

***Comprehensive Fire Department
Strategic Plan***

for the

Alpine
Township

Alpine Township

Alpine, MI

Submitted by



October 2018



McGrath Consulting Group, Inc.

P.O. Box 190

Wonder Lake, IL 60097

Office (815) 728-9111

Fax (815) 331-0215

Email tim@mcgrathconsulting.com

www.mcgrathconsulting.com

©Copyright 2018 McGrath Consulting Group, Inc. All rights reserved.

No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopy, recording or otherwise without the expressed written permission of McGrath Consulting Group, Inc.

Table of Contents

Executive Summary	7
Introduction.....	9
Community Information	10
Alpine Township Infrastructure.....	10
Alpine Township Fire Department Overview/Operations.....	12
Fire Department Overview	12
Facilities	13
Fire Station #1.....	13
Fire Station #1 Facilities Analysis	16
Fire Station #2.....	17
Fire Station #2 Facilities Analysis	18
Fire Station #3.....	18
Fire Station #3 Facilities Analysis	20
Alpine Township Fire Department Training Facility	20
Engine Emission Exhaust System.....	21
Recommendations – Facilities	23
Current Fire Station Concerns	24
Fire Station #1 Replacements Costs.....	25
Current Fire Stations Locations & Districts	25
5 - Minute Drive Time from Fire Stations	26
5 - Minute Drive Time from Fire Stations with Aerial View	27
Location of Fire Calls 2011 – 2015	29
Location of EMS Calls 2011 – 2015.....	30
Location of All Emergency Calls 2011 – 2015	31
Current Fire Station Location Issues	32
Fire Station #1.....	32
Fire Station #2.....	33
Fire Station #3.....	34
Recommendations for Possible Fire Station Locations	34
Fire Station #1.....	34
Fire Station #2.....	35
Fire Station #3.....	35
Staffing.....	35
Paid-On-Call/Volunteer Staffing	35
Fire Department Member Salary Rates	36
Age of Members	37
Members Years of Service.....	38
Daytime Hours Staffing	39
Recommendations – Staffing	40
Emergency Activities	40
What Constitutes Good Emergency Activities Data?.....	41
Emergency Activity Data.....	41

Response Times	41
Total Annual Emergency Calls	42
Incidents by Type.....	42
Types of Incidents by Percent.....	44
EMS Calls as a Percent of Total Calls	44
Incidents by Time of Day	45
Incidents by Shift	46
Total Incidents by Station 2015 – 2017	47
Percent of Calls Per Station 2015 – 2017	47
Total Incidents by Day of Week	48
Average Number of Personnel Responding to Calls	49
Recommendations – Emergency Activities	49
Aid/Automatic Aid/MABAS	50
Automatic Aid.....	50
Recommendation – Mutual Aid/Automatic Aid/MABAS	51
EMS Service Operations	51
Recommendations – EMS Service Operations	53
National Standards	54
National Fire Protection Association (NFPA)	54
Insurance Service Offices, Inc (ISO) – Alpine Township Fire Department.....	56
Recommendations – National Standards	60
Apparatus	60
Department Apparatus	61
Apparatus Replacement Schedule	62
Sufficiency of Apparatus	63
Recommendations – Apparatus	65
Fiscal.....	66
Alpine Township Annual Budget	66
Fire Department Budget Revenue.....	67
Fire Department Grants.....	68
Fire Department Annual Budget.....	69
Fire Department Wages and Benefit Costs	71
Capital Improvement Plan	72
Future Funding Needs.....	73
Staffing Costs	73
New Fire Station #1 Construction Costs.....	74
Aerial Ladder Costs	74
Recommendations – Fiscal	75
Community Education and Involvement.....	76
Recommendations for Community Education and Involvement.....	76
Summary of Recommendations.....	77
Recommendations for Possible Fire Station Locations	77
Fire Station #1	77
Fire Station #2.....	78
Fire Station #3.....	78

Recommendations – Facilities	78
Recommendations – Staffing.....	79
Recommendations – Emergency Activities	80
Recommendations – National Standards	80
Recommendations – EMS Service Operations	81
Recommendations – Apparatus	81
Recommendations – Fiscal	82
Recommendations for Community Education and Involvement.....	82

Table of Tables

Table 1: Fire Station #1 Analysis.....	16
Table 2: Fire Station #2 Analysis.....	18
Table 3: Fire Station #3 Facilities Analysis	20
Table 4: Members Salary Rates	37
Table 5: Fire Department Apparatus.....	61
Table 6: Apparatus Replacement Schedule	62
Table 7: Recommended Apparatus Replacement Schedule	63
Table 8: Percentage of U.S. Fire Departments with Number of Pumpers.....	64
Table 9: Percentage of U.S. Fire Departments with Number of Aerial Apparatus	65
Table 10: Alpine Township Fire Department Grants Received 2012 - 2016	69
Table 11: Alpine Township FD Annual Budget 2016-17 to 2018-19	69

Table of Figures

Figure 1: Fire Station #1 - Front View.....	14
Figure 2: Fire Station #1- Rear View.....	15
Figure 3: Fire Station #1 - South View	16
Figure 4: Fire Station #2 Front View	17
Figure 5: Fire Station #3 Front View	19
Figure 6: Fire Station #3 Rear/Side View.....	19
Figure 7: Map of Fire Station Response Districts.....	26
Figure 8: Five Minute Drive Time from Fire Station	27
Figure 9: Five Minute Drive Time from Fire Stations with Photo	28
Figure 10: Location of Fire Runs 2011-2015	29
Figure 11: Location of EMS Runs 2011-2015.....	30
Figure 12: Ages of Fire Department Members	38
Figure 13: Members Years of Service	39
Figure 14: Average Response Times in Minutes.....	42
Figure 15: Total Annual Calls 2008 to 2017	42
Figure 16: Types of Incidents 2015-2017.....	43
Figure 17: Types of Incidents by Percent 2015 - 2017.....	44
Figure 18: EMS Calls as a Percentage of Total Calls 2015 - 2017.....	44
Figure 19: Total Incidents by Time of Day 2015 - 2017	45
Figure 20: Total Calls by Shift 2015 - 2017	46

Figure 21: Calls by Station 2015 - 2017	47
Figure 22: Percent of Calls Per Station 2015 - 2017	47
Figure 23: Total Incidents by Day of Week 2015 - 2017	48
Figure 24: Average Number of Personnel Responding to Emergency Calls 2015 - 2017	49
Figure 25: Mutual Aid Calls Out of Township 2015 - 2017.....	51
Figure 26: EMS Level of Training by Department Members.....	53
Figure 27: 2017 National ISO Classifications	57
Figure 28: 2017 State of Michigan ISO Classifications	58
Figure 29: Alpine Township Budget Revenues	67
Figure 30: FD Budget as a Percent of Township Budget	68
Figure 31: Wages and Benefits as Percentage of Total Budget.....	71

Executive Summary

Alpine Township contracted with McGrath Consulting Group, Inc. to develop a strategic plan for the Alpine Township Fire Department. The strategic plan was to focus primarily on the future needs of the fire department related to staffing, fire station conditions and locations with a focus on Fire Station #1, and the fire department request to purchase an aerial ladder vehicle.

The consultants have addressed all these items in the report and prioritized the needs for the Alpine Township Fire Department based on the importance of the need and the ability to fund the costs for these much-needed resources. Currently, the Township budget is about \$2.5 million dollars annually and the Alpine Township Fire Department budget is almost \$500,000 annually or about 20% of the total Alpine Township budget.

It is important to understand that the Alpine Township has limited financial resources based on the fact most of the revenue for Alpine Township comes from property taxes and state shared revenue funds. The ability to increase taxes is limited by state rules and any increase of shared revenue is not likely since the funds come from the State of Michigan.

This report is recommending that addressing staffing for the Alpine Township Fire Department should be the highest priority as the fire department is having problems with not having adequate staffing on emergency responses and this issue can be addressed by multiple options. The options are to provide additional funds for part-time staff to work day-time hours during the work week. This option could include funds to staff one part-time position initially with a second position being the goal as soon as funding allows. This staffing option will address the immediate problem of not having adequate fire department staffing during the day-time hours during the work week when most of the fire department members are working at their full-time employment.

Other options for solving the staffing problem are identified in the report but will require the funding of full-time fire department positions which will require much higher salaries and benefit costs. At some point in the future, the need for some full-time positions to staff the fire department will certainly be a requirement.

The consultants have addressed the Alpine Township Fire Department fire stations needs and are recommending that Fire Station #1 be relocated, and a new fire station be constructed. The consultants have worked with Alpine Township and have identified a location for the new fire station, which the Township is in the process of purchasing. Purchasing a site for a new fire station is critical since available land that would meet the needs for a new fire station location and within a reasonable cost for the Township were very limited. The construction costs of a new fire station could exceed \$4 million depending on how soon the Township is willing to move forward with construction. Funding a new fire station will be a challenge that will require the support of the citizens and business community of Alpine Township.

The consultants have addressed the idea of the Alpine Township Fire Department purchasing an aerial ladder apparatus, and we do agree that the fire department would benefit by having an aerial ladder in the fire department fleet of apparatus. A new aerial ladder could cost up to \$1 million dollars now, but purchasing this vehicle now should not be a high priority for the reasons listed in the report. This recommendation is based primarily on the fact Alpine Township has limited funds and staffing for the fire department and building a new fire station are much more important.

The consultant's impression of the Alpine Township Fire Department was very positive. The members that were interviewed were very professional and spoke highly of the Fire Chief and Township government officials and the Township Supervisor. Although the study did not include an assessment of the fire department, it was apparent the fire department is managed very well and committed to providing a high level of service to the citizens and the entire community.

The consultants would like to give a special thanks to the Township Supervisor Greg Madura, Fire Chief Klomparens, and the Planning Director Susan Becker for their assistance in conducting the study and allowing us to develop this final report. A special thanks should be given to various employees at the Township Hall who provided the consultants with various types of information and data. All of them were very helpful and professional.

Introduction

Alpine Township commissioned McGrath Consulting Group, Inc. to conduct this study. The critical issues for the study identified by Alpine Township included:

- Fire Station #1 is built into a hill on a small piece of property; therefore, it is not possible to be configured for drive-thru bays nor is the station large enough to accommodate an aerial ladder platform in the future
- Station #1 currently cannot accommodate 24-hour personnel, which is anticipated to be a future need to meet emergency response requirements on a 24-hour basis
- The Township lacks a dedicated fire training facility
- Staffing is needed as it is becoming extremely difficult to provide consistent 24-hour emergency response coverage with paid-on-call fire department staff to serve the Township
- Identify future funding needs and options to pay for land and future fire station, training facility and personnel coverage

This report will address all these issues with supporting information, data, and recommendations by focusing on the fire station and training facility needs and location, staffing, fire apparatus needs, and fiscal needs and funding options.

The consultants interviewed the Alpine Township Fire Chief, Assistant Chief, other fire department Officers, and many fire department members. In addition, the consultants interviewed most of the members of the Alpine Township Board, the Township Supervisor, the Finance Director, the Building Inspector and the Planning Director.

Everyone who was interviewed was very professional and spoke well of the quality of the fire services provided by the Alpine Township Fire Department. Many of the fire department members expressed their appreciation for the support they receive from the Township Supervisor and the Township Board. Several concerns or perspectives were brought to the attention of the consultants during the interviews. The consultants were consistently told of the fire department's

need for a new fire station with sleeping quarters and the problem with the lack of adequate staffing to provide adequate 24-hour emergency response to the Township.

Community Information

The Township of Alpine is in Kent County, Michigan. Kent County is in western central Michigan. The County seat is Grand Rapids and the 2010 census stated the county had a population of 606,622.

Alpine Township is a 36-square mile general law township which is located northwest of the metropolitan Grand Rapids, Michigan. The Township of Alpine is located about 4 miles from Downtown Grand Rapids. Alpine Township is a community with two very different aspects, the first being a large agricultural base and the second base an urban core. In 2014, Alpine Township's population was estimated to be 13,531.

The Township's total area includes 61% that is planned for Agricultural Preservation. Most of the Township's population is 64% densely clustered into a 2-square mile area in the southeast corner of the Township. This is adjacent to the very busy M-37/Alpine Avenue commercial/industrial corridor.

The Township is governed by a seven (7) member Township Board including a Township Supervisor, who is responsible for the daily operations of the Township.

Alpine Township Infrastructure

It is important to have an overview of the township infrastructure to understand the extent of the hazards and infrastructures the Alpine Township Fire Department is expected to be prepared to protect in the event of an emergency. It also reflects the need to have adequate fire stations and locations, staffing, and resources available to provide 24-hour emergency response.

The critical infrastructure of Alpine Township consists of chemical storage facilities, three large apartment complexes, railroad lines with train traffic, two water towers, four miles of "Box

Store” type shopping centers, three school districts, and American Natural Resources (ANR) natural gas pipeline and an AT&T central office.

Due to the farming and industry, there are many different types of chemicals stored and used in the Township.

There three densely populated apartment complexes that host 2,292 living units including a total of 82 multi-family buildings of which 69 of the buildings are four-stories in height. It should be noted that many of these large apartment buildings do not have automatic fire sprinkler systems installed. It should also be noted that these large densely populated apartment complexes create some very challenging needs for the fire department in the event of an emergency.

The primary challenge includes the large life safety hazard created in the event of a fire in a building in terms how to make sure all occupants can escape to the outside of the building safely and how many may need to be rescued from windows or porches on upper floor levels.

The second major challenge in the event of a fire in one of these large buildings, is that is not uncommon for the fire to spread to the attic area with the result being a large building roof fire and the need to have an aerial ladder apparatus for both the rescue of trapped occupants as well as for attic and/or roof firefighting operations.

The four miles of large commercial “box store” shopping centers employ approximately 2,000 employees daily. The challenges of life safety and the possibility of large fires due to the large commercial occupancies pose similar challenges for the fire department as do the large multi-family buildings.

Just prior to the consultants making a visit to Alpine Township, the fire department had a fire in a large storage facility, which posed many challenges, primarily being not having an adequate number of fire department personnel and resources available during the daytime emergency. Fortunately, several fire department members were available to respond due to the fact they were at the fire station for training and maintenance duties.

Other tall and/or large buildings include a Wal-Mart, Menards, Sam's Club, Consumer's Energy, Commercial Development Co., Commercial Tool and Die Mtg., and the NBHX Plant. The NBHX plant manufactures high-end automobile parts using lacquer and quantities of other flammable liquids.

Alpine Township Fire Department Overview/Operations

Fire Department Overview

The Alpine Township Fire Department is a paid-on-call department that provides fire, rescue, and emergency medical services to the residents, businesses and visitors of Alpine Township.

The Alpine Township Fire Department has a staff of 28 firefighters, including a full-time Fire Chief and 27 paid-on-call firefighters. All members of the fire department are State Certified at the levels of Firefighter I, Firefighter II, and Incident Command System.

The Alpine Township Fire Department operates out of three fire stations, which are located in the Alpine Township. Station #1 is located at 841 Alpine Church Road NW, Station #2 is located at 3859 7 Mile Road, and Station #3 is located 610 9 Mile Road NW. The Alpine Township Fire Department operates a number of fire department vehicles that includes the following apparatus: (2) Engine/Tenders, (2) Engine Pumpers, (1) Tender, (1) Grass Rig, (3) EMS First Responder vehicles, and (2) ATV 4-wheel vehicles.

The Alpine Township Fire Department does not provide ambulance transport service. Ambulance transport is provided primarily by two private ambulance services. Basically from 4 Mile Road to 8 Mile Road, the ambulance response and transport service is provided by Life EMS and north of 8 Mile Road the ambulance response and transport service is provided by Rockford Ambulance. Both private ambulance services provide paramedic level advance life support service.

Facilities

The Alpine Township Fire Department operates out of three fire stations, Station #1 is located at the south end of the Township on Alpine Church Road, Station #2 is located in the west side of the Township on 7 Mile Road and Station #3 is located at the North end of the Township on 9 Mile Road. The consultants visited the fire stations during the study and conducted a walk-through of the fire stations to evaluate the buildings, locations, conditions, and the vehicles that responded from each station.

Fire Station #1

Fire Station #1 is located at 841 Alpine Church Road NW, which is on the corner of Alpine Church Road and M-37, which is a very busy north and south state highway. The fire station was constructed in 1963 and an addition was built onto the station in 1985 to provide more fire vehicle apparatus bays, a meeting/training room and other needed space.

The fire station is a bi-level story building with a lower level and an upper level as it is built into the lot at an angle resulting in the front of the building being at street level and the rear of the building being at a different level as will be shown in the photos below.

The total square footage of the fire station is 7,971 square feet with four apparatus bay areas that include the addition that was constructed in 1985. The southern two apparatus bays are the larger bays and the Chief's vehicle and an Engine are parked in these bays. These bays are both one vehicle deep and the doors are about 12-feet in width and 11.5 feet in height. The northern two bays are single vehicle bays and two smaller size Engines were parked in these bays. The doors in these two bays are about 12-feet in width and only about 10-feet in height. The depth of the apparatus bays was just less than 42 feet. Also, in the apparatus bay was the air compressor for filling Self Contained Breathing Apparatus (SCBA) cylinders and a hose dryer.

The remaining space on the upper floor include various offices for the Chief, fire inspection, training, Deputy Fire Chief, the Administrative Assistant area, a reception area, a meeting/training room, and some storage area.

The lower level of Fire Station #1 is accessible by an interior stairway for use by the fire department members, but the primary entrance for the lower level was from two outside entrances accessible from a lower level parking lot. The entrances are shown in the Station 1 photos. The lower level of Fire Station #1 contains a community room with a stage and the ability to allow seating for about 40 people. The lower level also contains a small kitchen area, a men and woman's restroom of which both are handicapped accessible.

The following figure illustrates Fire Station #1 and on the right side the two garage bay doors are part of the original fire station and the two left doors reflect the addition that was built in 1985. It is easy to see the difference in the heights of the apparatus bay doors with the original doors being a foot and a half shorter in height. This causes problems with new fire apparatus not being able to fit into the bays since newer fire apparatus are much taller than in previous years and older fire apparatus.

Figure 1: Fire Station #1 - Front View



To meet the future needs of the Alpine Township Fire Department, Fire Station #1 will need to be able to accommodate larger fire apparatus, including the possibility of an aerial ladder or an

aerial ladder platform. The space needed for an aerial ladder will require an apparatus bay that is at least two vehicles in depth.

Other future needs for the Alpine Township Fire Department Fire Station #1 will be the need to have adequate facilities to accommodate full-time staffing, including living and sleeping quarters. The current Fire Station #1 building and location will not allow an addition or renovation of the fire station due to several reasons. The lot size of Fire Station #1 is limited, the current building is located and built into a hill, the current site would require substantial site work to allow any renovations or addition to be constructed.

The following two figures are photos of the rear side and south side of Fire Station #1 and show the lower level of the building with the difference in elevation.

Figure 2: Fire Station #1- Rear View



Figure 3: Fire Station #1 - South View



Fire Station #1 Facilities Analysis

The following facility observations are made regarding the Alpine Township Fire Department Fire Station #1:

Table 1: Fire Station #1 Analysis

Total Square Footage	7,971 total square feet Four Apparatus Bays – Building has Two Levels Upper Level - Apparatus Bays, Training/Meeting room/office/restrooms Lower level, Community Room, Kitchen, Restrooms
Apparatus Bay Doors	Front bay doors – Two Doors - Height 11,5 feet/width 12 feet Two Doors – Height 10 feet/width 12 feet
Design	Four bays – Front of Building – All bays one-unit deep Functional building – very limited space Vehicle parking limited – small space between vehicles Building designed for smaller vehicles Limited space to work on vehicles and/or equipment Not ADA compliant
Construction	Ordinary brick
Safety	No fire suppression system Emergency generator Storage very limited
Environment	Lacks vehicle emission exhaust system Heating and cooling system

Staff Facilities	Administrative office space very limited Storage inadequate Restrooms are very small and not adequate No facilities for staff to shower No facilities for staff to sleep in building
Overall appearance	Very old building with inadequate facilities and room Limited storage space No space to perform routine maintenance of vehicles and/or equipment

Fire Station #2

Fire Station #2 is located at 3859 7 Mile Road just south of the intersection of Fruit Ridge Avenue. This area is predominantly agriculture and single-family homes and is set in a very rural setting. Fire Station # 2 was constructed in 1970 and is 48 years old. Fire Station #2 is a single-story fire station of ordinary brick construction. The square footage of the station is about 2,520 with three apparatus bays, one vehicle or less in length. Two bays were part of the original construction and there is an Engine and Pumper/Tender in those two bays. The doors of these two bays are 10 feet in height by 12 feet in width. The third bay is the medical bay, which the fire department members created recently. This bay contains on Medical Response SUV and a small office area behind where the SUV is parked. The door to this bay is about 8 feet 8 inches in height by 9 feet 10 inches in width. The garage door is relatively small, but it does allow a SUV Medical Response vehicle to be stored in the bay.

The following figure is a photo of the front view Fire Station #2.

Figure 4: Fire Station #2 Front View



Fire Station #2 Facilities Analysis

Table 2: Fire Station #2 Analysis

Total Square Footage	2,520 total square feet Three Apparatus Bays – (2) Fire Apparatus, (1) Medical SUV
Apparatus Bay Doors	3 Front bay doors – Two Doors - Height 10 feet - Width 12 feet One Medical Bay Door – Height 8 feet 8 inches - Width 12 feet
Design	Three bays – Front of Building – all bays one-unit deep Functional building – very limited space Vehicle parking limited – small space between vehicles Building designed for smaller vehicles Limited space to work on vehicles and/or equipment Not ADA compliant
Construction	Ordinary brick
Safety	No fire suppression system Emergency generator Storage very limited
Environment	Lacks vehicle emission exhaust system Heating and cooling system – Gas
Staff Facilities	Small office space and Storage inadequate Restrooms – One with handicapped accessible with shower No facilities for staff to sleep in building
Overall appearance	Very old building with limited facilities and room Limited space to perform routine maintenance of vehicles and/or equipment

Fire Station #3

Fire Station #3 is located at 610 9 Mile Road just east of Alpine Avenue. Fire Station #3 was constructed in 2001 and is about 17 years old. Station #3 is a single-story building of ordinary brick construction. The square footage of the fire station is about 6,317 with two drive through apparatus bays both two vehicles in depth. There is a training/meeting/community room on the east side of the building with a kitchen with a seating capacity of about 30 people.

It is in the far Northeast area of Alpine Township less than one mile from the border of Alpine Township and Plainfield Township to the East. It is also located less than one mile from the border of Alpine Township and Sparta Township located one mile to the North. The fire apparatus at this station includes (1) Pumper/Tender, (1) Tender, (1) Medic SUV, (1) Brush Truck, and (2) ATV's with a Trailer.

The following figure is a photo of the front of Fire Station #3.

Figure 5: Fire Station #3 Front View



The following figure is a photo of rear/side view of Fire Station #3.

Figure 6: Fire Station #3 Rear/Side View



Fire Station #3 Facilities Analysis

Table 3: Fire Station #3 Facilities Analysis

Total Square Footage	6,317 total square feet Two Double Apparatus Bays – (2) Fire Apparatus, (1) Medical SUV, (1) Brush Truck, 2 ATV's with Trailer Training/Meeting room/offices Community Room, Kitchen, Restrooms
Apparatus Bay Doors	Front bay doors – Two Doors - Height 14 feet - Width 14.5 feet Two Doors Rear– Height 14 feet - Width 14.5 feet
Design	Two Drive Thru Double Bays Very Functional building –Adequate space Vehicle parking – small space between vehicles Building designed for smaller vehicles Limited space to work on vehicles and/or equipment Not ADA compliant
Construction	Ordinary brick
Safety	No fire suppression system Emergency generator Adequate Storage
Environment	Lacks vehicle emission exhaust system Heating and cooling system – Gas
Staff Facilities	Small office spaces and Restrooms – Two with handicapped accessible with shower No facilities for staff to sleep in building
Overall appearance	Very nice building well maintained

Alpine Township Fire Department Training Facility

The need for an Alpine Township Fire Department fire training facility was brought up during the study to meet the practical training needs of the fire department. There is little doubt that fire departments of today have a lot less fires than in previous years and generations. Fire departments have spent years on public fire safety education to the citizens of their communities and the result is most communities have far less fires than in the past.

Most fire departments respond to a larger percentage of EMS calls than fire calls. For the Alpine Township Fire Department, their response numbers include over 70% of their emergency calls are for EMS service. The fact is most calls for service that fire departments respond to the percent of EMS calls is between 70% and 80% of their total calls.

This fact that fire departments respond to more EMS calls than fire calls and that the number of actual structure fires in most communities including Alpine Township are very limited result in fire department members that have far less experience and knowledge about firefighting operations. One of the ways to solve this lack of firefighting experience is using fire training facilities that can be used to simulate actual fires proving needed skills and experience to fire department members.

Fire training facilities and training grounds can be very expensive to build and to operate, which means they are normally out of the ability for smaller departments and communities to build and operate. In communities with fire training facilities, to allow the facility to be built sometimes partnerships were built with neighboring communities, technical schools and counties to make the training more affordable. These types of partnerships help with the funding and in addition, allow the facilities to be used by multiple agencies.

The consultants have recently seen a new facility built by a technical college, which spent about \$475,000 for the training building and tower. Additional costs for land, water and sewer system, concrete and blacktop driveways, pads, roads, security fencing, and drainage would easily drive the cost for a fire training facility up to and maybe more than \$1 million dollars.

The concept of having a fire training facility is usually addressed on a regional or county-wide basis and can often be accomplished if multiple agencies and/or government bodies are able to create partnerships to fund and operate the facilities.

Engine Emission Exhaust System

There is disagreement in the industry on what is an acceptable apparatus emission exhaust system. The issue is whether engine emission exhaust should be captured directly from the apparatus before being released into the atmosphere of the station, or whether it can be released into the station and removed by air monitoring systems (usually ceiling-mounted) that detect exhaust fumes and scrub the air to remove the impurities.

Apparatus emissions – diesel and other engine exhausts – have been proven to be harmful to the health of those exposed, even at low concentrations, for an extended time or within an environment that subject's individuals to this exhaust. The lack of an approved Occupational Safety and Health Administration (OSHA) exhaust removal system is a proven health and safety issue.

Most states in the U.S., including Michigan, have heart and lung presumption legislation. Heart and lung presumption legislation acknowledges that firefighters have an increased risk of heart and lung diseases, including certain types of cancer. The presumption legislation places the burden of proof on the employer to show that the disease was contracted outside the workplace. Michigan does not currently have cancer presumption legislation that would place burden of proof on the employer to prove that *any* type of cancer in a firefighter was contracted outside the workplace; however, this legislation is being pursued by the Michigan Professional Firefighters Union.

Although the revised NFPA 1500 (Firefighter's Safety) of May 2009 has eliminated the 100% capture of engine emission exhaust requirement, it does require that exposure to carcinogens (engine exhaust) be limited to the lowest feasible concentration. Therefore, some type of emission exhaust system is mandated within the fire/EMS industry.

The consultants believe that conventional wisdom suggests that 100% capture prior to release into the environment affords greater health benefits than releasing the exhaust into the station and then attempting to clean it. However, no system is fool-proof; individuals must follow procedures that require the running of apparatus engines outside the facility whenever possible. Even with this accomplished, most fire departments will start small engines (i.e. gasoline powered saws) during the daily or weekly apparatus equipment check. These fumes are not captured by a system that attaches directly to the apparatus. Therefore, the consultants are now finding that many new fire/EMS facilities utilize both systems; one system that hooks directly to the apparatus and a smaller system of air scrubber(s) to remove any other type of exhaust emissions.

The Alpine Township Fire Department has not equipped the fire stations with engine exhaust systems, and it is a recommendation that in the future any new stations be equipped with the system. The cost to install an engine exhaust system usually averages about \$10,000 to \$12,000 per vehicle. Many fire departments have been successful in applying for and receiving grants for these exhaust systems through the Assistance to Firefighters Grant Program.

Recommendations – Facilities

- *The Alpine Township Fire Department does need to construct a new fire station to replace the current Fire Station #1 for the reasons stated previously. The site for a new fire station should be selected and purchased now and the fire station constructed when the funding becomes available.*
- *A new fire station should be constructed with sleeping quarters to be prepared for the time when the station can be staffed 24hours/day. The new station should have larger drive thru bays that will allow for larger size fire vehicles to be stationed there, including aerial ladder and platform vehicles. The apparatus bays should be at least two vehicles deep,*
- *The new fire station should probably be about 15,000 square feet in size with sleeping quarters, training room, offices, and with storage space based on a space needs analysis conducted by the architect with fire department personnel.*
- *When constructing a new fire station, a balance needs to be maintained between the needs and wants, between what is affordable and what is not affordable, and most importantly, what are the current needs for space and what will the fire department need for space be for the next 20 to 40 years based on a changing community.*
- *The Alpine Township Fire Department should consider the installation of an approved OSHA vehicle emission exhaust system for each vehicle space, which provides 100% capture by hooking the apparatus directly to the exhaust source. It is certainly possible that the fire department could be successful in obtaining an Assistance to Firefighters Grant (AFG) for this project.*
- *A fire training facility may not be built by Alpine Township at this time due to the costs and other higher priority budget needs.*

- *The Alpine Township Fire Department and Alpine Township may want to begin discussion with other local government bodies, including Kent County, to determine if there is an interest within the area to build a fire training facility and to finance the facility through partnerships.*

Current Fire Station Concerns

The consultants toured each of the three fire stations and found all of them in good condition. The Alpine Township Board and Alpine Township Fire Department can be proud of how well the fire stations are maintained, which is a reflection of the members of the Alpine Township Fire Department.

The concerns the Township should have with Fire Station #1 is related to many reasons. The station serves as the main hub of most fire and EMS emergency responses and services provided by the Alpine Township Fire Department. The station is located in the area of Alpine Township that has the largest percentage of the population served by the fire department. Many of the high life and target hazard occupancies are close to Fire Station #1. Station #1 was originally constructed in 1955, with an addition built in 1985, so the structure is certainly aged.

The current Fire Station #1 certainly poses many challenges for the Alpine Township Fire Department in terms of providing fire and EMS services in the future. The concerns all relate to the ability of the Township being able to modify Fire Station #1 to meet future needs to include full-time personnel that would require sleeping quarters and apparatus bays that would be large enough to allow the larger size fire apparatus to be parked in the fire station.

Fire Station #1 concerns include:

- The station is constructed on a busy north-south State of Michigan highway with large traffic numbers.
- The size of the land that Fire Station #1 is located on is very limited in terms of adding an addition or constructing a new building at this location.

- The station is built into a hill which limits the ability to modify the existing structure or to build a new station at this location
- The station does not have sleeping quarters and the ability to add sleeping quarters in the future is not a possibility due to the station being located on an incline. The need for sleeping quarters for the fire department to meet the response needs of the fire department on a 24-hour 7 day a week schedule should be a priority in the near future.
- The current Fire Station #1 has apparatus bays that are very small for the size of fire apparatus of today's fire service.
- In addition, the current fire station does not have drive thru bays and the ability to have drive thru bays for vehicles like an aerial platform or ladder which the fire department will need in the future.

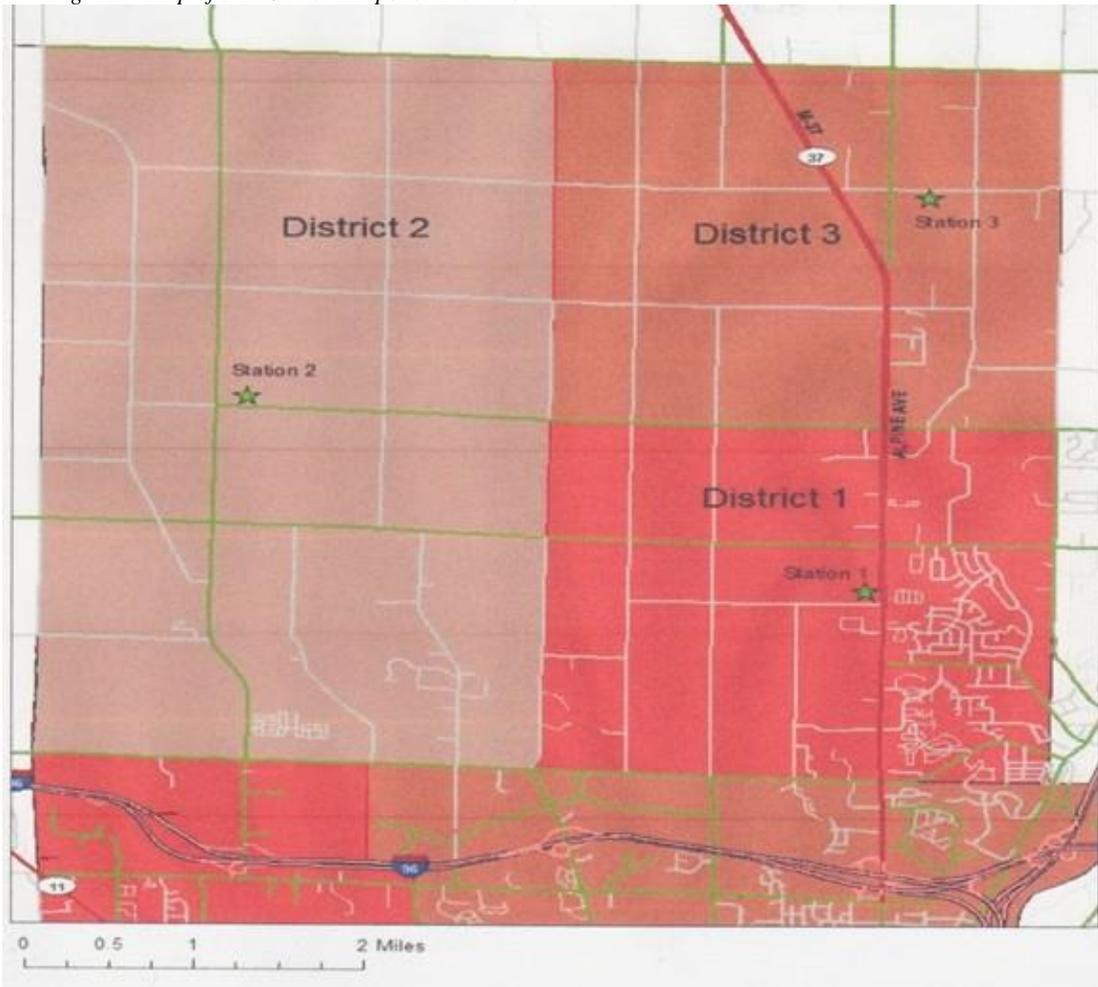
Fire Station #1 Replacements Costs

The replacement cost of a new Fire Station #1 will be expensive. The consultants have worked with another fire department in the area that is in the process of building a new fire station with groundbreaking planned for 2019. Their station plans include a station with just less than 15,000 square feet with four apparatus bays, a large training room, without sleeping quarters with the ability to expand the facility. The estimated costs at this time is about \$3.6 million, not including the purchase price of \$375,000 for 3.5 acres of land that was previously purchased.

Current Fire Stations Locations & Districts

As mentioned earlier, the Alpine Township Fire Department has three fire stations. The following figure illustrates the location and the response district for each of the three fire stations:

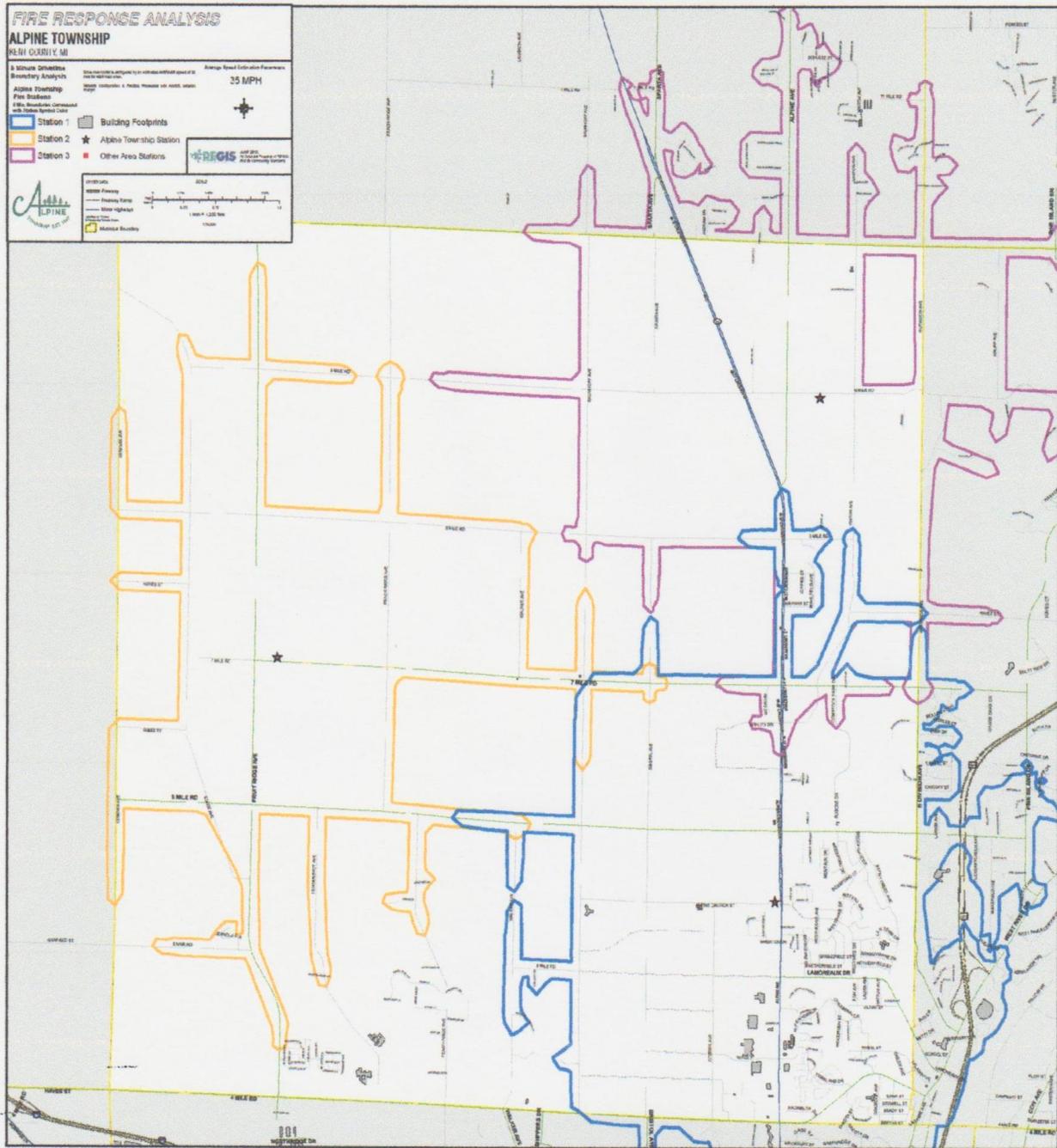
Figure 7: Map of Fire Station Response Districts



5 - Minute Drive Time from Fire Stations

The following figure reflects the five-minute drive time area for each of the three fire stations. Station #1 is blue, Station #2 is yellow, and Station #3 is purple.

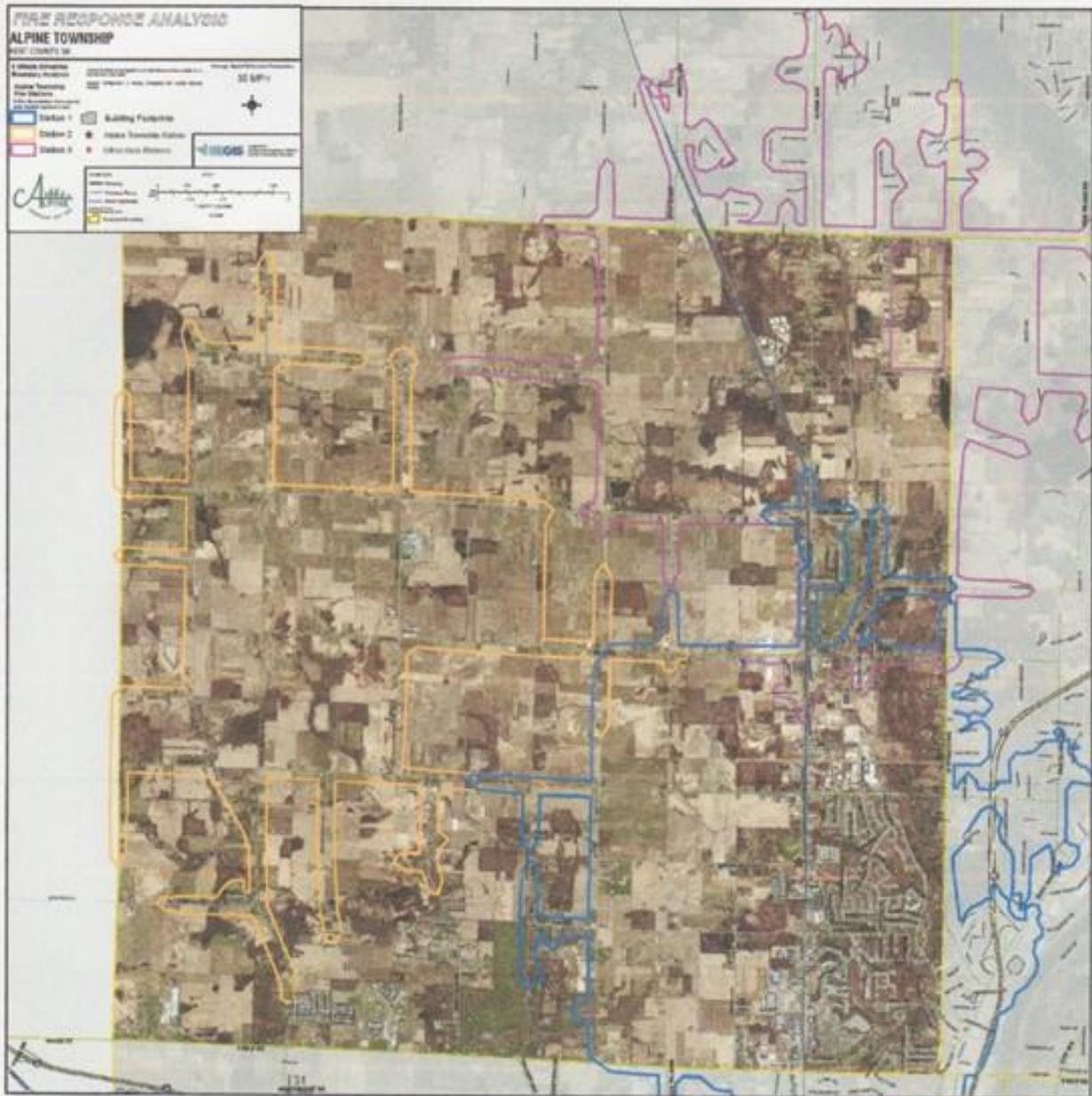
Figure 8: Five Minute Drive Time from Fire Station



5 - Minute Drive Time from Fire Stations with Aerial View

The following figure reflects the five-minute drive time area for each of the three fire stations with an aerial view. Station #1 is blue, Station #2 is yellow, and Station #3 is purple.

Figure 9: Five Minute Drive Time from Fire Stations with Photo

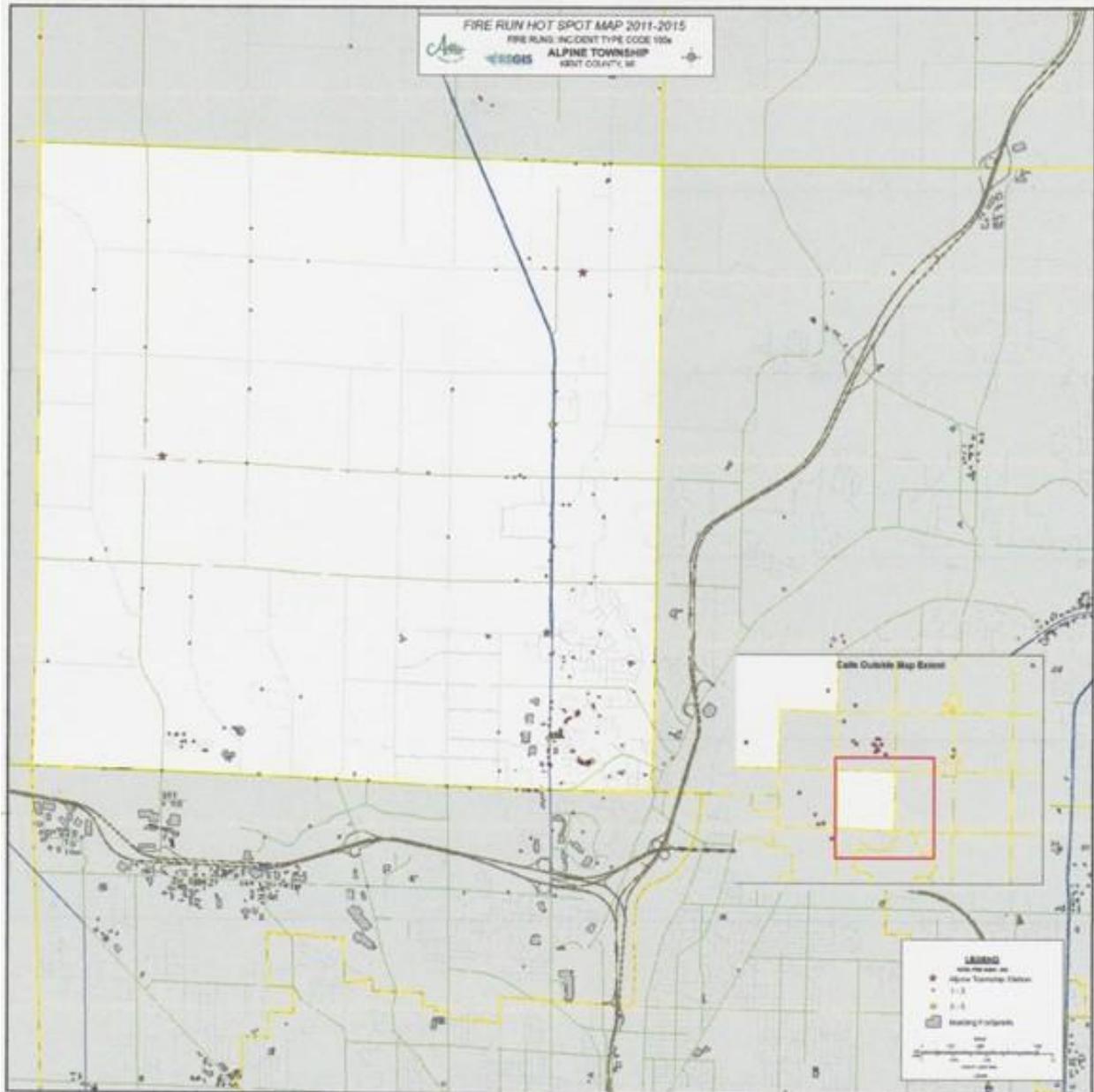


Most of all three fire stations are within a five-mile drive time except for a few areas. Station #3 area does extend into Sparta Township to the North.

Location of Fire Calls 2011 – 2015

The following figure illustrates the location of all fire calls in Alpine Township for the years 2011 – 2015. As illustrated in the figure, most of the fire calls are located in the southeast area of the Township, which is served primarily by a Fire Station #1 response.

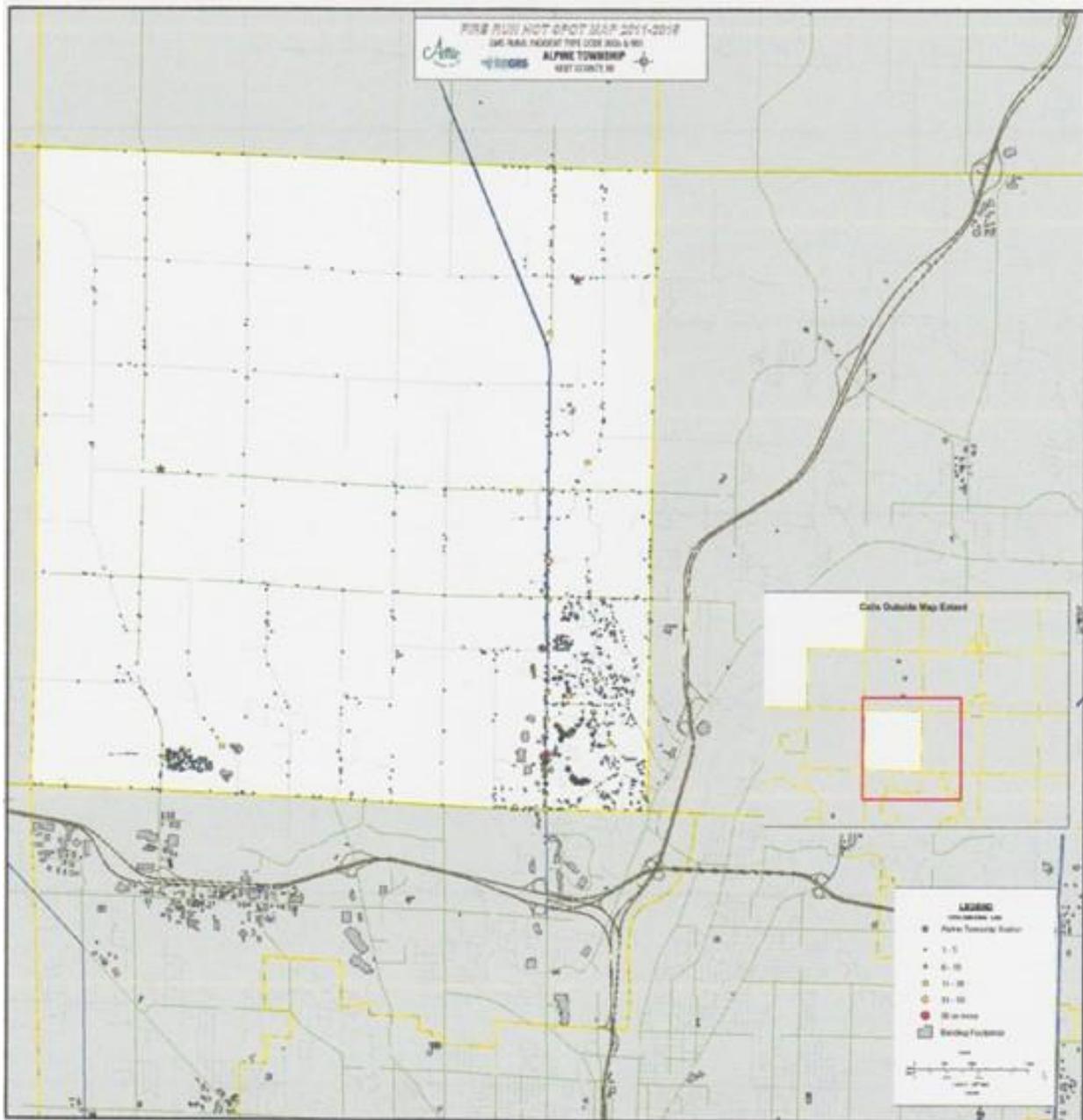
Figure 10: Location of Fire Runs 2011-2015



Location of EMS Calls 2011 - 2015

The following figure illustrates the location of all EMS calls in Alpine Township for the years 2011 – 2015. As illustrated in the figure, most of the EMS calls are located in the southeast area of the Township, which is served primarily by a Fire Station #1 response to supplement the private ambulance services.

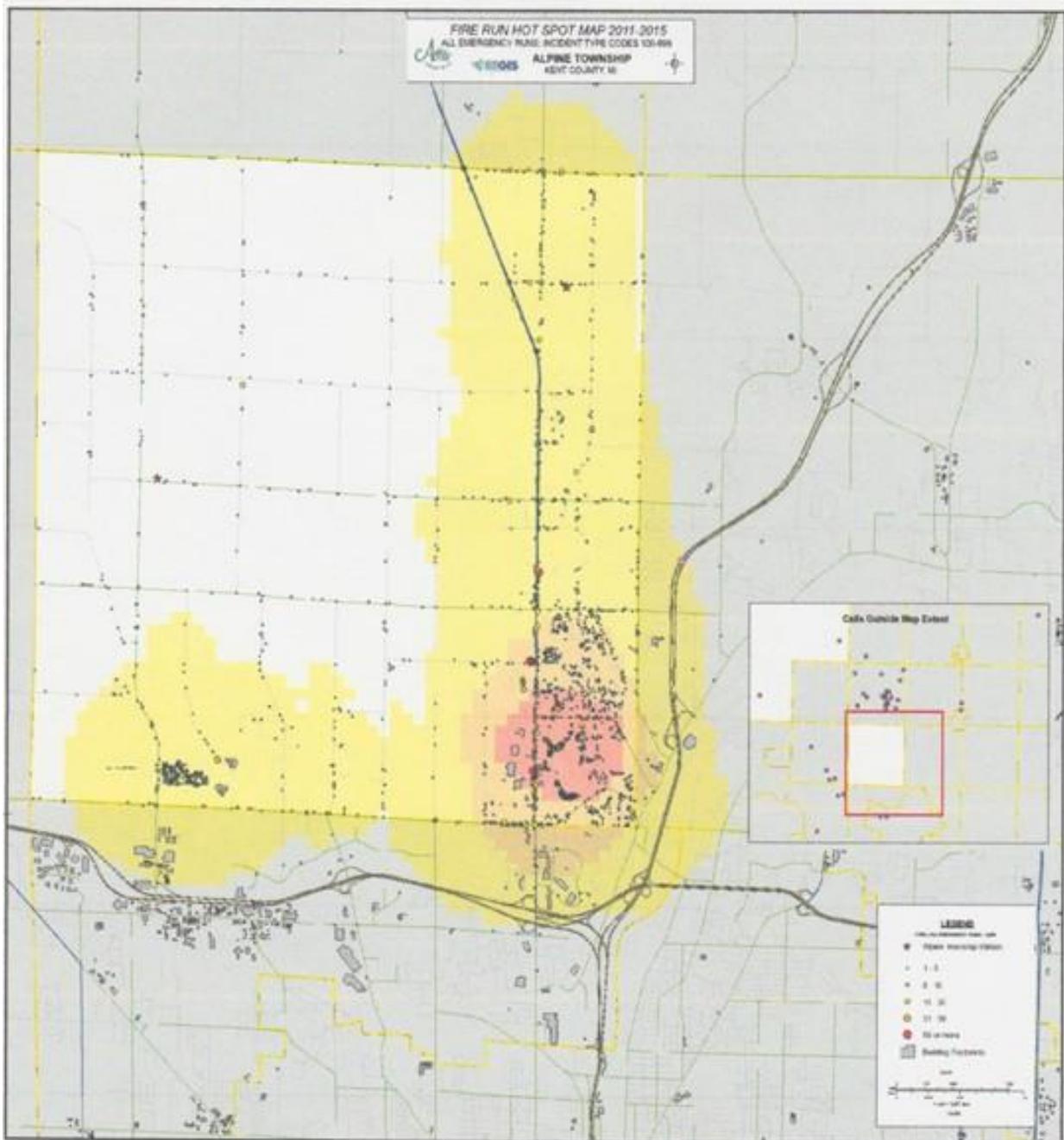
Figure 11: Location of EMS Runs 2011-2015



Location of All Emergency Calls 2011 - 2015

The following figure illustrates the location of all fire calls in Alpine Township for the years 2011 – 2015. As illustrated in the figure, most of the emergency calls are in the southeast area of the Township, which is served primarily by a Fire Station #1 response.

Figure 12: Location of All Emergency Runs 2011-2015



Current Fire Station Location Issues

Fire Station #1

The location of Fire Station #1 is a very good location and the fire station location has served Alpine Township for many years, but based on previous information presented in this report, the station should be replaced with a new fire station in a different location. The location of the current Fire Station #1 is located on property which is most likely a valuable piece of land for development as it is located on a corner lot on a very busy highway. The immediate area around the Fire Station #1 on M-37 is a highly developed commercial area making the fire station land attractive for commercial property developers.

The Alpine Township Planning Director was extremely helpful to the consultants during the study. Prior to the arrival of the consultant, the Planning Director developed a list of parcels of property that were potential sites for a new fire station along the M-37 area and areas near M-37. The Planning Director developed a spreadsheet with the list of potential sites with information about the site and estimated values and background and pertinent information for the use of the consultant.

Based on the experience of the consultant, it was not difficult to identify that the new location for Fire Station #1 needed to be in the area close to the current Fire Station #1 in order to provide the emergency response services to the highly populated Southeast area of Alpine Township. The new fire station location needed to be south of Six Mile Road, otherwise it would be too far north and possibly increase response times for the Fire Station #1 area. It was important that the new fire station location have good access to M-37, but not be located on M-37 unless it was on a corner that could allow immediate access to allow emergency vehicles to respond in a north or south direction. A location on a corner lot on M-37 with access to an intersection to allow responding in multiple directions would be the best option for a new location.

The last time the consultant visited Alpine Township, the Planning Director stated she had been contacted by a representative for a bank that was inquiring if the Township may be interested in purchasing a property that was going to be listed for sale. Along with numerous other potential sites that had been identified by the Planning Director and the Alpine Township Fire Chief, the

consultant did visit all the sites. The consultant was already aware that part of this property had a vacant lot that was a possible location for a new Fire Station #1. When the consultant, along with the Planning Director, visited the site it immediately became clear to the consultant that this property would be an ideal location for the location of a new fire station. The property was located off M-37 a short distance. It was south of Six Mile Road and south of the current Fire Station #1, which placed the location even closer to the highly populated area of the Township. The property had a church building on a portion of the site, but there was substantial additional land available to construct a fire station. There was adequate land available, and there was a possibility that part of the property could be divided and sold if necessary.

During the study, Alpine Township did contact the consultant regarding this property that had been placed on the market for sale. The Township had been contacted again by a representative of the property owner and the bank to let them know the property was going to be placed on the real estate market for sale. The Township asked the consultants opinion on the property and the potential for a fire station location. At that time, the consultants did confirm with the Township Supervisor that the site located at 1100 Henze Drive and the location of the Family of Christ Church would be an excellent location to relocate Fire Station #1 for all the reasons identified previously in this report. The consultant did place this recommendation in writing to the Town Supervisor at that time.

Fire Station #2

Fire Station #2 is in the northwest section of Alpine Township and is in an area that is primarily agricultural and residential. Some of the agricultural occupancies do represent possible significant potential for large fires or other types of emergencies. As has been indicated previously, Fire Station #2 is older and smaller with limited fire department vehicles located at the fire station. The number of members of the Alpine Township Fire Department that live in Fire Station #2 area is limited as it is primarily an agricultural area.

The Fire Chief has discussed the idea of closing Fire Station #2 in order for Alpine Township Fire Department to reduce the number of vehicles in the fleet for the fire department. The idea of closing Fire Station #2 is not something the consultants believe would be a good idea. The

emergency response calls from Fire Station #2 represent just over 16% of the total fire department calls for the period of 2015 -2017 compared to just over 10% for Fire Station #3. The fire department could have Fire Station #3 respond to calls in Fire Station #2 area, but the response times would likely increase due to additional travel time. If the Alpine Township Fire Department decided to close Fire Station #2, the message that would be sent to the citizens in that area would most likely not be positive for the fire department or the Township.

The fact is Alpine Township owns Fire Station #2 and the vehicles in the station. The station does serve a major purpose as 16% of the calls are in that area, and there are some members that live in the area by the station that respond to calls. Closing Fire Station #2 would probably not be very popular with the residents that live in the area around Fire Station #2.

Fire Station #3

Fire Station #3 is the newest fire station and it serves the Township and the fire department very well. The location of Fire Station #3 is the far northeast corner of Alpine Township. The reality is the station may be located too far north as it is almost on the border with Sparta Township and Plainfield Township. With the fire station being so close to the borders of the other two townships, it reduces the response area radius within Alpine Township. Even with the current fire station location Fire Station #3 does and will serve the Township and the fire department well for many years into the future.

Recommendations for Possible Fire Station Locations

Fire Station #1

- *The Alpine Township Fire Department does need to address the need to construct a new fire station to replace the current Fire Station #1 for the reasons stated previously.*
- *The location of the new Fire Station #1 should be south of Six Mile Road and just off M-37 or possibly on M-37 if located on a site on a corner and with intersection allowing entrance onto M-37 and the ability to travel either northbound or southbound.*
- *The location should be no more than .5 miles off M-37 unless the site has some positives that make it an excellent choice, and the site should not be located on any site that would*

cause the direction of travel to be through residential or commercial areas to access the main thoroughfare.

- *Normally, the consultants would make a recommendation for a general area for the location of any new fire station without a specific address to allow any potential purchase of potential sites to begin without encouraging property owners to increase prices based on the study recommendations.*
- *During the study, Alpine Township did contact the consultant regarding the property that was maybe going to be placed on the market for sale. The Township had been contacted again by a representative of the property owner and the bank.*
- *The consultants recommend that the property located at 1100 Henze Drive in Alpine Township be purchased for the location of a new Fire Station #1.*

Fire Station #2

- *Fire Station #2 should remain open to continue to serve the community. There are more benefits to keeping Fire Station #2 open than there are to close the station.*
- *As vehicles in the fire department fleet are replaced the older vehicles can be rotated to Fire Station #2 as the number of calls are less and the number of members in the area around Fire Station #2 are limited.*

Fire Station #3

- *Fire Station #3 should remain at the current location as it is the newest fire station and has adequate room for the fire apparatus operating out of the station.*
- *The number of calls from Fire Station #3 should be monitored and if necessary the response district for Fire Station #3 could be modified in the future.*

Staffing

Paid-On-Call/Volunteer Staffing

The Alpine Township Fire Department is staffed by one full-time Fire Chief and 27 paid-on-call fire department members who respond to emergency calls if they are available when the emergency occurs. It is often difficult to determine how many members will be available to

respond to calls at various hours during a 24-hour period. The variances on the number of members available for emergency calls is determined by a multitude of factors such as:

- Are they at their full-time employment?
- Are they out of town?
- Are they busy with a family commitment?
- Are they available but would have a need to leave an emergency scene for another commitment such as work if the emergency went on for some time?
- Many other reasons could limit their availability at anytime

The Alpine Township Fire Department does have some paid-on-call members staffing on duty crews that are paid a stipend for being on call on Sundays and for nighttime EMS duty. As will be shown in another section of this report, the average number of fire department members responding on emergency calls was 3 members in 2015 & 2016 and in 2017 the average was only 2 members responding on each emergency call. Perhaps additional members may be available, but maybe they didn't respond for some of the reasons listed above. The fact of the matter is the number of personnel responding to emergency calls is very limited and that certainly could create safety problems on the scene of emergencies.

Fire Department Member Salary Rates

The following table indicates the salary rates for the various members and activities they may perform as members of the Alpine Township Fire Department. The Fire Chief, as mentioned previously, is a full-time 40-hour per week position. The Deputy Chief is a part-time position that is paid an annual stipend, which is common in the paid-on-call fire service. The Administrative Assistant is a part-time 20-hours per week position. The remainder of the Alpine Township Fire Department members are paid-on-call members, which means they only receive pay for certain activities they perform for the fire department, such as responding to calls or on standby duty for answering calls, training and maintenance duties.

The remainder of the rates are salaries paid for standby duties such as Sundays or for EMS night duty. Fire practice salary is payed for attending training sessions. There is special pay for the

head mechanic and for fire maintenance duties. In addition, members are paid an hourly rate for responding to emergency calls with the night time fire runs being paid at a higher wage rate than the day runs. As shown in the fiscal section, the wages and benefits for the entire fire department budget have averaged about 53% of the total budget for the past three budget years.

Table 4: Members Salary Rates

Salary Rates		
Chief	\$ 55,636.00	Annual
Deputy Chief	\$ 6,414.00	Annual
Sunday Duty	\$ 43.60	per Sunday
Fire Practice	\$ 34.20	per Class/Meeting
Fire Maintenance	\$ 14.54	per Hour
Head Mechanic	\$ 17.40	per Hour
Fire Runs (Day)	\$ 17.00	per Call 0600-2200 Hours
Fire Runs (Night)	\$ 25.50	per call 2200-0600 Hours
EMS Night Duty	\$ 42.55	per Call at Night
Fire Adm Asst	\$ 15.68	per hour 20 Hours/week

The salaries that are being paid to the paid-on-call members for responding to calls and for standby duty are not unusual. The days of true volunteer firefighters has dwindled a great deal and to maintain an adequate number of personnel to respond to emergency calls, many fire departments have moved to the paid-on-call type fire department. The paid-on-call members certainly aren't going to earn a living responding to calls, but at least they are being paid a moderate wage, which is an incentive to remain a member of the fire department and to respond to calls.

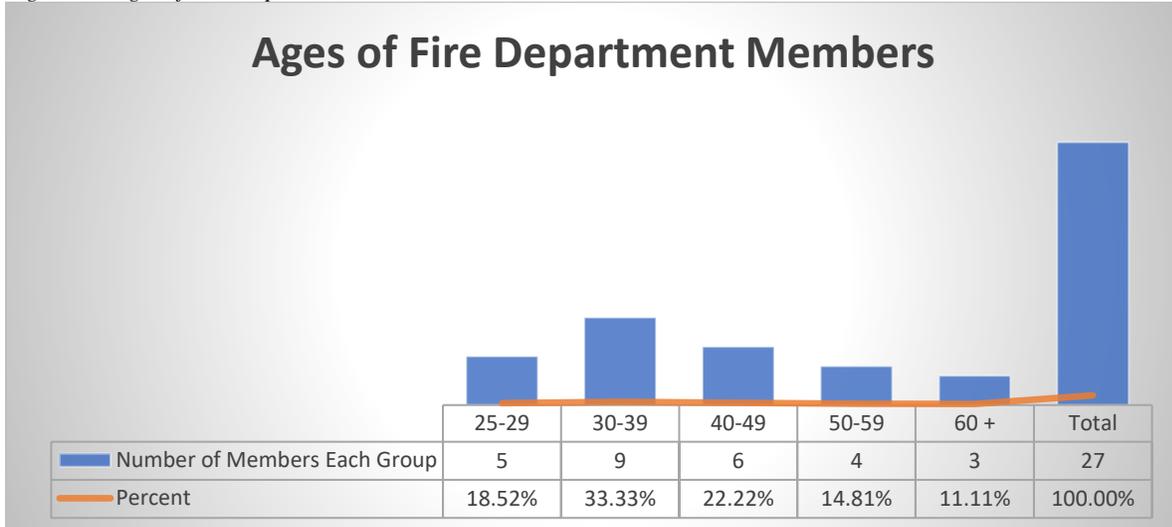
Even with the pay that paid-on-call members receive, it often is not enough to keep them actively involved on a fire department or to even remain as members. The reality is that everyone is busy these days and many may have other more important priorities for their time such as families, children, full-time employment, hobbies, and other activities.

Age of Members

The following figure illustrates the number of Alpine Township Fire Department members in each age category listed. About 52% or 14 of the members are less than 39-years old and about 48% or 13 of the members are 40-years old or older. About 72% or 22 of the members are over

the age of 29-years old. No members are under the age of 25-years old. In the last three year, 5 members have retired or resigned and six new members were appointed to the Alpine Township Fire Department.

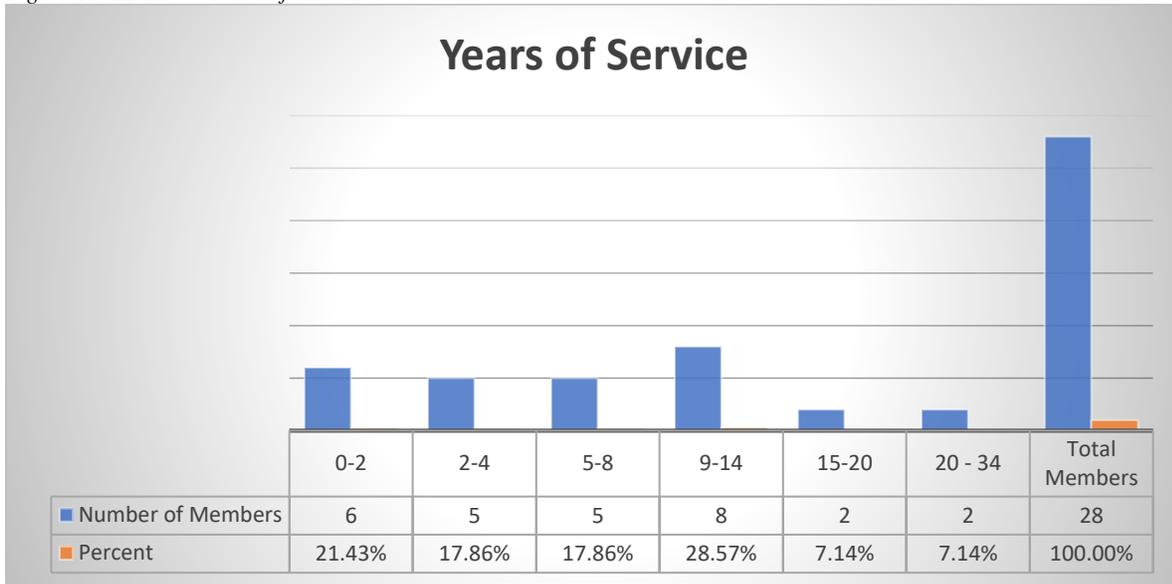
Figure 12: Ages of Fire Department Members



Members Years of Service

The following figure reflects the number of Alpine Township Fire Department members that have been on the fire department for various years of service as indicated in the figure. The number of members with less than 5 years of service equal 11 personnel or over 39% of the total members. Over 57% or 16 members have less than 8 years on the Alpine Township Fire Department. These percentages indicate the fire department members years of experience is very limited since over half of the fire department members have less than eight years on the Alpine Township Fire Department. Recruiting new members is a challenge that must be addressed, not only by the fire department, but by the entire community.

Figure 13: Members Years of Service



Daytime Hours Staffing

The Alpine Township Fire Department is no different than any other paid-on-call fire department that has a problem with having adequate staffing during the daytime hours, especially during the weekdays. The fire department does have funding to staff a part-time position during the day time hours to assist with station and maintenance duties. The fire department members that work these part-time hours are paid \$14.54 per hour. The funding allows one position to be filled daily Monday through Friday for 8 hours. Due to other commitments, sometimes the positions may be filled by two different members each working a portion of the 8 hours. There are times when no one is available to work on a given day and then another day the number of members working can be increased for a portion of the day to complete the station and maintenance duties.

The members that work these part-time day time hours are also available to respond to emergency calls when they are on duty. The day time staff available include the Fire Chief during the week days, the part-time member(s) working and any other paid-on-call members that may be available. There is little doubt that staffing for the Alpine Township Fire Department is an issue, especially during the day time hours of Monday through Friday that needs to be addressed.

Recommendations – Staffing

- *The Alpine Township Fire Department should continue staffing with paid-on-call personnel, but the need to supplement the paid-on-call staff must be addressed based on only having an average of three personnel responding on emergency calls.*
- *A priority for the Alpine Township Fire Department should be to increase day time staffing. Initially, the increase in staffing may be able to be accomplished by increasing the funds for part-time staffing.*
- *Increasing the day time staffing long-term may need to be accomplished by hiring at least one full-time employee to work 40 hours per week and adding an additional full-time employee as the need increases and funding for full-time staff can be addressed.*
- *The Alpine Township Fire Department did state that with an increase in either part-time day time staffing or full-time staffing, these employees could possibly be used to perform other duties for the Township as times allows such as taking care of the parks, etc.*
- *The Alpine Township Fire Department needs to develop a more aggressive recruiting program for paid-on-call members. This can be accomplished by open houses for recruiting, working with larger employers in the Township for support, working with the school system, and other community groups to educate them of the benefits of being a paid-on-call member of the Alpine Township Fire Department.*

Emergency Activities

At the beginning of the study, the consultants requested a list of data and information. The consultants were very pleased with the amount of data and other information received both from the Alpine Township Fire Department and the Alpine Township officials. There was a slight delay in obtaining the fire department information because the Insurance Service Organization (ISO) was visiting the fire department for an ISO evaluation at the time of the request for information from the fire department.

What Constitutes Good Emergency Activities Data?

The use of data is essential for any fire chief. Often, the discussion revolves around what constitutes good data. The IAFC defines good data as data that meets three components:

- **Good Data is Relevant** – you are collecting information on the things that matter, like response times and number of calls for service.
- **Good Data is Accurate** – your processes for data collection must be consistent and trustworthy.
- **Good Data is Reliable** – a measurement from one company is equivalent to the same measurement from another company. You don't have to "adjust your data to accommodate known distortions".

(Source: International Association of Fire Chiefs: Weathering the Economic Storm, December 2008)

Emergency Activity Data

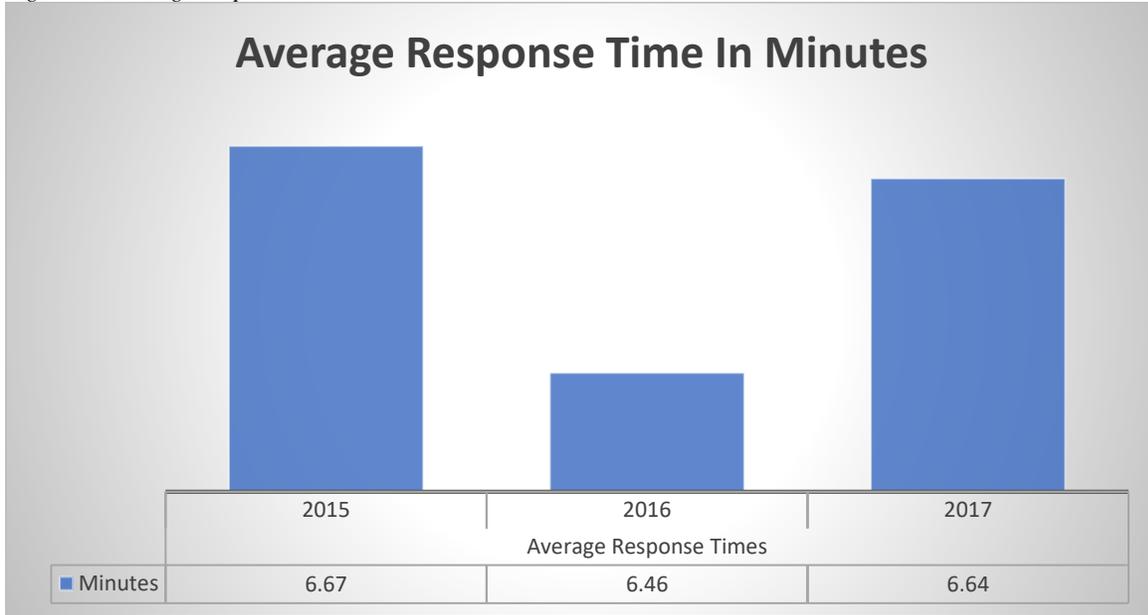
As mentioned previously, the fire department has done an excellent job recording data for all emergency activities and they should be commended for their efforts.

Response Times

The Enroute time is measured from the time of dispatch to the first responding unit in service on the radio. The consultants were not provided with this information.

Travel time is measured from the time the first emergency vehicle is Enroute to arrival at the scene of an emergency. The travel time is often referred to as response time, which is how the information was provided to the consultants. The response times are very good considering the number of square miles the Alpine Township Fire Department protects. The following table reflects the annual average response time for the years 2015 – 2017:

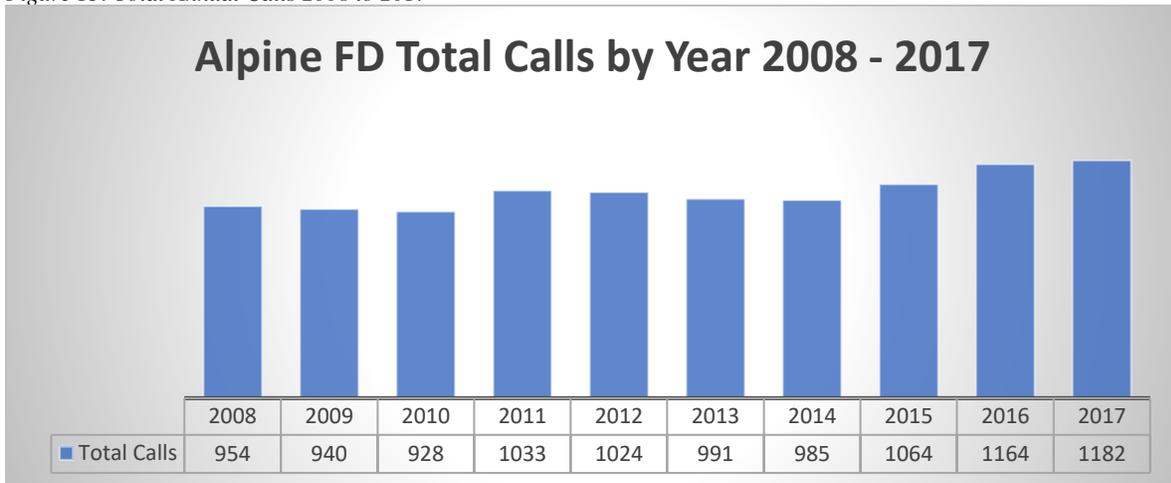
Figure 14: Average Response Times in Minutes



Total Annual Emergency Calls

The following figure reflects the number of total annual emergency calls for the Alpine Township Fire Department on an annual basis for the years 2008 through 2017:

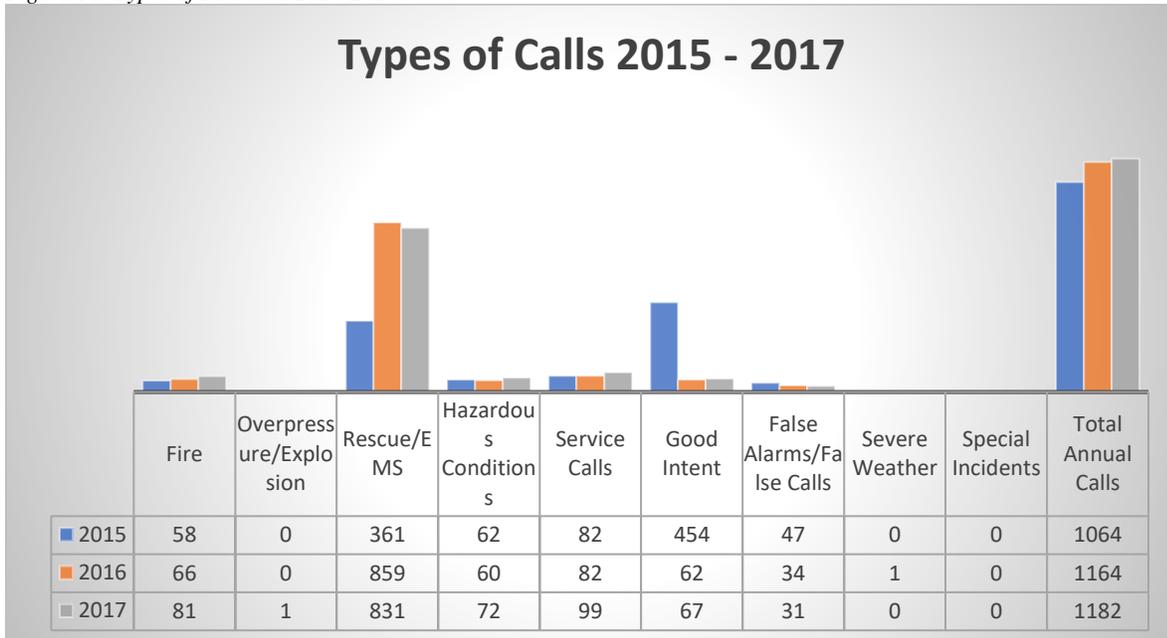
Figure 15: Total Annual Calls 2008 to 2017



Incidents by Type

The following figure reflects the types of incidents the Alpine Township Fire Department responded to on an annual basis for the years 2015 – 2017

Figure 16: Types of Incidents 2015-2017

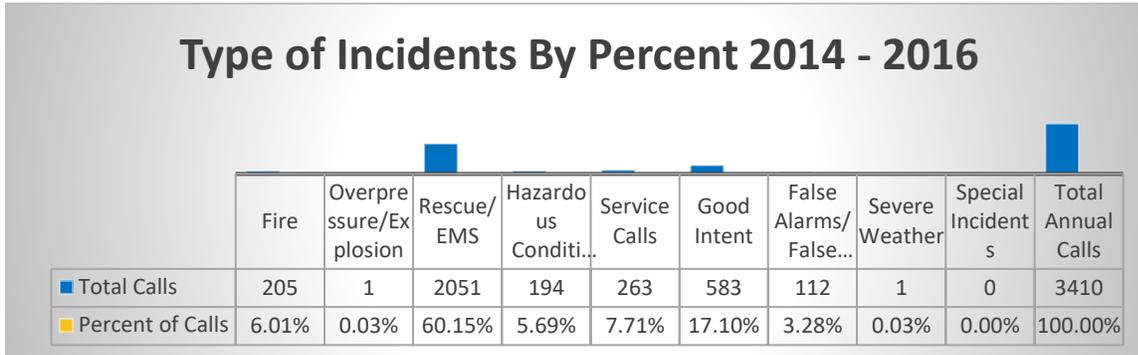


In the above figure, in 2015, there were 361 Rescue/EMS calls and 454 Good Intent Calls. In 2016 and 2017, the number of Rescue/EMS calls and Good Intent calls were much lower. The consultants discussed this with the Fire Chief and it was simply a change in how calls were classified. The consultants see this type of change on a regular basis as fire department managers should always attempt to make the data more accurate.

Types of Incidents by Percent

The following figure reflects the types of incidents the Alpine Township Fire Department responded to as a percentage annually for the years 2015 – 2017:

Figure 17: Types of Incidents by Percent 2015 - 2017

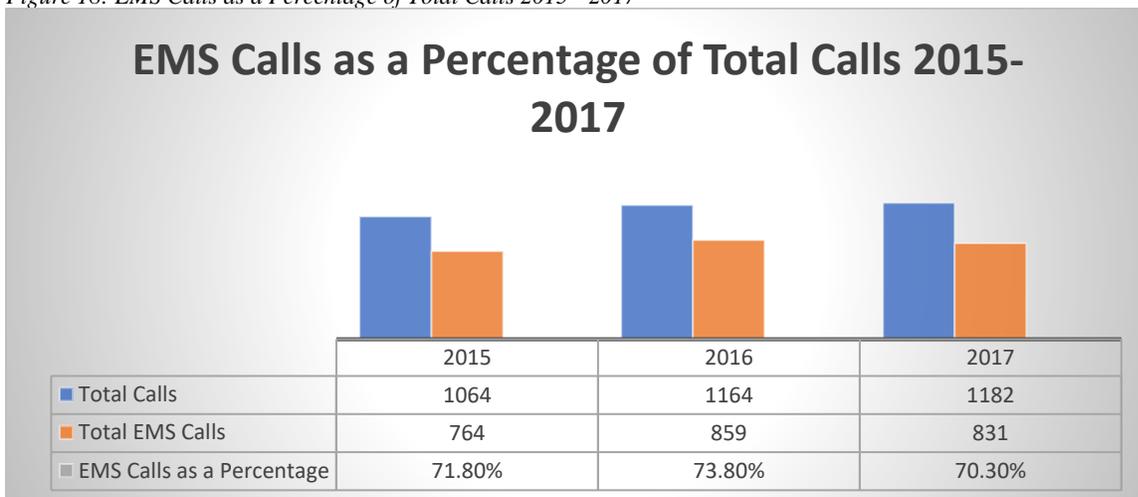


The largest type of incidents the fire department has responded to over the three-year period were rescue/EMS calls followed by good intent calls and service calls. Again, the good intent calls being such a large percentage may have been the result of how calls were categorized initially.

EMS Calls as a Percent of Total Calls

The following figure reflects the total EMS calls as a percentage annually for the years 2015 – 2017:

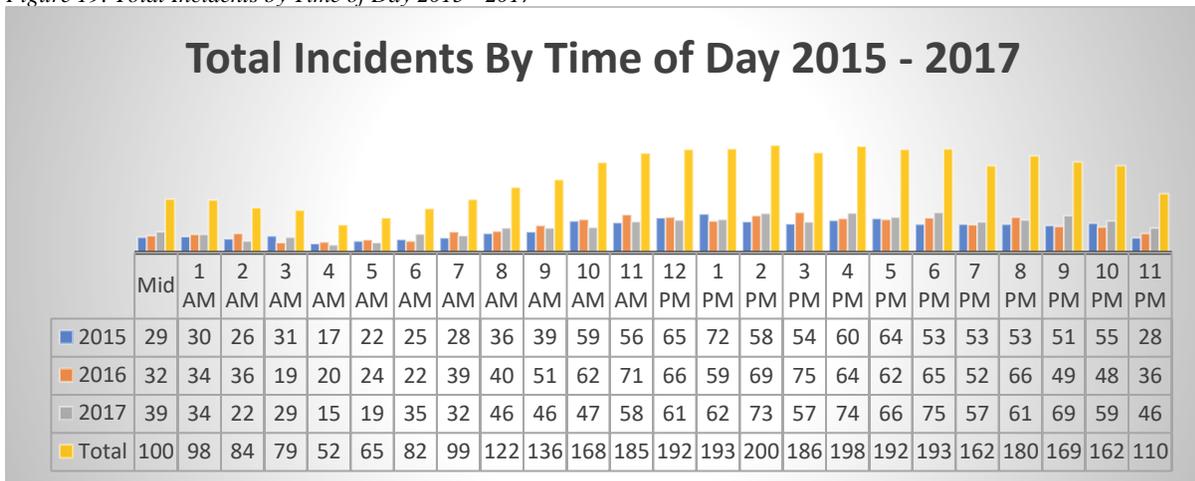
Figure 18: EMS Calls as a Percentage of Total Calls 2015 - 2017



Incidents by Time of Day

It is very common for fire departments to have an increase in call volume of calls during certain times of the day. The increase in call volumes are often due to automobile accidents or other emergency events that result in an increase for the services of fire and EMS departments. Many times, fire departments have an increase of call volumes beginning in the early morning hours around 7 a.m. and remaining constant throughout the day until the number of calls start to decrease in the late evening hours. The following figure reflects the incidents by the time of day for 2015 – 2017:

Figure 19: Total Incidents by Time of Day 2015 - 2017



The above figure indicates the Alpine Township Fire Department data regarding incidents by the time of day are consistent with what is found in most fire departments. The fewest number of incidents happen between 11 p.m. and 7 a.m. The problem is this is the period in which many fire deaths occur in private residences when the occupants are sleeping. The young and old are usually in the most danger because they are not always able to escape and protect themselves. The highest number of calls for the Alpine Township Fire Department are between 10 a.m. and 6 p.m. which really illustrates the importance of increasing daytime staffing levels and makes it a higher priority for the fire department.

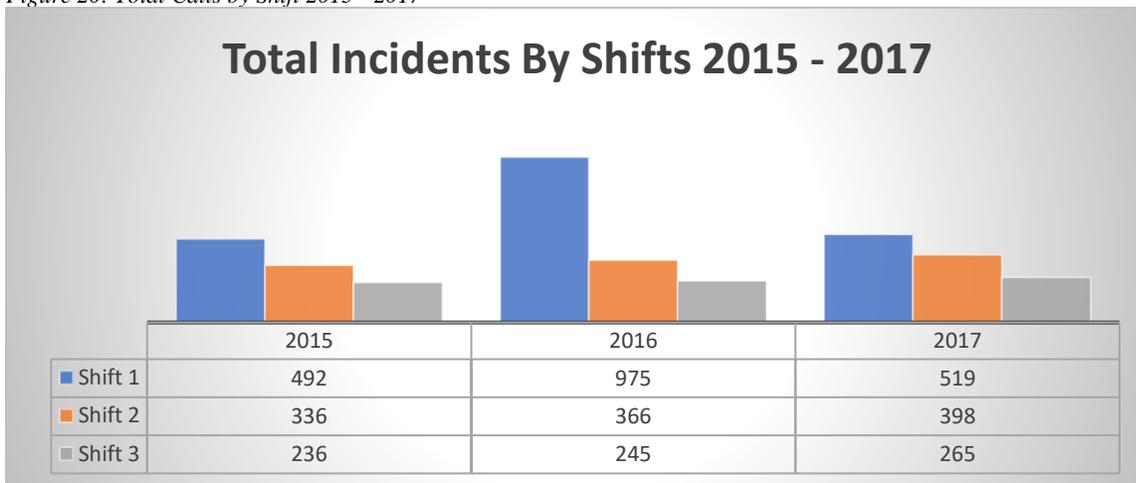
Incidents by Shift

The Alpine Township Fire Department does track their calls by three different shifts related to the time of the day. The Alpine Township Fire Department response shifts are defined as follows:

- Shift #1 – 6 am to 4 pm
- Shift #2 – 4 pm to 10 pm
- Shift #3 – 10 pm to 6 am

The following figure reflects the incidents by the three shifts that are used by the Alpine Township Fire Department:

Figure 20: Total Calls by Shift 2015 - 2017

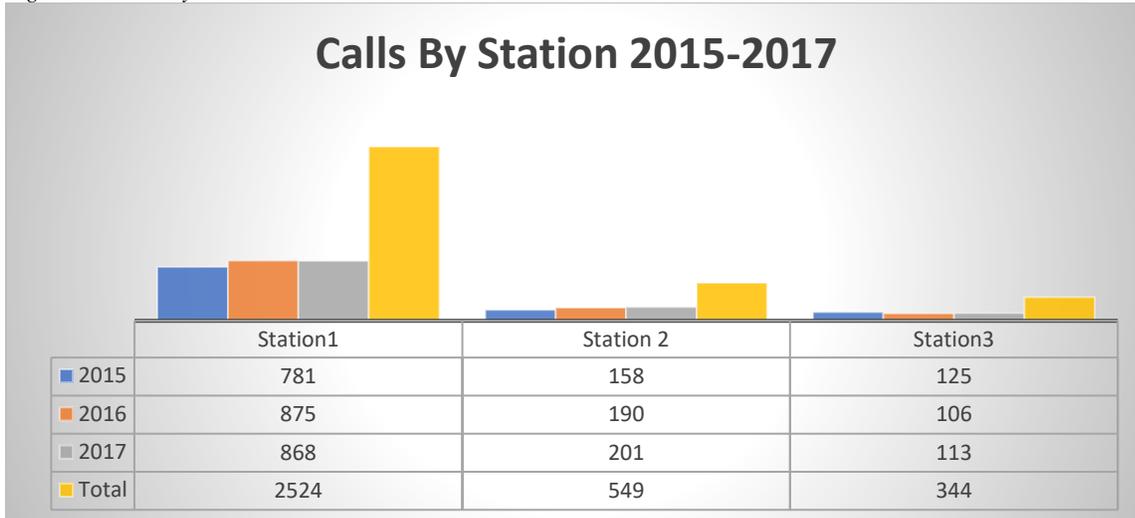


The above table indicates that the Alpine Township Fire Department experiences more responses to incidents during the daytime shifts with a lesser number of incidents during the nighttime shifts.

Total Incidents by Station 2015 – 2017

The Alpine Township Fire Department does track their emergency calls by station and the following figure reflects the number of calls for each fire station annually for the years 2015 to 2017.

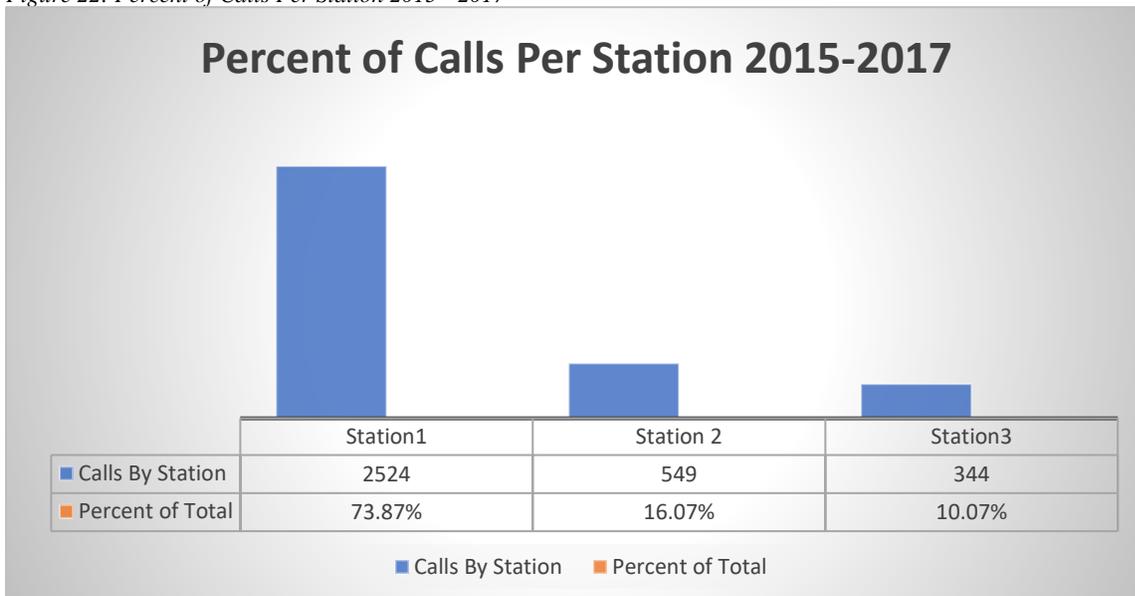
Figure 21: Calls by Station 2015 - 2017



Percent of Calls Per Station 2015 – 2017

The following table reflects the percent of calls for each fire station as a percentage of the total calls for the years 2015 to 2017.

Figure 22: Percent of Calls Per Station 2015 - 2017



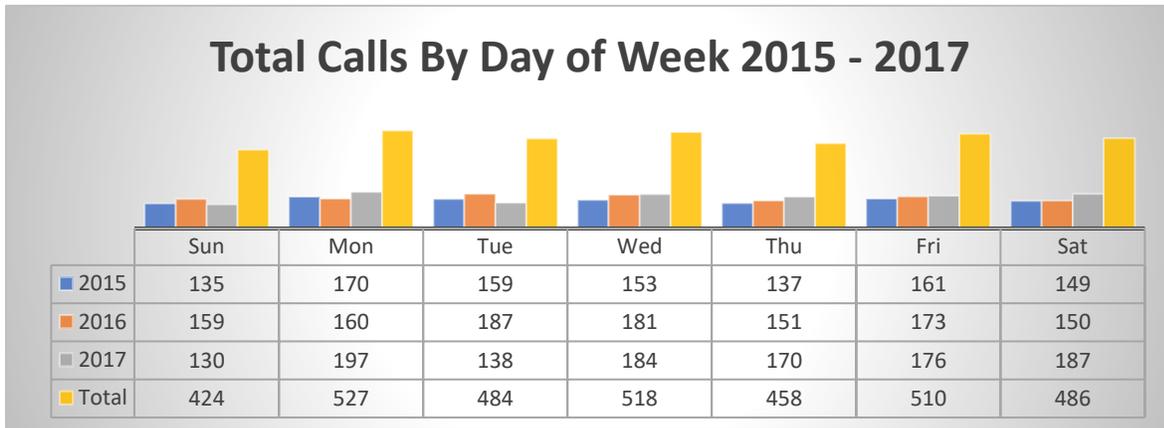
The above figure data indicates that Station #1 has almost 74% of the total calls for the Alpine Township Fire Department. Station #2 about 16% and Station #3 only 10% of the calls. The data further reflects the importance of increasing staffing at Fire Station #1 due to the number of calls from that fire station. The above data also indicates that the idea of closing Fire Station #2 at this time would not serve the community very well since Fire Station #2 has more calls on an annual basis than Fire Station #3.

Total Incidents by Day of Week

Fire departments should track the data regarding when their calls happen by the day of the week and time of day to determine if there is a need to consider adding staffing during certain time periods.

The Alpine Township Fire Department does an excellent job of tracking data regarding their calls. The following figure reflects the total number of incidents by the day of the week for the years from 2015 – 2017:

Figure 23: Total Incidents by Day of Week 2015 - 2017

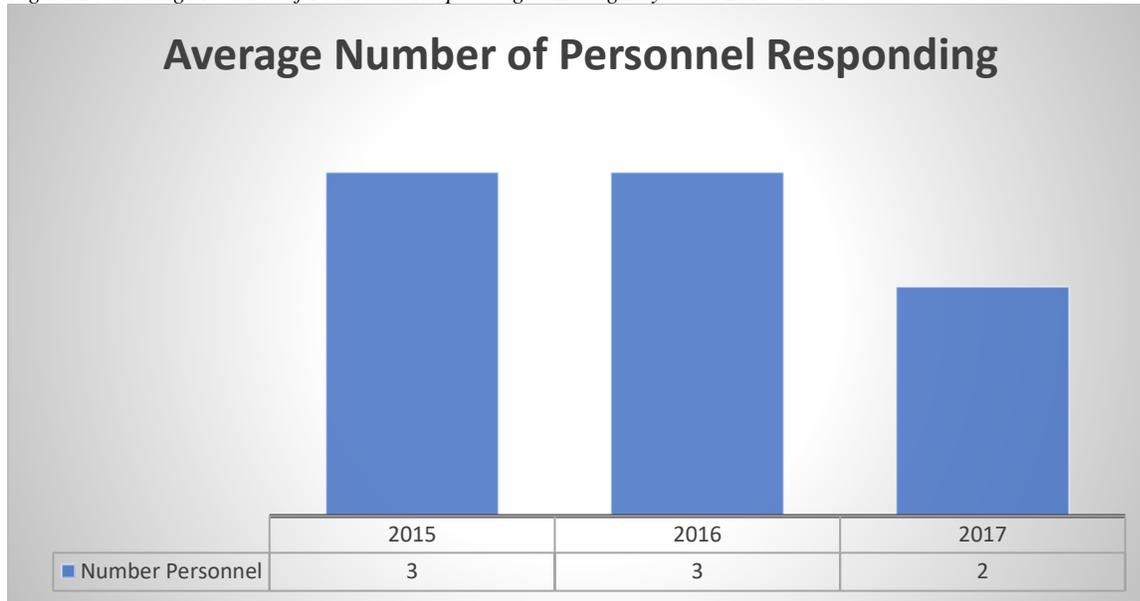


The two busiest days of the week for calls for the 2015 to 2017 period were Monday and Wednesday followed closely by Friday. This data supports the recommendation for increase daytime staffing during the week with part-time positions.

Average Number of Personnel Responding to Calls

The average number of Alpine Township Fire Department personnel responding to emergency calls on an annual basis for the years 2015 to 2017 is reflected in the following table:

Figure 24: Average Number of Personnel Responding to Emergency Calls 2015 - 2017



The Alpine Township Fire Department has only averaged three personnel responding to all emergency calls annually for the years 2015-2016 and only two personnel for 2017. With the number of square miles protected in Alpine Township, the number of citizens, the number of calls, and the fact that over 70% of the calls are for EMS, only two to three personnel responding to calls on an average is a concern. The concern should be the number one priority needed to be resolved as quickly as possible. Only having an average of 2 to 3 personnel responding on an average to calls really affects the level of emergency service being provided to the community and more importantly, this low number of responders can affect the safety of those at the emergency scene.

Recommendations – Emergency Activities

- *The fire department does an excellent job recording data for emergency calls and the department should continue to focus on this as accurate data is critical to making sound management decisions. The information can be the basis for staffing, operations, and other personnel decisions.*

- *The fire department should track simultaneous calls in the future, as this information may be valuable when making management decisions.*
- *The fire department needs to record the number of personnel that report for emergency calls as well as the number of personnel on the scene.*
- *The Alpine Township Fire Department should continue to provide EMS service at the Medical First Responder and Emergency Medical Technician level with the patient transport being provided by the private ambulance service. Perhaps in the future, a transport service may be considered based on need and having adequate resources available.*

Aid/Automatic Aid/MABAS

The philosophical concept of mutual aid is to aid a fire department upon request of the host department. The sole purpose is to give or receive assistance when all available resources, equipment or personnel, are depleted—and then on a limited basis. Automatic aid differs from mutual aid in that it is a predetermined agreement with another department to respond automatically when the host department receives an alarm at a given location or area.

The Alpine Township Fire Department has automatic aid agreements in place with surrounding fire departments for equipment and manpower to both be received and provided. These automatic aid agreements were established through the Kent County’s MABAS System. There is also a county wide Mutual Aid Agreement in place. The Alpine Township Fire Department does participate in the State of Michigan Mutual Aid Box Alarm System (MABAS).

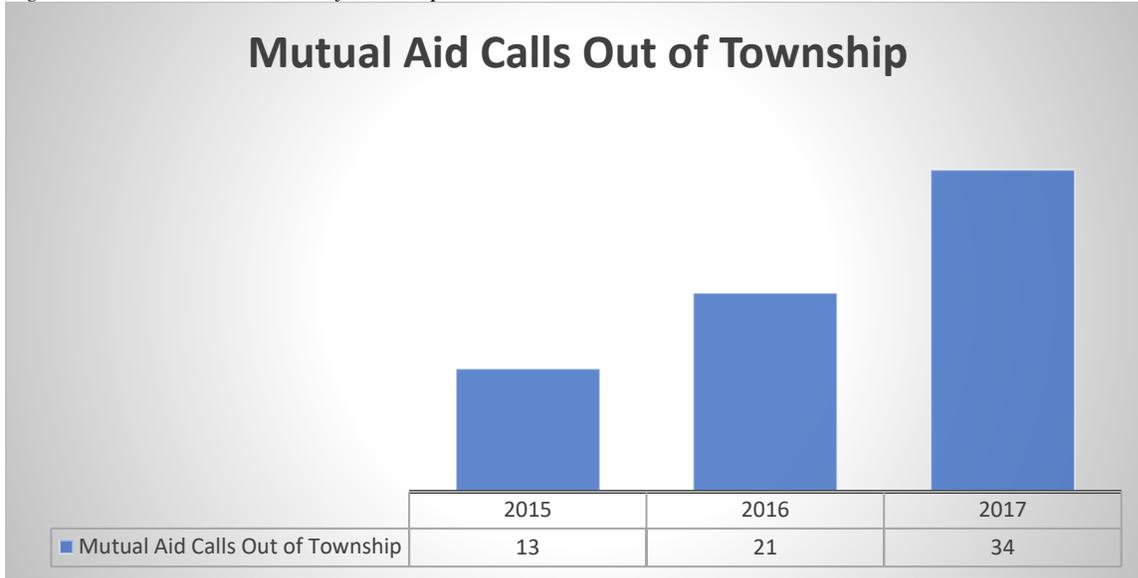
Automatic Aid

It is critical to remember that the benefits of automatic aid are two-fold. By providing automatic aid, you can then expect to receive automatic aid when needed.

The following figure illustrates the number of times the Alpine Township Fire Department responded outside of the Township for automatic aid calls annually for the years 2015 to 2017.

The number of mutual-aid calls more than doubled in the three-year period, but the consultants did not receive the data as to how many times the Alpine Township Fire Department received mutual aid during this time period.

Figure 25: Mutual Aid Calls Out of Township 2015 - 2017



Recommendation – Mutual Aid/Automatic Aid/MABAS

- *The consultants recommend that the Alpine Township Fire Department continue to participate in all their current mutual aid/automatic aid/MABAS agreements as it allows the fire department to have additional resources from many other fire department organizations almost immediately in the event of an emergency.*
- *If the number of calls received from outside the Township are not being recorded, this information is important and it should be tracked.*

EMS Service Operations

The Kent County Sheriff’s Department operates the Kent County Communications Center which provides emergency dispatch service to the Fire Departments as well as the EMS service in Kent County. For EMS calls, the Communications Center uses a patient prioritization protocol that is a standard for labeling the patients based on the severity of their injury or illness. This system is

intended primarily to inform the hospital of the patient status using the same terminology used in the hospital triage systems.

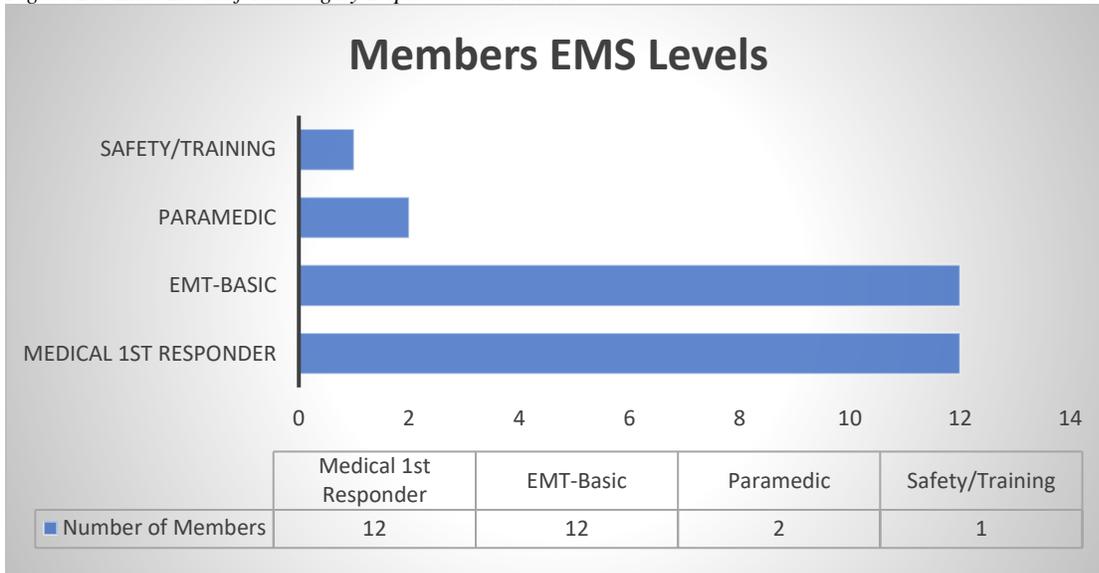
In addition, when dispatching EMS calls, the Dispatch Center uses a Medical Priority Dispatch system which is designed to prioritize responses to requests for emergency medical care, while using the appropriate available resources. The prioritization will result in dispatching emergency medical response agencies as either MED 1, MED 2 or MED 3. So, when the Communications Center receives a call for EMS service, they use Medical Priority Dispatch system to determine which resources should be dispatched to the call, which includes the EMS ambulance service as well as any Medical First Responders if required.

The following Dispatch Priority Dispatch Responses are from the Kent County EMS, Inc. which is the Medical Control Authority for all EMS services in Kent County.

- MED 1 Priority Responses
 - **Ambulance** responds lights and sirens
 - **Medical First Responders** respond lights and siren
- MED 2 Priority Responses
 - **Ambulance** responds no lights and sirens
 - **Medical First Responders** respond lights and siren
- MED 3 Priority Responses
 - **Ambulance** responds lights and sirens
 - **Medical First Responders** is not required

The Alpine Township Fire Department does participate in the Kent County EMS System and many of the Alpine Township Fire Department members are trained as Medical First Responders. The Alpine Township Fire Department also has several personnel trained to the Emergency Medical Technician Level and Paramedic Level. The following figure illustrates the EMS level of training and certification that the members of the fire department have achieved at this time.

Figure 26: EMS Level of Training by Department Members



The idea of the Alpine Township Fire Department becoming a Paramedic Level EMS service in the future was mentioned to the consultants. The consultants do believe in the future the idea of the Alpine Township Fire Department providing Paramedic Level EMS service is certainly a possibility, but operating a Paramedic Level EMS Service requires Paramedic Certified personnel that must be available 24 hours a day 7 days per week. The revenue received from providing Paramedic Level EMS service would provide additional funds for the fire department, but the revenue usually doesn't cover the entire cost of operating a Paramedic Service.

Recommendations – EMS Service Operations

- *The consultants recommend that the Alpine Township Fire Department continue to offer the current levels of EMS service to the Township currently due to the number of personnel available to respond to EMS calls currently.*
- *The consultants recommend that the Alpine Township Fire Department not attempt to get into the ambulance transport service currently due to the number of personnel available to respond to EMS calls currently and the costs to provide ambulance transport services.*
- *The consultants recommend that the Alpine Township Fire Department not attempt to provide the Paramedic Level of EMS service currently due to the number of personnel*

available to respond to EMS calls currently and the costs to provide Paramedic Level EMS Services.

National Standards

There lacks consensus as to what the term “standard” means. Many in the fire service view the term “standard” as a mandatory requirement and believe that all resources must be provided to meet that standard. Others view the term “standard” as a benchmark by which to judge against. The consultants define the term “standard” as a level of quality accepted as a norm or by which actual attainments are judged. Most standards discussed in this section fall into that category; however, those which are mandatory will be identified.

The consultants will discuss the most common fire and EMS industry standards that are helpful in determining the level of emergency services needed for the citizens and visitors of Alpine Township. It is important to repeat that, although referred to as “standards,” only a few are mandatory. However, they may have the effect of a double-edged sword; the fire department is not required to meet them, but if a serious incident occurs (for example, the death of a firefighter), the fire department and the Township Board will be judged against these standards by a host of investigating agencies. Therefore, it is advantageous for everyone in a decision-making position to be familiar with these standards and base their decisions pertaining to resources and the deployment of those resources on knowledge of current industry standards.

National Fire Protection Association (NFPA)

The National Fire Protection Association (NFPA) is an organization recognized by the fire service for standards and codes. NFPA codes and standards are widely utilized as they are developed using an open, consensus-based process. All NFPA codes and standards are developed and periodically reviewed by more than 5,000 volunteer committee members with a wide range of professional expertise. These volunteers serve on more than 200 technical committees and are overseen by the NFPA board of directors, which also appoints a 13-person standards council to administer the standard-making activities and regulations.

In 1999, two separate standards were created and later adopted by the NFPA. The two standards are **NFPA 1710** (Organization and Development of Fire Suppression, Emergency Medical Operations, and Special Operations to the Public by **Career** Fire Departments), and **NFPA 1720** (Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by **Volunteer** Fire Departments, 2014 Edition®).

The determination of whether a fire/EMS organization falls under the standards of NFPA 1710 or 1720 has changed with the new 2010 edition of NFPA 1720. The new definition of a volunteer (paid-on-call) department is:

Volunteer Fire Department – a fire department having volunteer emergency service personnel comprising 85 percent or greater of its department membership.

The Alpine Township Fire Department would fall under NFPA 1720. NFPA 1720 is very comprehensive, and those that govern and lead the fire department should be familiar with the components of this document. What should be of special interest to the Alpine Township Fire Department is Chapter 4 of NFPA 1720:

Chapter 4: Organization, Operation, and Deployment

- 4.1 Fire Suppression Organization
- 4.2 Community Risk Management
- 4.3 Staffing and Deployment
- 4.4 Reporting Requirements
- 4.5 Fire Suppression Operations
- 4.6 Initial Fire Fighting Operations
- 4.7 Sustained Fire Fighting Operations
- 4.8 Intercommunity Organization
- 4.9 Emergency Medical Services (EMS)
- 4.10 Special Operations

In addition, there is the need for an annual self-evaluation and a quadrennial report from the fire department.

4.4.3 Quadrennial Report. The fire department shall provide the Authority Having Jurisdiction (AHJ) with a written report on a quadrennial basis which shall be based on the annual evaluation required by 4.4.2 (Annual Evaluation). Per 4.4.3.2, this report shall explain the predictable consequences of identified deficiencies and address the steps within a fire department plan necessary to achieve compliance.

It is important to reemphasize that NFPA standards are just that, “standards,” and not mandatory by law for a municipality or fire company to meet. However, once an incident occurs, the department will be judged on its performance as compared with the NFPA standards. It is not recommended that any department intentionally disregard these NFPA standards but should work to meet them.

Insurance Service Offices, Inc (ISO) – Alpine Township Fire Department

The Insurance Services Office, Inc. (ISO) publishes and utilizes the Fire Suppression Rating Schedule (FSRS) to “review available public fire suppression facilities and to develop a Public Protection Classification (PPC) for insurance purposes.”

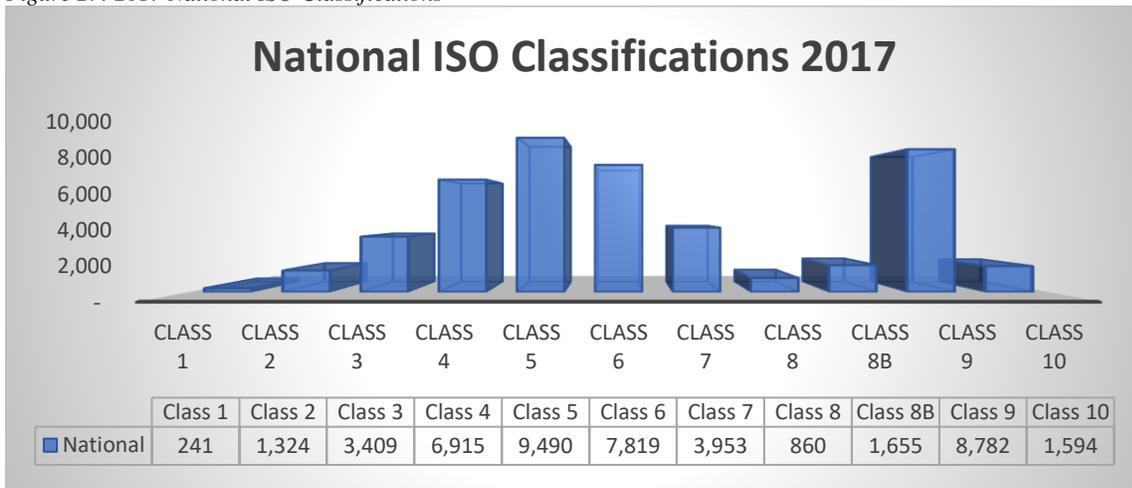
According to information provided to the consultants, the Alpine Township Fire Department has a PPC rating of Class 4/6, which is a split classification. Basically, the Class 4 rating applies to properties within five road miles of a fire station and within 1,000 feet of a fire hydrant. The second class (Class 6) applies to properties within five road miles of a fire station, but beyond 1,000 feet of a hydrant. A Class 1 rating is considered superior fire protection, while a Class 10 does not meet the ISO’s minimum criteria. Many insurance companies utilize this rating system to establish premium schedules for fire insurance. Communities with a lower rating can generally expect to have lower fire insurance premiums than those with higher ratings, thus creating an incentive for the communities’ investment in fire protection. However, most insurance rates are often driven by a competitive market between insurance companies, with ISO having little impact.

The Alpine Township Fire Department was recently been reevaluated, but the fire department has not received their final classification report. ISO attempts to reevaluate fire departments every 15 years. In 2017, 46,042 communities nationwide were classified by ISO. Of those departments, 15% (6,915) had a Class 4 rating. This class would include career departments, combination departments, paid-on-call departments, private corporations, and volunteer organizations.

The classification of the fire protection assigned to a community is based on three categories: fire department (50 percent of the total points), water supply (40 percent), and emergency communications (10 percent). The total points are compared to a chart with ten classes, each representing about 10 points, for a total of 100 points. Class 1 is the highest, and Class 10 is the lowest. Very few communities are Class 1 or 2, and rural communities are generally rated Class 9 or 10. Most urban cities are in the Class 2 – 4 categories, while most suburban communities fall into the Class 4 – 8 categories.

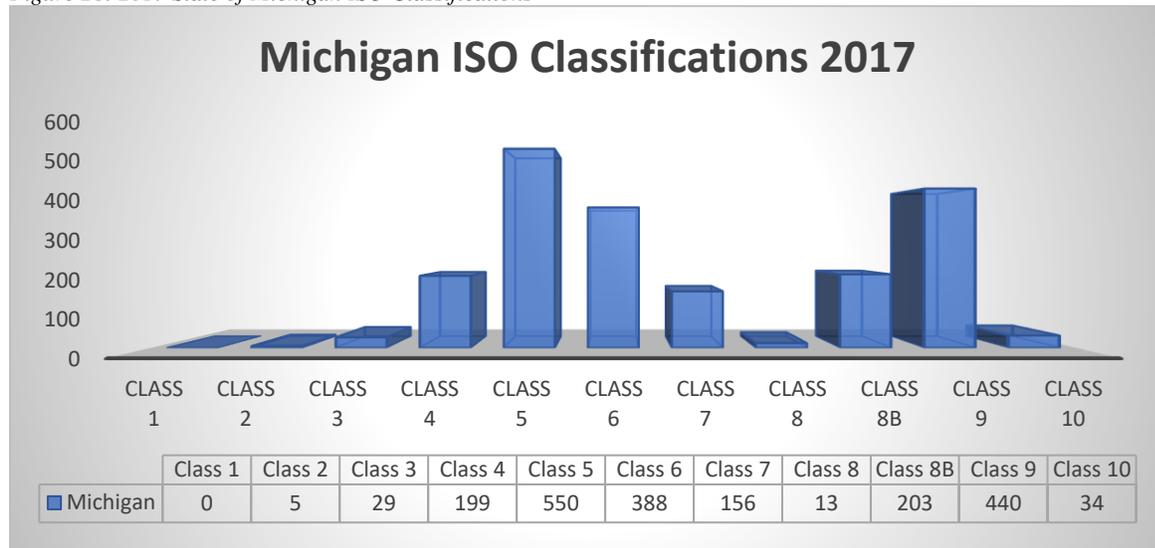
The figure below illustrates the classification category and number of departments with the corresponding ISO class number on a national basis:

Figure 27: 2017 National ISO Classifications



In the state of Michigan, 2017 fire department ratings were classified by ISO in 2017 as illustrated below. Of these, 199 (9.87%) were rated as a Class 4, as is the Alpine Township Fire Department.

Figure 28: 2017 State of Michigan ISO Classifications



Paragraph 560 of the PPC schedule states, “The built-upon area of the city should have a first due engine company within 1½ miles and a ladder-service company within 2½ miles.” This distance is recognized by ISO as an acceptable level of fire protection. One can determine how long it takes for fire units to travel this distance to meet the ISO standard. Based on the 1½-mile distance standard, a community may determine its desired average travel time by plugging in the approximate vehicle speed of responding fire equipment. Given the topography, road system, and actual time and distance studies, it is reasonable to figure an average vehicle speed of 35 mph for the present apparatus. Therefore, it would take approximately 2½ minutes travel time to cover 1½ miles. Recently, ISO has utilized a time response developed by the RAND Corporation.

RAND conducted extensive studies of fire department response times. They concluded that the average speed for a fire apparatus responding with emergency lights and siren is 35 mph. That speed considers average terrain, average traffic, weather, and slowing down for intersections. Taking into account the average speed and the time required for an apparatus to accelerate from a stop to the travel speed, RAND developed the following equation for calculating the travel time:

Formula: $T = 0.65 + 1.7D$

T = time in minutes to the nearest 1/10 of a minute

0.65 = a vehicle-acceleration constant for the first 0.5 mile traveled

1.7 = a vehicle-speed constant validated for response distances ranging from 0.5 miles to 8.0 miles

D = distance

The FSRS also indicates that when the water flow requirement is less than 2,000 gallons per minute (GPM) and the area is primarily residential, it is generally acceptable to have the first due engine company as far as two miles away. Given an average speed of 35 mph, it would take approximately 3½ minutes to travel two miles. Obviously, higher or lower average vehicle speeds will impact the distance covered and the travel time.

The value of the ISO rating to a community continues to be questionable as a determining factor in a community's level of fire protection. The ISO purpose is to determine a fire insurance classification, which may or may not be used by insurance companies in the calculation of property insurance premiums for an area. The ISO survey is not a complete assessment of a community's fire protection program, defenses, or performance. The ISO does not rate the quality of the fire prevention program, built-in fire suppression systems, fire loss and property saved, or the actual competence and performance of the fire suppression personnel and operations; no life safety or property loss prevention is recommended by ISO. The ISO only rates those pieces of the fire protection program they feel are important to assign insurance rates. There is limited value in attempting to assess a fire department by solely utilizing the community's ISO rating; rather, the Commission on Fire Accreditation International (CFAI) is a better means of assessing the department.

Recommendations – National Standards

- *The fire department should not adopt NFPA 1720. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future.*
- *The department should begin working on its quadrennial report, as outlined in NFPA 1720, Chapter 4 and begin to identify deficiencies within the department and the strategic plan with which to overcome these deficiencies.*
- *The department quadrennial report outlined in NFPA 1720 should define demand zones and/or circumstances in which the requirements of the standard are not being met.*

Apparatus

The consulting team observed that the apparatus was kept in a clean and orderly manner during their site visits. Most of the apparatus appears to be in compliance with the 2009 edition of NFPA 1901 (Automotive Fire Apparatus) and carry the associated equipment recommended by ISO.

Fire apparatus, like all types of mechanical devices, has a finite life. How long that life may be depends on many factors, such as mileage, quality of the preventative maintenance program, quality of the driver training program, rule enforcement, quality of the original builder and components, availability of parts, and custom or commercial chassis, etc. Over the years, the NFPA has attempted to define life expectancy of apparatus with little success. However, once again under the 2009 edition of NFPA 1901, a new Annex D titled *Guidelines for First-Line and Reserve Fire Apparatus* was added which discusses apparatus built prior to 1991. Section D.1 discusses minimizing the risk of injuries to firefighters and improvement in safety features that have been instituted since that time. The guideline further states that new safety upgrades and innovations are not generally found in units built prior to 1991; therefore, this standard recommends that apparatus older than 1991 be placed into reserve status. This reserve status is only recommended if compliance to NFPA 1912, *Fire Apparatus Refurbishing*, has been adhered to.

Remember that NFPA standards are not mandatory requirements a department must follow; rather, the important aspect of this new standard is that significant improvements involving apparatus technology with respect to overall firefighter safety are constantly underway, and should be a consideration in determining useful, safe life expectancy of older apparatus.

The Alpine Township Fire Department does an excellent job of maintaining the fire department apparatus. Some small repairs are completed by department members. The fire department uses a part-time mechanic to perform preventative maintenance and other service repairs. The department maintains maintenance records.

Department Apparatus

The fire department has the following apparatus to provide fire protection to the citizens of Alpine Township: four engines, two tenders, one brush truck, three medical response vehicles, two tenders and two Gator UTV’s with a trailer. The following table illustrates the Alpine Township Fire Department apparatus. It should be noted that E-4, the HME Pumper, is in the process of being sold as a new Engine will be delivered soon.

Table 5: Fire Department Apparatus

Unit #	Make/Model	Year	ump Ratin	Tank Size	Mileage	Engine Hrs	Replacement Date
T-2	Hendrickson Pumper/Tanker	1988	1250	2000	25150	2002	2018
E-4	HME VT100 Pumper	1990	1250	1000	18107	5866	2014
BU-6	Ford F250 Grass Rig/Brush Unit	1994	250	250	21228	NA	2016
E-3	Spartan Pumper/Tanker	1996	1500	750	21130	2769	2026
M-7	Chevrolet Suburban 4X4 Medica	1999	NA	NA	80590	NA	2019
M-15	Ford Expedition XLT Medical	2001	NA	NA	29955	NA	2024
E-10	Spartan Pumper/Tanker	2001	1500	2000	21814	1540	2031
R-5	Spartan Heavy Rescue	2004	NA	NA	20890	1938	2034
E-8	Spartan Pumper Tank Foam	2010	1500	1000	10061	761	2040
M-1	Ford Expedition Medical	2014	NA	NA	44915	NA	2021
T-3	Kenworth Model T300 Tender	2014	750	3120	2924	183	2044
SO-1	Polaris ATV 4-Wheel	2015	NA	NA	NA	NA	NA
SO-2	Polaris ATV 4-Wheel	2015	NA	NA	NA	NA	NA

It should be noted that Kent County does fund one fire department vehicle with a county match every eighteen years. The 2010 Spartan Pumper Tanker Engine 8 was the last vehicle to be purchased through this program in 2010. The vehicle was purchased by Kent County and is titled to Kent County. The match fund money is from funds Alpine Township pays as annual dues to

the Kent County Fire Commission. The Alpine Township Fire Department will be eligible for another match funded vehicle in 2029.

Apparatus Replacement Schedule

The Alpine Township Fire Department did provide the consultants with their vehicle replacement plan which is shown in the following table:

Table 6: Apparatus Replacement Schedule

Fire Dept. Apparatus	Station	Chassis Age	Replacement Yr	Replace Value
2 ATV's with Trailer	Station 3	2013	NA	NA
Brush Truck #6	Station 3	1994	2016	\$ 80,000
Eng #1 - Rosenbauer	Station 1	2018	NA	\$ 460,000
Eng #3 - Spartan Pumper	Station 1	1996	2026	\$ 460,000
Eng #4 - HME Pumper	Station 1	1990	2018	NA
Eng #8 - Spencer Pumper	Station 2	2010	2040	\$ 500,000
Eng#10-Spartan Pumper	Station 3	2001	2031	\$ 500,000
Medic #15 Ford SUV	Station 2	2001	2021	\$ 52,000
Medic #1 Ford SUV	Station 1	2014	2024	\$ 52,000
Medic #7 GMC SUV	Station 3	1999	2019	\$ 52,000
Rescue #5 - Heavy Rescue	Station 1	2004	2034	\$ 300,000
Tender #2 HME	Station 2	1988	2018	\$ 275,000
Tender #3 - Spartan	Station 3	2014	2044	\$ 275,000

The consultants do have some concerns with the above vehicle replacement plan as keeping a fire engine in a fleet for 30 years is a very long time. The following table reflects the recommendations of the consultants for a replacement schedule for fire department apparatus. The second concern is that in some cases, the amount of replacement funds projected are very low, but they can and should be adjusted on a regular basis as the vehicle replacement plan is updated. Normally fire department vehicles increase in cost by three (3) to five (5) percent annually.

The consultants recommend the following apparatus replacement program for the Alpine Township Fire Department based on a review of the department's apparatus and usage:

Table 7: Recommended Apparatus Replacement Schedule

Apparatus Type	Recommended Life
Engines	20 years front line + 3 years reserve
Aerials	20 years front line + 3 years reserve
Tender (Tanker)	20 years front line + 3 years reserve
Squad/Rescue Units	20 years front line + 3 years reserve
Grass (Brush) Vehicles	15 years front line + 3 years reserve

The consultant’s recommendations for replacement are based on industry standards, but the Alpine Township Fire Department will need to work with the Township Board to determine a replacement schedule that is affordable for the Township.

Sufficiency of Apparatus

Sufficiency of apparatus can be considered in two divergent ways: *amount* of apparatus and *capability* of apparatus. The consultants have observed fire departments that have an abundance of apparatus, often resulting in apparatus that is rarely, if at all, deployed, or apparatus that is unable to be staffed. In other instances, apparatus is under-equipped, lacking the tools required to perform the task on the emergency scene.

The Alpine Township Fire Department is well-equipped in the amount of apparatus it maintains. Furthermore, the current apparatus has the capability to perform the functions needed to mitigate emergency situations. An industry standard and one used by ISO pertaining to reserve apparatus, recommends one reserve engine for every five front-line engines.

The Alpine Township Fire Department has four front-line engines, two tenders, and one heavy rescue vehicle. This allows for one engine for each fire station and one engine that can serve as a reserve vehicle.

The consultants discussed the need for an aerial ladder vehicle for the Township for the protection of many large buildings they had in the community. The consultant viewed numerous multi-story housing buildings and other large commercial buildings in the Township and some of them do not have an automatic sprinkler system installed. The consultants do agree that the

Alpine Township Fire Department would benefit by having an aerial ladder in their fleet of fire apparatus.

A couple of facts need to be taken into consideration prior to the Alpine Township Fire Department purchasing an aerial ladder.

First, and probably the most important, is if an aerial ladder were to be purchased, it certainly would need to be located in Fire Station #1 to be located in the area where all of the larger buildings are located, but the current Fire Station #1 is not capable of allowing an aerial ladder to be located inside the current building as the building is not sufficient in size.

Second of all, the fact is the Alpine Township Fire Department does not have the staffing to assure an aerial ladder would be able to respond to emergencies with adequate staffing.

Third, is the fact that an aerial ladder can be very expensive. The cost of a new aerial ladder is probably between \$900,000 and \$1,100,000 plus equipment, and as our review of the Alpine Township budget will show, an expenditure of that amount of funds would be very difficult. It could be possible to purchase a used aerial ladder for a much lower amount of dollars, but purchasing a used aerial ladder can be a good experience or it can be a bad and very expensive experience.

Finally, currently under mutual aid, the Alpine Township Fire Department can receive an aerial ladder from the Plainfield Township Fire Department or from the City of Walker Fire Department. It is not the perfect way to fulfill the need for an aerial ladder, but it can be continued until the Alpine Township can solve the station and staffing needs and then move onto the aerial ladder acquisition. It certainly can and should be a goal for the Alpine Township to purchase their own aerial ladder vehicle in the future as funds become available.

The following table illustrates the percentage of U.S. fire departments with the number of pumpers in their community based on population:

Table 8: Percentage of U.S. Fire Departments with Number of Pumpers

Population Protected	No Pumpers	1 Pumper	2 Pumpers	3-4 Pumpers	5 or More Pumpers
50,000 to 999,999	0.9%	2.0%	6.1%	33.3%	58.1%
25,000 to 49,999	0.9%	3.7%	20.8%	48.1%	26.4%
10,000 to 24,999	0.8%	8.0%	32.1%	49.3%	9.8%
5,000 to 9,999	1.3%	13.76%	44.2%	37.4%	3.4%
2,500 to 4,999	2.6%	23.7%	49.0%	23.7%	1.0%
Under 2,500	11.6%	43.1%	37.1%	8.0%	0.3%

The above table certainly indicates that the Alpine Township Fire Department, with having four fire engines, fits into the population category between 10,000 to 24,999 with about 49.3% of U.S. fire departments having three to four pumpers.

The following table illustrates the percentage of U.S. fire departments with the number of aerial apparatus in their community based on population:

Table 9: Percentage of U.S. Fire Departments with Number of Aerial Apparatus

Population Protected	No Aerial Apparatus	1 Aerial Apparatus	2 Aerial Apparatus	3-4 Aerial Apparatus	5 or More Aerial Apparatus
50,000 to 999,999	30.7%	39.7%	22.6%	6.7%	0.2%
25,000 to 49,999	37.3%	49.3%	12.1%	1.2%	0.1%
10,000 to 24,999	49.8%	46.5%	3.5%	0.1%	0.0%
5,000 to 9,999	73.8%	25.4%	0.7%	0.1%	0.0%
2,500 to 4,999	90.1%	9.5%	0.4%	0.0%	0.0%
Under 2,500	96.6%	3.2%	0.2%	0.0%	0.0%

The above table reflects that about 46.5% of U.S. fire departments with a population of just over 13,000 have one aerial apparatus in their department.

Recommendations – Apparatus

- *The consultants have developed an apparatus replacement plan (outlined in this section) and recommends adoption by the Alpine Township Fire Department and Alpine Township. The current Alpine Township Fire Department apparatus replacement plan extends the service life on some apparatus much longer than is the industry standard.*

- *The current maintenance and preventive maintenance program appear to be working effectively for the department; every effort should be made to continue this maintenance program.*
- *The consultants agree that the Alpine Township Fire Department does need to add an aerial ladder or aerial ladder platform to the inventory of the fire department. This vehicle could be a used vehicle or a new vehicle. The issue is a new vehicle can cost upwards of \$1 million dollars or more. A used vehicle may cost much less, but extreme care must be taken in purchasing a used aerial ladder fire apparatus.*
- *Although the consultants agree that an aerial ladder or aerial ladder platform should be added to the fleet of vehicles, it may not be possible to achieve this in the immediate future due to the costs of the vehicle and the fact that until a new Fire Station #1 is constructed, the Alpine Township Fire Department cannot store a vehicle of this size at the current Fire Station #1. Even though it would fit into Fire Station #3, it would not be recommended to operate out of Fire Station #3 as the staffing level would not be adequate to assure that it could respond to calls, especially in Fire Station #1 area where the need for an aerial apparatus would most likely be needed.*
- *Consideration should be given to the fact that at least two neighboring fire departments have an aerial ladder apparatus that can be called for automatic aid or mutual aid knowing that the Alpine Township Fire Department has the ability to provide resources to both of those fire departments if necessary in return.*

Fiscal

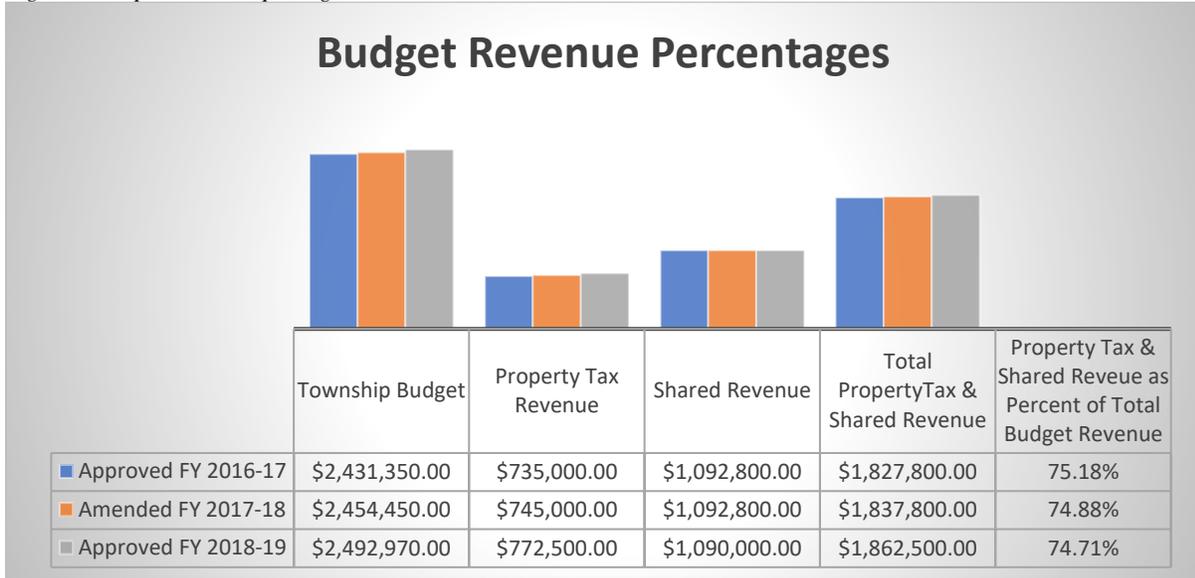
The Alpine Township and the Alpine Township Fire Department operates on a fiscal year of July 1st to June 30th.

Alpine Township Annual Budget

The Alpine Township annual budget and revenue for the years 2016-17 to 2018-19 is reflected in the following figure. The budget is relatively stable with the total annual budget reflecting an increase of about \$62,000 for the three budget years. The majority of the budget revenue is generated by Township property tax revenue and State of Michigan Shared Revenue. The

revenue from property taxes and shared revenue generated between \$1,827,800 and \$1,862,500 for each of the past three Township budgets, which accounts for about 75% of the budget revenue on an annual basis.

Figure 29: Alpine Township Budget Revenues



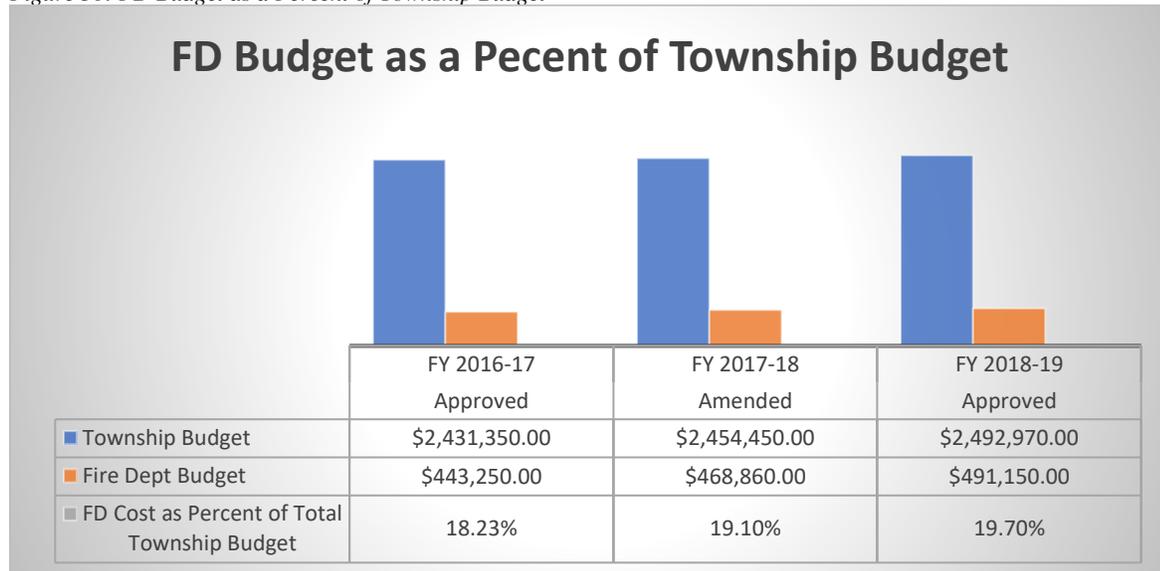
The above figure clearly illustrates the fact that the Township is very limited in the amount of additional budget revenue that can be generated annually. Any increase in property taxes or sheared revenues are very limited due to the State of Michigan rules on increases for local governments.

Fire Department Budget Revenue

The Alpine Township Fire Department is funded entirely by the Alpine Township. The Alpine Township Fire Department has received some funding from grants, which will be shown below.

The following figure reflects the amount of funding received by the Alpine Township Fire Department from Alpine Township for the last three budget years. The fire department budget will be discussed in this section, but funding received by the fire department represents between just over 18% to almost 20% of the total Alpine Township annual budget.

Figure 30: FD Budget as a Percent of Township Budget



The fire department budget funds received from the Township indicate that the ability for the Township to fund additional fire department budget costs is very limited. For the Township to fund additional fire department costs, the Township would need to either generate additional revenue or reduce costs in other Township expenses. Both options seem rather limited.

Fire Department Grants

The Alpine Township Fire Department has been very active in applying for grants from various resources and organizations over the years. In many cases, the fire department has been very successful in receiving grants that the department has submitted for grant applications. The following table reflects the various grants and the amount of funding for the grants from 2012 – 2016. The fire department has been successful in receiving grants, but the most significant grant received from the Firefighters Assistance Grant in the amount of \$235,000 was to purchase a new Tender in 2014.

Table 10: Alpine Township Fire Department Grants Received 2012 - 2016

Year	Grant Source	Amount
2012	TransCanada Pipeline	\$ 1,000
2013	TransCanada Pipeline	\$ 4,000
2013	America's Farmers Grow	\$ 2,500
2013	WalMart	\$ 500
2014	Sears Salute to Local Heros	\$ 97
2014	Nat'l Volunteer Fire Counccil	\$ 97
2014	WalMart	\$ 1,850
2014	FEMA Grant	\$ 235,000
2014	Sam's Club Giving	\$ 900
2015	Firehouse Subs Public Safety	\$ 13,592
2015	Nat'l Volunteer Fire Counccil	\$ 218
2015	WalMart	\$ 2,000
2016	America Legion CPR Training Kits	\$ 710
	Total Grants	\$ 262,464

Fire Department Annual Budget

The following table reflects the annual budget of the Alpine Township Fire Department for the years 2016-17 to 2018-19:

Table 11: Alpine Township FD Annual Budget 2016-17 to 2018-19

Alpine Township FD Annual Budget 2016-17 to 2018-19			
	FY 16-17	FY 17-18	FY 18-19
Fire Secretary Wages	\$16,090	\$16,450	\$16,970
Fire Chief Salary	\$55,200	\$56,700	\$57,870
Deputy Chief Salary	\$6,180	\$6,450	\$6,550
FD - Head Mechanic	\$3,090	\$3,000	\$3,000
Fire Practice & Educ Per Diem	\$25,750	\$20,000	\$20,000
Sunday Fire Duty Per Diem	\$10,300	\$11,000	\$12,500
Fire Run Hourly Wages	\$66,600	\$50,000	\$50,000
Fire Maintenance Wages	\$12,360	\$16,000	\$18,000
Pre-Plan Inspection Wages	\$9,270	\$2,500	\$4,600
EMS/Night Duty Wages	\$18,540	\$18,540	\$18,000
Life Insurance Premium	\$4,500	\$4,500	\$4,600
Pension Contribution	\$5,270	\$7,200	\$7,400
Health Benefits	\$5,250	\$5,250	\$5,400

Dental/Optical	\$1,030	\$1,030	\$0
Sick Day Comp	\$0	\$1,260	\$1,500
FICA	\$14,420	\$16,930	\$17,700
Medicare	\$3,400	\$4,000	\$5,000
Operating Fuel	\$8,500	\$8,500	\$8,500
Office Supplies	\$2,000	\$1,500	\$1,500
FD Educational Handouts	\$1,100	\$1,000	\$1,000
Maintenance Supplies	\$3,500	\$3,000	\$3,000
Medical & Rescue Supplies	\$1,500	\$1,500	\$1,500
Property Address Markers	\$300	\$300	\$300
FD - Safety & MIOSHA	\$4,000	\$3,500	\$3,500
Medical Services to Firefighters	\$9,000	\$8,000	\$10,000
Contracted Services	\$14,000	\$12,500	\$24,500
Dispatch Radio Equipment	\$20,000	\$20,000	\$0
Dues & Memberships	\$500	\$500	\$500
FD Expenses	\$600	\$1,990	\$1,000
Fire Vehicle Maintenance	\$11,000	\$12,000	\$12,000
Utilities/Electricity	\$7,000	\$7,000	\$7,000
Utilities/Gas Charges	\$5,000	\$5,000	\$5,000
Labor Charges on Repairs	\$2,000	\$1,500	\$1,500
Miscellaneous	\$1,000	\$1,000	\$1,000
County Fire Assessment	\$18,000	\$18,000	\$22,000
Classes & Training	\$6,000	\$5,000	\$6,000
Equipment	\$15,000	\$28,000	\$44,000
Fire Clothing & Boots	\$5,000	\$5,000	\$5,000
Fire Truck Reserve	\$50,000	\$55,000	\$55,000
Turn Out Gear Reserve	\$0	\$9,700	\$9,700
SCBA Reserve	\$0	\$12,560	\$12,560
Fire Grant Expenditures	\$1,000	\$1,000	\$1,000
Emergency Disaster Funds	\$0	\$5,000	\$5,000
Memorial Funds Spent	\$0	\$0	\$0
Fire Department Operating Total	\$443,250	\$468,860	\$491,150

The annual budget during this three-year period has been stable with a total increase over the three-year period of about 10.8% or an average annual increase of 3.6%. There have been a few

small adjustments in individual budget accounts, such as equipment, which has increased from \$15,000 in 2016-17 to \$44,000 in 2018-19; resulting in a few smaller changes in reallocating wage funds from one account to another account. It should be noted that in the 2018-19 budget, the County Fire Assessment increased from \$18,000 to \$22,000 annually. It should also be noted that in the 2018-19 budget, the Alpine Township Fire Department contributions to the Fire Truck Reserve Fund has increased to \$55,000 and the amount for the Self-Contained Breathing Apparatus (SCBA) account is \$12,560.

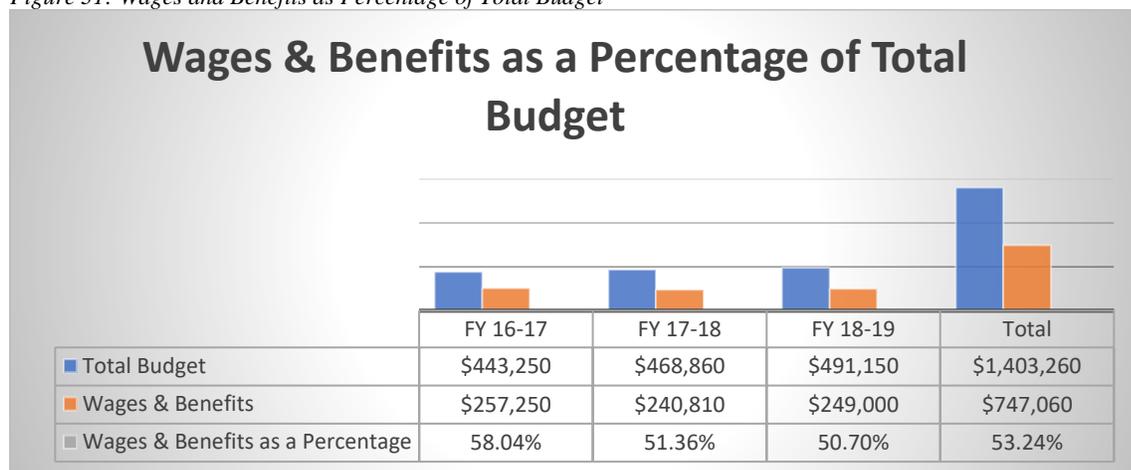
The consultants find nothing unusual regarding the Alpine Township Fire Department budget other than the total budget is very conservative in terms of the area, population, community hazards, the fire department protects, and the number of calls and emergency services provided.

Fire Department Wages and Benefit Costs

The following table reflects the cost for wages and benefits for the Alpine Township Fire Department on an annual basis and as a percentage of the total fire department budget. The total amount of funds spent on wages and benefits on an annual basis for the Alpine Township Fire Department has ranged between about \$240,000 and \$257,000 for the last three budget years.

The following figure reflects the cost for wages and benefits for the Alpine Township Fire Department on an annual basis as a percentage of the total fire department budget.

Figure 31: Wages and Benefits as Percentage of Total Budget



As the figure illustrates, the percentage of the total budget that was spent on wages and benefits ranged from 50.70% to 58.04% of the total budget with the average of 53.24% over the three-year budget period.

Capital Improvement Plan

A major issue that most communities contend with is how to fund capital improvement projects and equipment purchases for both short-term and long-term needs. The need to update equipment for public safety and public works departments is an on-going project and requires major funding needs. In addition, communities need to address road, water, sewer, construction and building projects for a community to meet the needs of the citizens.

To meet the capital funding needs for a community, the government officials need to develop capital improvement plans allowing the determination of the capital projects and equipment needs with priorities and costs established. Once the needs, costs and priorities have been established, then plans can be developed for funding the capital needs.

Alpine Township and the Alpine Township Fire Department have developed a capital improvement plan. As shown in an earlier section on fire department apparatus, the fire department has identified all their vehicles needs with replacement years and costs identified. As stated earlier, the age of when the vehicles will be replaced, and the replacement costs need to be reviewed as the consultants believe that the length of the years of service is much longer than what actual service life will be, and the current estimated replacement costs are very low compared to what actual costs may be in the future.

Other capital projects that are being addressed in the Alpine Township budget are Self-Contained Breathing Apparatus (SCBA) and Turnout Gear (Personal Protective Equipment). The fire department has identified that the turnout gear will need to be replaced when it has been in-service for 10 years, which will be in 2025. The fire department has identified the replacements costs for 30 sets of turnout gear to be about \$96,886 in 2025. To have the replacement funds of

\$96,886 available in 2025, the Township and fire department has been budgeting \$9,960 on an annual basis and placing these funds into a reserve fund.

The Township and fire department have also identified that 24 SCBA, which will need to be replaced after 15 years of service in 2030, will cost about \$188,473. To have this amount of funds available in 2030, the Township and fire department have been budgeting \$12,570 on an annual basis for replacement costs. As of April 2018, the replacement account for the SCBA and turnout gear had a balance of \$43,125. An additional \$22,260 was budgeted in the 2018-19 budget for this account, which will then have a balance of \$65,385.

The replacement plan for fire apparatus states the costs would require an amount of \$3,006,000 over the 30-year period, which would mean at least \$100,200 would need to be budgeted on an annual basis to replace all the current fire apparatus. Currently, Alpine Township funds an amount of \$50,000 on an annual basis for fire apparatus replacement, which means the replacement costs over a 30-year period is being funded at a rate of about 50% of the needed funds.

Future Funding Needs

The Alpine Township Fire Department has some major funding needs for the future that will result in significant costs. The Township annual budget is less than \$2,500,000 and the Alpine Township Fire Department budget is just less than \$500,000 or almost 20% of the entire Township budget. The future funding needs in the order of priority include the following.

Staffing Costs

The need to address staffing can be accomplished short-term using either one or two part-time positions to work 40 hours a week/ 8 hours a day, Monday through Friday.

The estimated cost would be a wage of \$14.63 per hour with FICA added to the hourly rate would be about \$15.75 per hour. At the rate of \$15.75 per hour, the annual cost would be at least \$32,760.00 per position. For two positions the cost would be \$65,520. Funding one position

would be an increase of about 7% for the 2018-2019 budget numbers. Funding two part-time positions would an increase of about 13.34 % increase for the 2018-2019 budget numbers.

Funding one full-time position would probably cost between \$45,000 to \$55,000 per position with salary and benefits. This option is most likely not a viable option at this time due to the costs, but perhaps in the future.

New Fire Station #1 Construction Costs

The cost to construct a new Fire Station #1 will probably be over \$4 million dollars with the cost of the land, engineering and utilities. The Township should be able to recoup some funds from the sale of the current fire station, but that would need to be after the new fire station has been constructed. The hiring of full-time personnel working 24-hour shifts may be a possibility in the future once a new fire station has been built with sleeping quarters. If a new fire station is built with sleeping quarters even before full-time personnel are hired, there may be times when current fire department members will sleep at the fire station to be prepared to respond to calls. This is often seen with volunteer and paid-on-call fire departments during bad weather. The consultants don't have an answer for funding the fire station except through local tax dollars. Grants for the fire service are available, but it is very unusual to receive grants for brick and mortar projects such as a new fire station.

It is not uncommon for municipalities to build fire stations through a lease purchase arrangement where at the end of the lease, the municipality owns the fire station. With a fire station built at a cost of \$4 million dollars, a 20-year bond would require annual payments of at least \$200,000 plus interest, which under the current Township budget would be very difficult to achieve.

Aerial Ladder Costs

While the consultants agree that the Alpine Township Fire Department would benefit with an aerial ladder in the department, it certainly is not the highest priority. The cost for a new aerial ladder apparatus would probably cost between \$900,000 and \$1,100,000. A used aerial ladder

apparatus would cost much less, but the Alpine Township Fire Department would need to be very careful about purchasing a used vehicle.

Other reasons why this is not a higher priority is that the Alpine Township Fire Department doesn't have adequate staffing to assure that this vehicle responds to calls when and where it is needed. The vehicle could not be assigned to the current fire station # 1, which is the response district where this type of vehicle would be most useful. The vehicle would be too large for the current building. Assigning this vehicle to fire station #3 would make the travel distance much longer for the area where it would most likely be needed.

Another reason is that currently if an aerial ladder apparatus is required for an emergency, the Alpine Township Fire Department has automatic aid agreements with Plainfield Township and the City of Walker.

Recommendations – Fiscal

- *Alpine Township and the fire department should continue to budget the annual funds for the replacement of SCBA, turnout gear and fire apparatus on annual basis, and if possible to increase the amount that is placed into the replacement vehicle account on an annual basis.*
- *The Alpine Township Fire Department should continue to apply for grant dollars to help supplement the fire department budget and to possibly obtain funding for department needs.*
- *Alpine Township should move forward with purchasing the property for a new fire station located at 1100 Henze Drive.*
- *Alpine Township may not be able to construct a new fire station for a period of time, but if the land can be purchased now, it is important as fire station locations can be difficult to find especially when property is in short supply and costs continue to increase.*

Community Education and Involvement

The major problems for the future of the Alpine Township and the Alpine Township Fire Department revolve around the financial needs to meet the future fiscal funding of providing fire and EMS services to the citizens and businesses of the Township in an effective manner. With the limitations of increasing revenue from property taxes, the Township has very few options for raising additional revenue to meet future fiscal requirements. The Township has very few options, if any, for lowering costs within the Township budget. The problem of future financial needs will require support from the citizens and businesses within Alpine Township.

One possible revenue source would be the implementation of a Township millage devoted to the fire and EMS services to support staffing, a new fire station, and future fire apparatus needs, including the purchase of an aerial ladder apparatus for the fire department. For the Township to obtain a millage for the fire and EMS service, it will require the voters of the Township to approve a millage. This will require the Township and the fire department to work together in educating the public about the services the Alpine Township Fire Department currently provides, what resources the fire department has to provide the services, how is the fire department staffed, what other resources does the fire department have including fire vehicles, what services is the fire department having problems providing and why, what additional resources are required to meet the current and future needs, what will those resources costs, what would be the priorities for resources, what are funding options and how can the funding needs be implemented.

Recommendations for Community Education and Involvement

- *The Alpine Township Fire Department should develop a program that can be used to educate the citizens in the community about the fire department, including how the fire department operates, how it is staffed, current resources, recruitment issues, current challenges, additional resources required to address the challenges, costs of additional resources and how can the community assist in helping the fire department with appropriate funding solutions.*
- *Alpine Township and the Alpine Township Fire Department should share this report with the community and use the report to share the Alpine Township Fire Department story.*

- *Alpine Township should appoint a committee consisting of Township Board members, fire department members and community leaders, including private citizens and members from the business and agricultural community with the purpose of focusing on becoming knowledgeable about the Alpine Township Fire Department story and helping with developing solutions both short-term and long-term, for the fire department needs.*
- *The Township should work with the Committee to plan the possible passage of a millage if determined to be necessary to solve the fire department funding issues.*

Summary of Recommendations

Recommendations for Possible Fire Station Locations

Fire Station #1

- *The Alpine Township Fire Department does need to address the recommendation to construct a new fire station to replace the current Fire Station #1 for the reasons stated previously.*
- *The location of the new Fire Station #1 should be south of Six Mile Road and just off M-37 or possibly on M-37 if located on a site on a corner and with intersection allowing entrance onto M-37 and the ability to travel either northbound or southbound.*
- *The location should be no more than .5 miles off M-37 unless the site has some positives that make it an excellent choice, and the site should not be located on any site that would cause the direction of travel to be through residential or commercial areas to access the main thoroughfare.*
- *Normally, the consultants would make a recommendation for a general area for the location of any new fire station without a specific address to allow any potential purchase of potential sites to begin without encouraging property owners to increase prices based on the study recommendations.*
- *During the study, Alpine Township did contact the consultant regarding the property that was maybe going to be placed on the market for sale. The Township had been contacted again by a representative of the property owner and the bank.*

- *The consultants recommend that the property located at 1100 Henze Drive in Alpine Township be purchased for the location of a new Fire Station #1.*

Fire Station #2

- *Fire Station #2 should remain open to continue to serve the community. There are more benefits to keeping Fire Station #2 open than there are to close the station.*
- *As vehicles in the fire department fleet are replaced the older vehicles can be rotated to Fire Station #2 as the number of calls are less and the number of members in the area around Fire Station #2 are limited.*

Fire Station #3

- *Fire Station #3 should remain at the current location as it is the newest fire station and has adequate room for the fire apparatus operating out of the station.*
- *The number of calls from Fire Station #3 should be monitored and if necessary the response district for Fire Station #3 could be modified in the future.*

Recommendations – Facilities

- *The Alpine Township Fire Department does need to construct a new fire station to replace the current Fire Station #1 for the reasons stated previously. The site for a new fire station should be selected and purchased now and the fire station constructed when the funding becomes available.*
- *A new fire station should be constructed with sleeping quarters to be prepared for the future when the station can be staffed 24hours/day. The new station should have larger drive thru bays that will allow for larger size fire vehicles to be stationed there including aerial ladder and platform vehicles. The apparatus bays should be at least two vehicles deep,*
- *The new fire station should probably be about 15,000 square feet in size with sleeping quarters, training room, offices, and with storage space based on a space needs analysis conducted by the architect with fire department personnel.*

- *When constructing a new fire station, a balance needs to be maintained between the needs and wants, between what is affordable and what is not affordable, and most importantly what are the current needs for space and what will the fire department need for space for the next 20 to 40 years based on a changing community.*
- *The Alpine Township Fire Department should consider the installation of an approved OSHA vehicle emission exhaust system for each vehicle space, which provides 100% capture by hooking the apparatus directly to the exhaust source. It is certainly possible that the fire department could be successful in obtaining an Assistance to Firefighters Grant (AFG) for this project.*
- *A fire training facility may not be built by Alpine Township at this time due to the costs and other higher priority budget needs.*
- *The Alpine Township Fire Department and Alpine Township may want to begin discussion with other local government bodies including Kent County to determine if there is an interest within the area to build a fire training facility and to finance the facility through partnerships.*

Recommendations – Staffing

- *The Alpine Township Fire Department should continue staffing with paid-on-call personnel, but the need to supplement the paid-on-call staff must be addressed based on only having an average of three personnel responding on emergency calls.*
- *A priority for the Alpine Township Fire Department should be to increase day time staffing. Initially the increase in staffing may be able to be accomplished by increasing the funds for part-time staffing.*
- *Increasing the day time staffing long-term may need to be accomplished by hiring at least one full-time employee to work 40 hours per week and adding an additional full-time employee as the need increases and funding for full-time staff can be addressed.*
- *The Alpine Township Fire Department did state that with an increase in either part-time day time staffing or full-time staffing, these employees could possibly be used to perform other duties for the Township as times allows, such as taking care of the parks, etc.*

- *The Alpine Township Fire Department needs to develop a more aggressive recruiting program for paid-on-call members. This can be accomplished by open houses for recruiting, working with larger employers in the Township for support, working with the school system, and other community groups to educate them of the benefits of being a paid-on-call member of the Alpine Township Fire Department.*

Recommendations – Emergency Activities

- *The fire department does an excellent job recording data for emergency calls and the department should continue to focus on this as accurate data is critical to making sound management decisions. The information can be the basis for staffing, operations, and other personnel decisions.*
- *The fire department should track simultaneous calls in the future, as this information may be valuable when making management decisions.*
- *The fire department needs to record the number of personnel that report for emergency calls as well as the number of personnel on the scene.*
- *The Alpine Township Fire Department should continue to provide EMS service at the Medical First Responder and Emergency Medical Technician level with the patient transport being provided by the private ambulance service. Perhaps in the future, a transport service may be considered based on need and having adequate resources available.*

Recommendations – National Standards

- *The fire department should not adopt NFPA 1720. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future.*
- *The department should begin working on its quadrennial report, as outlined in NFPA 1720, Chapter 4 and begin to identify deficiencies within the department and the strategic plan with which to overcome these deficiencies.*
- *The department quadrennial report outlined in NFPA 1720 should define demand zones and/or circumstances in which the requirements of the standard are not being met.*

Recommendations – EMS Service Operations

- *The consultants recommend that the Alpine Township Fire Department continue to offer the current levels of EMS service to the Township currently due to the number of personnel available to respond to EMS calls at this time.*
- *The consultants recommend that the Alpine Township Fire Department not attempt to get into the ambulance transport service currently due to the number of personnel available to respond to EMS calls at this time and the costs to provide ambulance transport services.*
- *The consultants recommend that the Alpine Township Fire Department not attempt to get into the Paramedic Level of EMS service currently due to the number of personnel available to respond to EMS calls at this time and the costs to provide Paramedic Level EMS Services.*

Recommendations – Apparatus

- *The consultants have developed an apparatus replacement plan (outlined in this section) and recommends adoption by the Alpine Township Fire Department and Alpine Township. The current Alpine Township Fire Department apparatus replacement plan extends the service life on some apparatus much longer than is the industry standard.*
- *The current maintenance and preventive maintenance program appears to be working effectively for the department; every effort should be made to continue this maintenance program.*
- *The consultants agree that the Alpine Township Fire Department does need to add an aerial ladder or aerial ladder platform to the inventory of the fire department. This vehicle could be a used vehicle or a new vehicle. The issue is a new vehicle can cost upwards of \$1 million dollars or more. A used vehicle may cost much less, but extreme care must be taken in purchasing a used fire apparatus.*
- *Although the consultants agree that an aerial ladder or aerial ladder platform should be added to the fleet of vehicles, it may not be possible to achieve this in the immediate future due to the costs of the vehicle and the fact that until a new Fire Station #1 is constructed, the Alpine Township Fire Department cannot store a vehicle of this size at*

the current Fire Station #1. Even though it would fit into Fire Station #3, it would not be recommended to operate out of Fire Station #3 as the staffing level would not be adequate to assure that it could respond to calls, especially in Fire Station #1 area where the need for an aerial apparatus would most likely be needed.

- *Consideration should be given to the fact that at least two neighboring fire departments have an aerial ladder apparatus that can be called for automatic aid or mutual aid knowing that the Alpine Township Fire Department has the ability to provide resources to both of those fire departments if necessary in return.*

Recommendations – Fiscal

- *Alpine Township and the fire department should continue to budget the annual funds for the replacement of SCBA, turnout gear and fire apparatus on an annual basis, and if possible, to increase the amount that is placed into the replacement vehicle account on an annual basis.*
- *The Alpine Township Fire Department should continue to apply for grant dollars to help supplement the fire department budget and to possibly obtain funding for department needs.*
- *Alpine Township should move forward with purchasing the property for a new fire station located at 1100 Henze Drive.*
- *Alpine Township may not be able to construct a new fire station for a period of time, but if the land can be purchased now it is important as fire station locations can be difficult to find, especially when property is in short supply and costs continue to increase.*

Recommendations for Community Education and Involvement

- *The Alpine Township Fire Department should develop a program that can be used to educate the citizens in the community about the fire department, including how the fire department operates, how it is staffed, current resources, recruitment issues, current challenges, additional resources required to address the challenges, and how can the community assist in helping the fire department.*

- *Alpine Township and the Alpine Township Fire Department should share this report with the community and use the report to share the Alpine Township Fire Department story.*
- *Alpine Township should appoint a committee consisting of Township Board members, fire department members and community leaders, including private citizens and members from the business and agricultural community with the purpose of focusing on becoming knowledgeable about the Alpine Township Fire Department story and helping with developing solutions both short-term and long-term for the fire department needs.*
- *The Township should work with the Committee to plan the possible passage of a millage if determined to be necessary to solve the fire department funding issues.*