____
_____
_____
_____
_____

RECOMMENDATIONS:_____
_____
_____
_____
_____
_____
_____

ATTACHMENT “A”

FIRE EQUIPMENT

2012

Fire Apparatus Replacement Program

MUNICIPALITY OF MT. LEBANON

9/27/2012

Mt. Lebanon Fire Department
Apparatus Replacement Program

To meet community risks, maximize fire fighter capabilities, minimize risk of injuries to fire department personnel and the public, and meet Insurance Services Office (ISO) apparatus requirements, the Mt. Lebanon Fire Department maintains three first-line engines, one reserve engine, a ladder truck, and a heavy rescue truck, a command vehicle, and several utility vehicles Historically, since 1951, the Municipality has replaced major apparatus on a five-year rotation (Table 1):

Table 1: Mt. Lebanon Historical Replacement of Fire Apparatus

Unit	Year Purchased	Age at Replacement
Truck	**1951**	
Engine	**1955**	
Engine	**1961**	
Engine	**1968**	
Truck	**1971**	**20 years**
Engine	**1975**	**20 years**
Engine	**1982**	**21 years**
Rescue	**1985**	
Engine	**1987**	**19 years**
Truck	**1992**	**21 years**
Engine	**1995**	**20 years**
Engine	**2002**	**20 years**
Engine	**2002**	**15 years**
Rescue	**2008**	**23 years**

Overall, the fire department agrees with the Matrix recommendation that the Municipality use a 15-year plan for front line fire apparatus; however, the department believes that Matrix failed to address the status of reserve fire apparatus and the long-term costs associated with the department's fleet replacement program in accordance with National Fire Protection Association (NFPA) Standards and Insurance Services Office (ISO) requirements.

The Matrix study cites that "Most agencies use a 15-year replacement target for fire engines and trucks" and that "Even large agencies like Phoenix, Sacramento, and El Paso do not follow a 10-year replacement plan." The reason that most agencies, in addition to the very progressive agencies referenced, utilize a 15-year replacement cycle for fire engines and trucks is based on NFPA recommendations.

The National Fire Protection Association (NFPA) Standard on Automotive Fire Apparatus, Guidelines for First-Line and Reserve Fire Apparatus, recommends that apparatus greater than 15 years be placed in reserve status and upgraded to incorporate as many features as possible of the current fire apparatus standard. The recommended age for reserve apparatus is between twenty and twenty-three years, with applicable upgrades.

Definition of first-line fire apparatus: First-line fire apparatus must be manufactured to NFPA 1901, 1991 (2003 editions) and must be maintained in accordance with NFPA 1912 and 1915.

Definition of reserve fire apparatus: Reserve fire apparatus is defined as apparatus manufactured to applicable NFPA 1901 editions, after 1979 and prior to the 1991 edition. Such apparatus must have been **upgraded to include as many of the features as possible** found in 1991 or newer units.

The fire department's current apparatus replacement plan maintains two front-line engines at a maximum of ten-years old, one-front-line engine at a maximum of twenty years old, a reserve engine at a maximum of twenty years old, and a ladder truck at a maximum of twenty years old. Under the current replacement plan, one front-line engine and the ladder truck are not in compliance with the NFPA Standard or the Matrix recommendation that the Municipality use a 15 year plan for first-line fire apparatus.

The following table is the Department's current apparatus replacement schedule, approved in June of 1999:

Table 2: Current Apparatus Replacement Program

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Engine 4	**1995**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**2022**	**$500,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,480,000**

Table 3 represents an apparatus replacement schedule for all Mt. Lebanon fire apparatus based on the recommendation that the "Municipality should use a 15-year plan for front line fire apparatus," meeting NFPA standards (no front-line apparatus over 15-years old and no reserve apparatus over 20 years old):

Table 3: Matrix Replacement Schedule Incorporating NFPA Standards

Unit	Year	Replacement	Cost	Age at Replacement
Engine 1	**1982**	**2010**	**$500,000**	**28 years**
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 4	**1995**	**2015**	**$500,000**	**20 years**
Engine 2	**2002**	**2017**	**$500,000**	**15 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Engine 1	**2010**	**2025**	**$500,000**	**15 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,860,000**	

Table 4 represents an apparatus replacement schedule, incorporating the Matrix recommendation with the assumption that the Municipality will continue to purchase apparatus on a five-year rotation.

Table 4: 15 – year replacement cycle based on Matrix recommendation that the Municipality should also use a 15 year plan for front line fire apparatus."

Unit	Year	Replacement	Cost	Age at Replacement
Truck	**1992**	**2012**	**$930,000**	**20 years**
Engine 1	**1982**	**2017**	**$500,000**	**35 years**
Engine 4	**1995**	**2017**	**$500,000**	**22 years**
Engine 2	**2002**	**2022**	**$500,000**	**20 years**
Engine 3	**2002**	**2022**	**$500,000**	**20 years**
Truck	**2012**	**2027**	**$930,000**	**15 years**
Rescue	**2008**	**2028**	**$550,000**	**20 years**
TOTAL			**$4,560,000**	

In order to meet the intent of the Matrix recommendation (savings), while meeting NFPA Standards, the fire department is proposing the following apparatus replacement schedule:

Table 5: Proposed Fire Department apparatus replacement plan – 15-year front line service with elimination of one engine – NFPA Compliant.

Unit	Year	Replacement	Cost
Engine 1	**1982**	**2012**	**$500,000**
Truck	**1992**	**2012**	**$930,000**
Engine 4	**1995**	**2017**	**$500,000**
Engine 2	**2002**	**2022**	**$500,000**
Engine 3	**2002**	**None**	**$0**
Truck	**2012**	**2027**	**$930,000**
Rescue	**2008**	**2028**	**$550,000**
TOTAL			**$3,910,000**

Note: The elimination of the reserve engine will lose the department one point in its ISO rating; however, should not be significant enough to affect the community's overall fire protection classification.

It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage and engine hours, quality of the preventative maintenance program, quality of the driver training program, usage, workmanship, climate, and terrain, to name a few. In the fire service, there are apparatus with 8 to 10 years of service that are simply worn out. There are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are still serviceable after 20 years of service. In preparing the current fire department apparatus replacement plan, however, it is apparent the

majority of fire department follow the NFPA Standard as a guideline for apparatus replacement guidance.

While NFPA Standards are not mandatory, they establish a datum point for age of apparatus and updating guidelines. Fire Departments that do not follow NFPA Guidelines assume full liability of retaining known deficient apparatus in service. To knowingly operate or approve of the operation of a vehicle that could kill or injure the public or a fire fighter severely exposes the fire department officials to liability.

Table 4: Apparatus Replacement Schedules for Other U.S. Fire Departments

City	Population	Apparatus Type	First-Line	Reserve
Pittsburgh, PA	330,000	Engines & Trucks	15 years	N/A
Winston-Salem, NC	299,000	Engines	10 years	5 years
		Trucks	15 Years	5 years
Albemarle County, VA	92,000	Engines & Trucks	12 – 15 years	5 years
San Francisco, CA	809,000	Engines	10 years	5 years
		Trucks	15 years	5 years
Montgomery County, MD	950,000	Engines & Trucks	12 years	15 years
Flint, MI	125,000	Engines	10 years	5 years
		Trucks	12 years	8 years
Boulder, CO	280,000	Engines	10 years	10 years
		Trucks	10 years	7 years
Tualatin Valley, OR	23,000	Engines & Trucks	15 years	N/A
River Edge, NJ	11,000	Engines	15 years	8 years
Hilton Head, NC	35,000	Engines & Trucks	12 years	5 years
Richmond, IN	48,000	Engines & Trucks	15 years	5 years
Sand Springs, OK	19,000	Engines	10 years	10 years
		Trucks	15 years	N/A
Charlottesville, VA	45,000	Engines	12 years	5 Years
Roanoke, VA	97,000	Engines	10 years	5 years
		Trucks	12 years	5 years
Mountain Brook, AL	23,000	Engines & Trucks	15 years	5 years
Palm Beach, FL	11,000	Engines & Trucks	15 years	N/A
Staunton, VA	25,000	Engines & Trucks	20 years	3-5 years
Sand Springs, OK	35,000	Engines & Trucks	10 years	5 years
Park Ridge, IL	38,000	Engines & Trucks	15 years	5 years
Lighthouse Point, FL	13,000	Engines & Trucks	20 years	N/A
Miramar, CA	85,000	Engines	6 years	4 years
		Trucks	10 years	5 years
Gainesville, FL	99,000	Engines & Trucks	15 years	5 years
Alexandria, VA	125,000	Engines & Trucks	10 years	5 years
Richmond, VA	198,000	Engines	12 years	N/A
		Trucks	12 years	N/A

Based on the Matrix recommendations and additional research, as well as Mt. Lebanon Fire Department historical fire apparatus replacement schedules and usage, the Department proposes the following replacement for major apparatus:

Engines:

- 15-years of first –line service per NFPA Standards.
- Maintaining three engines to meet ISO and service demand requirements.
- Purchase of one new engine every five years.
- Elimination of reserve engine.

Truck:

- 15-years of first-line service per NFPA Standards.
- Purchase of a new truck every fifteen years.
- Adoption of the quint concept to allow for greater versatility and usage of the truck while alleviating some of the service demands placed on the engines.

Rescue:

- Maintain 20-year replacement cycle (specialty vehicle).

Command Vehicle:

- Maintain 25-year replacement cycle (specialty vehicle).

Squads and Utilities:

- Maximum 12-year replacement cycle.

Chief's Vehicle:

- 5-year replacement cycle; vehicle will be used for additional five-years as an additional staff vehicle.

Mt. Lebanon Fire Department

Standard Operating Guideline

Apparatus Replacement Policy

Number	Date	Page
110	7/10/09	1 of 1

1.0 General

1.1 Purpose. This standard operating guideline is to outline the replacement guidelines for fire and rescue apparatus and vehicles.

2.0 Procedure

2.1 To ensure the safest and most efficient use of Mt. Lebanon Fire Department resources, the following fire department apparatus and vehicle replacement guidelines shall be standard practice:

2.2 The Department shall maintain and adequate number of first-line apparatus to meet ISO requirements and service demands.

2.3 The goal of this guideline is to have heavy apparatus (engines and trucks) replaced after fifteen years of first-line service, the rescue replaced after twenty years of first-line service, the command vehicle replaced after twenty-five years of front-line service, and light vehicles (squads and utilities) replaced after a maximum of twelve years of service.

Unit	Year	Replacement
Pickup	**1997**	**2011**
Engine 1	**1982**	**2012**
Truck	**1992**	**2012**
Squad	**2003**	**2015**
Engine 4	**1995**	**2017**
Engine 2	**2002**	**2022**
Engine 3	**2002**	**None**
Pickup	**2011**	**2023**
Squad	**2015**	**2027**
Truck	**2012**	**2027**
Rescue	**2008**	**2028**

ATTACHMENT “B”

POLICE VEHICLES

MT. LEBANON POLICE DEPARTMENT (MLPD) FLEET ROTATION POLICY

MLPD fleet rotation is a fluid process based on safety concerns, performance, usage, mileage and assignment. Police vehicles are much more than a simple means of transportation for police officers; they are instead lifelines for the community and its police officers. Because of the critical nature of policing and the necessity for instant emergency response, the MLPD fleet must maintain performance as an absolute. Regular, consistent maintenance, as well as regular replacement of police vehicles so that operating capabilities (e.g. acceleration, braking, and dynamics) are not jeopardized, is paramount to saving officer and citizen lives, and protecting the municipality from surrounding liability. Moreover, police vehicles are "mobile offices" in which officers spend a significant percentage of their working hours. Because they provide platforms to support mobile data terminals (MDTs), in-car video cameras, emergency lighting systems, radios, rifles, shotguns and additional emergency equipment, police vehicles serve a purpose that distinguishes them from vehicles assigned to other components of municipal government.

As a result of their varied usage patterns, rotation policies for police vehicles must consider not only mileage and age, but also must take into consideration the nature of police vehicle operation. For example, because police vehicles must idle to keep MDTs "booted up" for rapid access to incident and CAD information, GPS data, and for efficient powering of emergency lighting systems, industry experts acknowledge an advanced rate of wear and tear on police vehicles, and the necessity to factor idling time and driving conditions into a rotation policy. Experienced fleet managers for large police departments recommend a formula that estimates every hour of engine idling is equivalent to 33 driving miles. It is easy to see why a MLPD vehicle with 100,000 miles on its odometer could be comparable to a family car with 200,000 miles on its odometer, given stop and go driving conditions, high idling times, excessive wear and tear on brake systems and suspensions, and the relatively harsh year round climate in southwestern Pennsylvania.

Normal MLPD annually scheduled purchases include three (3) police vehicles. Per the above considerations, the regular rotation schedule varies according to the type of vehicle and its common usage:

1. **Patrol Vehicles (PV)**
    a. The need for reliable and safe patrol vehicles cannot be overstated. On many occasions, engines in our Ford Crown Victorias and Dodge Chargers run for 24 hours per day, seven days a week. Given the number of hours and the nature of their operation, it is imperative that these sedans are rotated out of the patrol vehicle fleet **every three (3) years.**
    b. Sport Utility Vehicles and patrol vehicles assigned to K-9 officers, though assigned for patrol usage, have fewer officers assigned per vehicle. As a result, these vehicles have a **five (5) year rotation schedule**.

2. Specialty Vehicles (SV)

a. Specialty vehicles, such as the Mobile Command Post, DUI trailer, armored car, U.S. Army utility pickup truck, etc., were purchased with grant funding or through federal surplus programs, or were donated to the department at no cost to the municipality.

b. These vehicles have limitations on their usage, and as a result their rotation cannot be based on age, but instead is driven by **mileage and mechanical condition.**

3. Unit Vehicles (UV)

a. Unit vehicles include vehicles assigned to Administration, Crime Prevention, Investigative Services, Traffic Services and Animal Control.

b. Unit vehicles are generally used in and around Mt. Lebanon and surrounding municipalities, and usually operate under ordinary urban and suburban driving conditions.

c. *Administration*- the Chief of Police's (COP) vehicle is rotated at the end of a 3 year lease to own period. The COP vehicle is then assigned to a Deputy Chief of Police (DCOP) for three (3) more years. After three more years, DCOP vehicles are assigned to Investigative Services for an additional 3-4 years.

d. *Traffic Services* - a Traffic Services vehicle is also on a 3 year rotation of lease to own. At the end of that 3 year period, the vehicle is then assigned to a DCOP or to investigative Services for an additional 3-4 years.

e. *Crime Prevention (CPU)* - the unit normally has two vehicles assigned: a SUV previously assigned to either Traffic Services or Patrol, and a sedan previously assigned to either Police Administration or the Municipal Manager. The SUV remains with CPU for an additional 3-5 years, and the sedan remains for 3-4 years.

f. *Investigative Services* - undercover vehicles are assigned on a maintenance dependent rotation, and three (3) unmarked cars are used in the course of general investigations. These three cars, previously assigned to Police Administration, will remain in service for 3-4 additional years.

g. *Animal Control* – Animal Control trucks are on a 3 year rotation schedule, set by the SHCAC co-operative, with one truck purchased every year and the costs shared by the member communities.

All vehicle rotations take into consideration the practical useful life of the outgoing vehicle. If a vehicle has low mileage and low maintenance, it is standing practice to reassign the vehicle to other municipal departments, such as Inspections, Recreation, or Public Works. If other municipal departments have no need for a particular vehicle, the vehicle is either sold outright per established municipal policy or sent to auction. The recovered funds are used to offset expenditures for the given budget year.

ATTACHMENT “C”

PUBLIC WORKS EQUIPMENT

PUBLIC WORKS FLEET REPLACEMENT PROGRAM

A sound vehicle and equipment replacement schedule is important to the functioning of the Mt. Lebanon Public Works Department. Reliable vehicle and equipment in good working order are essential to our day to day operations and are critical when responding to snow and ice emergencies, removing fallen trees, sanitary and storm sewer overflows and flooding and the removal of leaves from community streets, and performing countless other activities that ensure public services of all sorts are available to citizens in a timely and professional manner.

Trucks and heavy equipment that break down frequently due to age or excessive use, interfere with workforce planning and can lead to disrupted and failed services. In today's rapidly changing technological world, older equipment quickly becomes obsolete and difficult to maintain. Good, dependable working equipment enables trained public works crews to respond quickly and professionally to emergency situations and reflects well on the stature of the community and its elected officials.

Our vehicle and equipment fleet is nothing more than a tool for the provision of services to the general public by municipal employees. When the tool, wear out become obsolete or requires repetitive upkeep, our ability to provide necessary services to our residents suffers. An essential component of effective fleet management is the commitment to replace vehicles and equipment before service delivery is impaired or diminished. A fleet replacement schedule can accomplish the following:

- Less vehicle downtime and lower operating and maintenance cost by the elimination of high cost, maintenance vehicles
- Assurance to elected officials that we are doing our best to plan for the replacement of vehicles and equipment before critical failure
- A streamlined fleet achieved through the elimination of unnecessary spares no longer needed to fill in for vehicle down time for recurring repairs

Many municipal governments react to the need for vehicle and equipment replacements either based on available funding or when no other choice exists. For example when ample funds are

available vehicles get replaced. Or, if a crisis exists such as a blown engine or a vehicle is wrecked beyond repair, a case for immediate replacement can be made. However, best practices require vehicles and equipment to be replaced according to sound principals and in accordance with a formal replacement schedule. Additionally the age of the fleet and its condition have a significant impact on the municipality's image and the morale of its employees.

When to replace a vehicle is a significant decision. The fleet replacement policy must mesh with our organizational goals and the need to meet the priorities of our customers (residents). There are more advantages to operating a newer fleet of vehicles than an aged fleet. These advantages are:

- The ability to minimize safety risks by driving vehicles with state-of-the-art safety equipment and newer components.
- Reduced downtime for employees driving vehicles that require minimal repair and maintenance.
- Enhanced employee morale and organizational image.
- A reduction in the expense incurred to maintain and repair vehicles.

REPLACEMENT CRITERIA

Eventually, all vehicles and equipment wears out. As they wear, they become increasingly expensive to operate and maintain and less reliable and safe to use. They become more expensive, in part because major components and systems, which are costly to repair or replace, cease to function properly or at all. They also become more expensive because component failure tends to be unpredictable, and unplanned repairs are more likely to interfere with vehicle use, impose uneven demands on maintenance resources and ultimately may lead to the disruption and delay of municipal services.

Most fleet organizations (private and public) establish formal replacement criteria in terms of vehicle age and/or usage (in terms of miles or engine hours) in order to forecast replacement funding requirements, develop budgets, and to trigger the examination of specific units for potential replacement. Some vehicles do not wear out as quickly as others, perhaps because their usage is lower in intensity than of other vehicles of their type. Some vehicles need to be replaced sooner than others because they experience above average wear and tear.

Below are the age and mileage standards that are being used by other municipalities to plan for the replacement of their vehicle and equipment fleets. Once the vehicles and equipment units reach the age and mileage/hour thresholds they are carefully inspected and evaluated to ensure that they are in safe working order and free of major defects. Vehicles that fail the evaluation are scheduled for replacement. Mt. Lebanon uses a similar age and use criteria and constantly evaluates the condition of its fleet. Our goal is to plan for the replacement of fleet

assets and avoid the dangers of keeping vehicles and equipment beyond reasonable life cycles which will cause total vehicle costs to rise, making our fleet more costly to own and operate.

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Light Dump Truck	7 - 10	80,000
Heavy Dump Truck	7 - 10	80,000
Pick Up Truck	7	80,000
Utility Truck	7 - 10	80,000
Street Sweeper	7	90,000
Back Hoes	8-10	
Front end loader	8 - 10	
Field Tractors	6 - 8	

Source: City of Pittsburgh Vehicle Replacement Schedule, Jake Harvey, General Manager

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Administrative Sedans	5	75,000-100,000
Emergency Sedans	3	85,000-100,000
Pickup Trucks	7	100,000-120,000
Dump Trucks, Diesel	7 - 10	150,000
Backhoes, Loaders	7 - 10	6,000 -7,500 hrs

Source: American Public Works Association Vehicle Replacement Guide

VEHICLE TYPE	REPLACEMENT RANGE YEARS	THRESHOLD MILEAGE
Sedans	3	60,000
Ambulances	7	60,000
Pickup Trucks	6	50,000
Light Dump Trucks	7	60,000
Heavy Dump Trucks	9	80,000
4-Wheel Drive Vehicles	6	40,000

Source: Federal Minimum Replacement Standards 41CFR 102-34.280

ATTACHMENT “D”

VEHICLE & EQUIPMENT DATA

Veh.#	Year	Model Type	Category	Assignment	Useful Life Years	Replacement Year	Notes	Current Replacement Cost	2013	2014	2015	2016	2017
361	2010	Utility Truck	Utility Truck	Police AC	3	2013		$ 24,000	$ 24,840			$ 27,360	
S-87	2008	Sedan	Sedan	Police	3	2011		$ 26,000	$ 26,910			$ 29,640	
S-93	2009	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-97	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-98	2011	Sedan	Sedan	Police	3	2013		$ 26,000	$ 26,910			$ 29,640	
S-88	2008	4WD Sport Utility	4WD Sports Utility	Police	5	2013		$ 30,000	$ 31,050				
CAR-01	2007	4WD Sport Utility	4WD Sports Utility	Fire Dept.	10	2013		$ 33,000	$ 34,155				
252	1996	Sierra Utility Tk.	Utility Truck	Public Works	10	2008		$ 35,000	$ 35,000				
LK-#7	2003	Leaf King Trailer	Specialty Equipment Leaf Vac*	Public Works	7	2010		$ 40,000	$ 40,000				
SE2	1972	Stump Grinder	Specialty Equipment Stump Grinder	Public Works	20	1992		$ 40,000	$ 40,000				
228	2000	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2010		$ 84,850	$ 87,820				
233	2001	F-550 Utility / Lift Tk.	Specialty Truck	Public Works	10	2011		$ 120,560	$ 120,560				
TRL-#1	1989	Trailer	Trailer	Public Works	15	2004		$ 7,000		$ 7,490			
362	2011	Utility Truck	Utility Truck	Police AC	3	2014		$ 24,000		$ 25,680			$ 28,200
S-99	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-01	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
S-02	2011	Sedan	Sedan	Police	3	2014		$ 26,000		$ 27,820			$ 30,550
302	2011	Mini Van	Van	Recreation	10	2014		$ 26,000		$ 27,820			
T-94	2009	Truck	Pick up Truck	Police	5	2014		$ 30,000		$ 32,100			
UTL-2-1997	1997	F-350 4x4	Pick up Truck	Fire Dept.	12	2011		$ 38,500		$ 41,195			
LK-#8	2003	Leaf King Trailer	Specialty Equipment	Public Works	7	2010		$ 40,000		$ 42,800			

SE3	2001	Brush Bandit	Specialty Equipment Chipper	Public Works	12	2013		$ 65,000		$ 69,550			
224	2003	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2013		$ 84,850		$ 90,790			
216	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230		$ 139,346			
255	2001	Elgin Sweeper	Specialty Equipment	Public Works	10	2011		$ 180,930		$ 199,000			
256	1997	FL-80 Sewer Tk.	Specialty Equipment Aquatech**	Public Works	10	2007		$ 328,000		$ 350,960			
TRL-#3	1995	Trailer	Trailer	Public Works	15	2010		$ 7,000			$ 7,735		
FE3	2000	Sand Pro Tractor	Field Equipment	Public Works	15	2012		$ 21,000			$ 23,205		
363	2012	Utility Truck	Utility Truck	Police AC	3	2015		$ 24,000			$ 26,520		
S-84	2007	Sedan	Sedan	Police	3	2012		$ 26,000			$ 28,730		
S-91	2008	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-92	2009	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-05	2012	Sedan	Sedan	Police	3	2015		$ 26,000			$ 28,730		
S-81	2006	Sedan	Sedan	Police	9	2012	K-9	$ 26,000			$ 28,730		
S-03	2012	4WD Sport Utility	4WD Sports Utility	Police	8	2015	C	$ 30,000			$ 33,150		
FE1	2005	2WD Tractor	Field Equipment	Public Works	10	2015		$ 30,000			$ 33,150		
UTL-3-2003	2003	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2015		$ 32,000			$ 36,800		
LK-#9	2003	Leaf King Trailer	Specialty Equipment* Leaf Vac	Public Works	7	2010		$ 40,000			$ 44,200		
211	2001	4900 Dump Tk.	Heavy Dump	Public Works	12	2013		$ 130,230			$ 143,904		
257	1998	Econoline Box Van Camera Van	Specialty Truck Camera Van.**	Public Works	10	2008		$ 150,000			$ 165,750		
TRL-#2	2000	Trailer	Trailer	Public Works	15	2015		$ 7,000				$ 7,980	
SE5	1988	Roller	Specialty Equipment	Public Works	20	2005		$ 8,000				$ 9,120	
SE4	1988	Root Cutter	Specialty Equipment	Public Works	20	2005		$ 36,000				$ 41,040	
LK-#11	2004	Leaf King Trailer	Specialty Equipment	Public Works	7	2011		$ 40,000				$ 45,600	

225	2006	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2016		$ 84,850				$ 96,729	
215	2003	7400 Dump Tk	Heavy Dump	Public Works	12	2015		$ 130,230				$ 149,765	
C1	1995	Air Compressor	Specialty Equipment	Public Works	20	2015		$ 18,000					$ 21,150
FE2	1990	Truckster	Field Equipment	Public Works	15	2002		$ 22,000					$ 25,850
FE4	2001	Tractor	Field Equipment	Public Works	15	2013		$ 25,000					$ 29,375
FE5	2005	Tractor	Field Equipment	Public Works	15	2017		$ 25,000					$ 29,375
LK-#12	2007	Leaf King Trailer	Specialty Equipment	Public Works	7	2014		$ 40,000					$ 47,000
223	2007	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2017		$ 84,850					$ 99,699
B-#1	2002	4WD - Backhoe	Heavy Equipment	Public Works	15	2017		$ 80,000					$ 115,000
UTL-4-2008	2008	4WD Sport Utility	4WD Sports Utility	Fire Dept.	12	2018	C	$ 28,000					
S-95	2009	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 30,000					
P-1	2006	4WD Sport Utility	4WD Sports Utility	Public Works	9		**	$ 28,000					
P-2	2005	Ford Escape	4WD Sports Utility	Public Works	10		**	$ 25,000					
202	2003	4WD Sport Utility	4WD Sports Utility	Public Works	10		***	$ 28,000					
201	2012	4WD Sport Utility	4WD Sports Utility	Public Works	9	2018		$ 28,000					
S-04	2012	Traverse SUV	4WD Sports Utility	Administration	10	2015	C	$ 28,000					
S-71	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-72	2004	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
S-96	2010	4WD Sport Utility	4WD Sports Utility	Police	8		R	$ 28,000					
FE11	2011	Hydroseeder	Field Equipment	Public Works	15	2025		$ 26,285					
FE6	2006	Infield Pro Tractor	Field Equipment	Public Works	15	2018		$ 21,000					
FE7	2008	Infield Pro Tractor	Field Equipment	Public Works	15	2020		$ 21,000					
FE8	2009	Truckster	Field Equipment	Public Works	15	2021		$ 21,000					
FE9	1978	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE10	1982	Tractor	Field Equipment	Public Works	15		**	$ 25,000					
FE12	2012	M640 Tractor	Field Equipment	Public Works	15	2027		$ 26,000					

ENG-2-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
ENG-3-2002	2002	Pumper	Fire Equipment	Fire Dept.	15	2022		$ 600,000					
2011	2011	Aerial Ladder	Fire Equipment	Fire Dept.	15	2026		$ 1,000,000					
RESCU-2008	2008	Rescue Tk.	Fire Equipment	Fire Dept.	20	2028		$ 650,000					
2008	2005	Command post	Fire Equipment	Fire Dept.	25	2030		$ 275,000					
FSH-01	2005	Fire Safety Trailer	Fire Equipment	Fire Dept.	15	2018		$ 70,000					
CRU	1996	Collapse Trailer	Fire Equipment	Fire Dept.	15	2009	Shared						
217	2008	7900 Dump Tk.	Heavy Dump	Public Works	12	2020		$ 130,230					
212	2011	4900 Dump Tk.	Heavy Dump	Public Works	12	2023		$ 130,230					
214	2012	7400	Heavy Dump	Public Works	12	2024		$ 130,230					
386	2004	Loader Front End	Heavy Equipment	Public Works	15	2019		$ 140,000					
B-#2	2005	4WD - Backhoe	Heavy Equipment	Public Works	15	2020		$ 80,000					
SP1	1995	Truck	Heavy Truck	Police	10		**	$ 350,000					
221	2011	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2021		$ 84,850					
222	2012	5500 4WD Dump Tk.	Light Dump	Public Works	10	2022		$ 84,850					
227	2008	F-550 4WD Dump Tk.	Light Dump	Public Works	10	2018		$ 84,850					
311	1999	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
312	2001	F-550 4WD Dump Tk.	Light Dump	Recreation	10		***	$ 84,850					
226	2008	F-550 4WD Dump	Light Dump	Public Works	10	2018		$ 84,850					
P-3	2012	F-350 Pick Up	Pick up Truck	Public Works	10	2022		$ 25,000					
P-4	2010	F-150 Pick Up	Pick up Truck	Public Works	10	2020		$ 28,000					
253	2009	Ford F-150	Pick up Truck	Public Works	10	2019		$ 28,000					

401	2002	Silverado 1500	Pick up Truck	Public Works	10		***	$ 28,000					
S-83	2008	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-75	2005	Sedan	Sedan	Inspections	10		***	$ 24,000					
S-86	2008	Sedan	Sedan	Police	8		R	$ 30,000					
S-79	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-78	2006	Sedan	Sedan	Police	8		R	$ 24,000					
S-73	2005	Sedan	Sedan	Police	8		R	$ 24,000					
SP6	2005	Sedan	Sedan	Police	8		**	$ 24,000					
SE1	2002	Grinder	Specialty Equipment	Public Works	20	2022		$ 250,000					
LK-#6	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
LK-#10	2012	Leaf King Trailer	Specialty Equipment	Public Works	7	2019		$ 40,000					
SP3	1995	Truck	Specialty Truck	Police	10		**	$ 100,000					
218	2000	F-750 Chipper Tk.	Specialty Truck	Public Works	12		**	$ 145,000					
219	2012	4300 Chipper Boom Tk.	Specialty Truck	Public Works	12	2024		$ 160,000					
ENG-4-1995	1995	Pumper	Fire Equipment	Fire Dept.	15	2012		$ 550,000					
231	2011	E-150 Van Paint Crew	Specialty Truck	Public Works	10	2021		$ 33,000					
258	2011	Trades Van	Van	Public Works	10	2021		$ 43,000					
301	2008	Mini Van	Van	Recreation	10		***	$ 26,000					
SP4	1991	Van	Van	Police	10		**	$ 32,000					
UTL-1-1996	1996	Mini Van	Van	Fire Dept.	12	2006	**	$ 26,000					
								$ 9,576,155	$ 521,065	$ 1,110,191	$ 658,064	$ 496,154	$ 487,299

****Note**S-71, S-91 & S-92 will be sold and replaced by S-06, S-07 & S-08 in late 2012.**

R Will be shifted to different units in the Police Department or to another department and will not be replaced.

** Will be used until no longer servicable

C Chiefs or Managers Vehicle will be replaced every 3 years. Old vehicle will be reassigned

*** Will be replaced by a reassigned vehicle

**** Volunteer Owned